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Message from the President

At Texas A&M University-Corpus Christi, everyone is committed to your success. We understand that your college experience extends beyond the classroom, and we are dedicated to ensuring you have everything you need to focus on your studies, gain valuable experiences and knowledge, and participate in a vibrant and active campus life.

We offer opportunities for students to work directly with faculty on important research that has a positive impact in our communities. Our renowned faculty work on innovative solutions to regional, national and international issues through the Harte Research Institute for Gulf of Mexico Studies, the Conrad Blucher Institute, and the Lonestar UAS Center of Excellence and Innovation. We also offer opportunities to develop leadership skills in every academic discipline.

We are committed to providing an excellent educational environment that embraces diversity, offers a wide variety of student organizations and activities including NCAA Division I athletics, and encourages involvement in our community. We believe in making an impact in your life and look forward to the impact you will make after you become part of our Islander family.

Sincerely,

Kelly M. Miller
President/CEO
Texas A&M University-Corpus Christi
ACADEMIC CALENDAR

Click here (http://www.tamucc.edu/academics/academic_cal.html) for the 2021-2022 Academic Calendar.
CAMPUS MAP

Campus Map (https://campusmap.tamucc.edu/?id=1758!ct/41227,45184,45185,42919,41218,41221,43145,43188,43193,43340,43341,43389,43391)
GENERAL INFORMATION

- Campus Facilities (p. 8)
- Directory of Campus Offices and Services (p. 9)
- The University (p. 10)

Campus Facilities

Located on its own 240-acre island, the University features modern classroom buildings, support facilities, and student apartments and residence halls. Surrounded by the waters of Corpus Christi and Oso Bays, the campus is approximately ten miles from downtown Corpus Christi. Plazas, landscaping, and sculptures enhance the island campus. The University is also developing an additional 137 acres located off of Ennis Joslin Road.

Mary and Jeff Bell Library

The Mary and Jeff Bell Library is the University’s major resource for research and study. The Library provides access to over 970,000 books, e-books, microforms, and government publications, and maintains subscriptions to more than 63,000 journals and periodicals. The Library also has a strong media collection, with access to approximately 44,500 streaming videos, 3,200 DVDs, and 2.5 million streaming audio tracks. Over 275 online databases provide additional support for general and discipline-specific research and learning.

The Special Collections and Archives Department provides significant, unique resources for scholars. The department houses rare books and archives dealing primarily with the life, history and culture of Corpus Christi and South Texas, as well as other books and manuscripts that require special housing and handling. These materials are available to individual students, university classes, and researchers under special and appropriate conditions within the department.

The Library is also an authorized depository for federal publications. As a depository the library provides the university and public with access to government information in many formats.

The Library actively participates in national, state, and regional networks, commercial information services, area library agreements and interlibrary loan arrangements that provide access to materials not available on the Texas A&M University-Corpus Christi campus. Through the statewide TexShare cooperative library program, students and faculty have borrowing privileges at many other academic and public libraries in Texas.

Librarians assist individuals in locating, using, and evaluating information resources that support and enhance curriculum and research. Librarians also instruct classes in the use of information resources in specific subject areas. Librarians review resources and services regularly to ensure that both collections and services meet changing curricular needs and support the development of new academic programs.

Computing Resources

Student computing facilities at Texas A&M University-Corpus Christi are part of the campus network. Computer laboratories available for student use are located in the library and several other buildings. Various types of personal computers, such as Macintosh, RISC, and PC type; full-page scanners; laser printers; and graphic stations make up the laboratory machinery. Most computer laboratories are open over 85 hours per week, and are staffed with student lab assistants who provide support in various programs. The laboratories are equipped with a wide range of software applications, such as word processors, spreadsheets, graphics programs, programming languages, and specialized software applications that support individual classes. Internet access and e-mail are available for university students either on or off campus. Wireless access is available. Remote access to the network is provided. Students receive assistance via computer help sheets, online tutorials and a helpdesk.

Student Services Center

In the round building near the center of campus, students can find the Offices of Recruitment and Admissions, Registrar, Financial Assistance and Veterans Affairs, as well as the Business Office, Academic Testing Center, and other units serving students.

Classroom Facilities

Classroom facilities are located in the Center for Instruction, Center for the Sciences, Science and Technology Building, Center for the Arts, Bay Hall, Tidal Hall, Island Hall, and the Michael and Karen O'Connor Building. Many teaching areas include state-of-the art audio-video and computer equipment.

Visual and Performing Arts Facilities

The Performing Arts Center features a 1500-seat concert hall where local, national, and international artists perform. The Center for the Arts houses the Warren Theatre (a 275 seat, continental-style auditorium), the Wilson Studio Theatre (an experimental theatre), and the Weil Gallery. Also affiliated with the University is the Art Museum of South Texas, located in downtown Corpus Christi.

University Center

The University Center provides facilities and services for students, faculty, staff, and guests of the University. The center contains student services offices, space for student organizations and student activities, food services, the bookstore and other shops, the campus post office, a branch bank and study lounges, meeting rooms, and entertainment areas.

Conrad Blucher Institute for Surveying and Science

The Conrad Blucher Institute for Surveying and Science houses research laboratories and provides research and professional development for surveyors, science education and surveying related research.

Carlos F. Truan Natural Resources Center

University programs and state agencies focusing on natural resources are housed in the Carlos F. Truan Natural Resources Center.

Dugan Wellness Center

The Dr. Jack and Susie Dugan Wellness Center includes a gymnasium, free weights, weight machines, cardiovascular exercise equipment (treadmills, elliptical trainers, steppers and bikes), multi-purpose group exercise rooms, and offices for the Recreational Sports Department and Intercollegiate Athletics Department.
**Harte Research Institute**

This research facility houses the endowed Harte Research Institute for Gulf of Mexico Studies, whose mission is to support and advance the long-term sustainable use and conservation of the Gulf of Mexico.

**Blanche Davis Moore Early Childhood Development Center and Math and Science Resource Center**

The Blanche Davis Moore Early Childhood Development Center serves as a public school for area children and as a university teaching laboratory and research center. Children attending the school are selected from a stratified random sample. Housed adjacent to the Blanche Davis Moore Early Childhood Development Center is the Math and Science Resource Center which addresses the nation-wide shortage of math and science teachers through programs for teachers and students.

**Directory of Campus Offices and Services**

**Admissions**

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<tr>
<td>Office of Recruitment and Admissions</td>
<td>(361) 825-7024</td>
</tr>
<tr>
<td>Student Service Center (SSC 100)</td>
<td>(361) 825-7024</td>
</tr>
<tr>
<td>email: <a href="mailto:admiss@tamucc.edu">admiss@tamucc.edu</a></td>
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**College of Graduate Studies**

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<tbody>
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<td>Graduate Staff, Graduate Dean</td>
<td>(361) 825-2174</td>
</tr>
<tr>
<td>Faculty Center, Suite 151</td>
<td>(361) 825-2174</td>
</tr>
<tr>
<td>email: <a href="mailto:gradcollege@tamucc.edu">gradcollege@tamucc.edu</a></td>
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**Financial Assistance**

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<tr>
<td>Driftwood Hall 106</td>
<td>(361) 825-2703</td>
</tr>
<tr>
<td>University Health Center</td>
<td>(361) 825-2601</td>
</tr>
<tr>
<td>Sandpiper Hall 105</td>
<td>(361) 825-2601</td>
</tr>
</tbody>
</table>

**Transcripts; Class Schedules**

<table>
<thead>
<tr>
<th>Office</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registrar’s Office</td>
<td></td>
</tr>
<tr>
<td>Student Services Center (SSC 100)</td>
<td>(361) 825-2624</td>
</tr>
</tbody>
</table>

**Library Services**

<table>
<thead>
<tr>
<th>Office</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mary and Jeff Bell Library</td>
<td>(361) 825-2643</td>
</tr>
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</table>

**Tuition and Fees**

<table>
<thead>
<tr>
<th>Office</th>
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<tbody>
<tr>
<td>Business Office</td>
<td></td>
</tr>
<tr>
<td>Student Services Center (SSC) - 1st floor</td>
<td>(361) 825-2600</td>
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**Tutoring**

<table>
<thead>
<tr>
<th>Office</th>
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<tbody>
<tr>
<td>Center for Academic Student Achievement</td>
<td></td>
</tr>
<tr>
<td>Glasscock Student Success Center</td>
<td>(361) 825-5933</td>
</tr>
</tbody>
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**Testing**

<table>
<thead>
<tr>
<th>Office</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of Academic Testing</td>
<td></td>
</tr>
<tr>
<td>Student Services Center (SSC) 210</td>
<td>(361) 825-2334</td>
</tr>
</tbody>
</table>

**University Services**

<table>
<thead>
<tr>
<th>Office</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Services (Bookstore, Food Services, Copy Services, Mail Services, SandDollar$ Office)</td>
<td>(361) 825-5710</td>
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</tbody>
</table>

**Veterans Educational Benefits**

<table>
<thead>
<tr>
<th>Office</th>
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</thead>
<tbody>
<tr>
<td>Veterans Affairs Office</td>
<td></td>
</tr>
<tr>
<td>Student Services Center (SSC) 101</td>
<td>(361) 825-2331</td>
</tr>
</tbody>
</table>

**Police**

<table>
<thead>
<tr>
<th>Office</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Police</td>
<td></td>
</tr>
<tr>
<td>Physical Plant</td>
<td>(361) 825-4444</td>
</tr>
<tr>
<td>Non-Emergency</td>
<td>(361) 825-4242</td>
</tr>
</tbody>
</table>
The University

Texas A&M University-Corpus Christi is committed to becoming one of the leading centers of higher education in the Gulf of Mexico region while serving the intellectual, cultural, social, environmental, and economic needs of South Texas. As a result, Texas A&M University-Corpus Christi will invigorate and strengthen the region and state through its educational programs, research initiatives, and outreach efforts.

Institutional Vision and Mission

Vision

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Mission

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Institutional History

The island campus of Texas A&M University-Corpus Christi has been a setting for higher education since 1947. That year, Ward Island became the home of the University of Corpus Christi (UCC), an institution affiliated with the Baptist General Convention of Texas. The UCC campus was developed on land previously used by the U.S. Navy as a radar training facility.

In 1970, Hurricane Celia severely damaged the college campus. The following year, UCC and the Baptist General Convention took steps to end their affiliation. Concerned about higher education in Corpus Christi, a coalition of civic leaders sought local support as well as state legislation to convert the campus of UCC to a state-supported institution with an expanded curriculum.

In 1971, the 62nd session of the Texas Legislature authorized the creation of a state-supported institution of higher education in Corpus Christi. The Board of Directors of the Texas A&M University System was authorized to establish an upper-level university and to prescribe courses for the new institution at the junior, senior, and graduate levels leading to both bachelor’s and master’s degrees.

Funding was approved by the legislature to initiate planning for the university. The citizens of Corpus Christi approved a bond issue to purchase the campus of the University of Corpus Christi on Ward Island. Subsequently, the campus was given to the State of Texas as a site for the new state-supported university. Civic leaders in Corpus Christi also launched a successful public fund raising campaign to provide local financial support for the fledgling university. On September 4, 1973, several months after UCC completed its final classes, Texas A&M University at Corpus Christi opened its doors with an initial enrollment of 969 students.

In 1977, the legislature changed the name of the institution to Corpus Christi State University. The name of the University System, which also included Laredo State University and Texas A&I University, was changed the same year to the University System of South Texas (USST).

In 1989, the Texas Legislature abolished the University System of South Texas and merged Corpus Christi State University and the other two USST universities into The Texas A&M University System. In the same year, the legislature approved the expansion of Corpus Christi State University to a four-year comprehensive university, with enrollment of freshmen and sophomores to begin in fall 1994. In 1992, the role of the institution was expanded further when the Texas Higher Education Coordinating Board authorized the University to offer its first doctoral degree program. Another milestone occurred in 1993 when The Texas A&M University System Board of Regents renamed the institution Texas A&M University-Corpus Christi.

The arrival of freshman and sophomore students in 1994 marked the transformation of the institution to a four-year university. Since then, student enrollment, facilities, and program offerings for both undergraduate and graduate students have continued to expand. In 2008, the City of Corpus Christi donated approximately 137 acres of land near the island campus to ensure adequate space for future growth.
UNDERGRADUATE

Catalog: Volume 44 U & G
2021-2022, effective August 1, 2021

Published by
Texas A&M University-Corpus Christi
6300 Ocean Drive
Corpus Christi, Texas 78412
Telephone: (361) 825-5700

Accreditation
Texas A&M University-Corpus Christi is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award baccalaureate, masters, and doctoral degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Texas A&M University-Corpus Christi.

The Accounting and Business Bachelor's degree programs are accredited by AACSB International – The Association to Advance Collegiate Schools of Business, 777 South Harbour Island, Boulevard, Suite 750, Tampa, FL 33602-5730; USA; telephone 813-769-6500; fax 813-769-6559.

The baccalaureate degree program in nursing at Texas A&M University-Corpus Christi are accredited by the Commission on Collegiate Nursing Education (http://www.ccneaccreditation.org).

Texas A&M University-Corpus Christi is an accredited institutional member of the National Association of Schools of Music, 11250 Roger Bacon Drive, Suite 21, Reston, VA 20190-5248.

The Clinical Laboratory Science program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N. River Rd. Suite 720, Rosemont, IL 60018-5119 - telephone: 773-714-8880.

The bachelor's degree program in Geographic Information Science is accredited by the Applied and Natural Science Accreditation Commission (ANSAC) of ABET, www.abet.org (http://www.abet.org).

The bachelor's degree program in Electrical Engineering is accredited by the Engineering Accreditation Commission (EAC) of ABET, www.abet.org (http://www.abet.org).

The bachelor's degree program in Mechanical Engineering is accredited by the Engineering Accreditation Commission (EAC) of ABET, www.abet.org (http://www.abet.org).

The bachelor's degree program in Mechanical Engineering Technology is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, www.abet.org (http://www.abet.org).

The bachelor's degree program in Computer Science-Systems Programming option is accredited by the Computing Accreditation Commission (CAC) of ABET, www.abet.org (http://www.abet.org).

In addition, numerous memberships are held by the University in selective associations and societies that recognize high standards in specific fields.

Student Responsibility
University personnel may assist students in progressing toward the degree that they are seeking. However, the final and ultimate responsibility for understanding and following the degree requirements rests with the students themselves. Each student is held responsible for knowing degree requirements, for enrolling in courses that fit into degree programs and for taking courses in the proper sequence to ensure orderly progression of work. The student must seek advice about degree requirements and other University policies when necessary. The student is held responsible for knowing and abiding by University regulations regarding the standard of work required to continue in the University, as well as those dealing with academic integrity, scholastic probation, suspension, and dismissal. Additionally, the student is expected to comply with the rules in the Student Code of Conduct, as well as the processes in the latter, which are administered by the Office of Student Engagement and Success.

The University reserves the right to require a student to withdraw at any time, as well as the right to impose probation on any student whose conduct is unsatisfactory. An admission on the basis of false statements or documents is void upon discovery of the fraud, and the student is not entitled to any credit for work that the student may have done at the University. Upon dismissal or suspension from the University for cause, there will be no refund of tuition and fees. The balance due the University will be considered receivable and will be collected.

Equal Educational/Employment Opportunity
With respect to the admission and education of students; the availability of student loans, grants, scholarships and job opportunities; the employment and promotion of teaching and non-teaching personnel; and the student and faculty activities conducted on premises owned or occupied by the University, Texas A&M University-Corpus Christi shall not discriminate either in favor of or against any U.S. citizen on the basis of race, creed, color, sex, age, national origin or disability.

Catalog Subject To Change
The provisions of this catalog do not constitute a contract, express or implied, between any applicant, student, or faculty or staff member of Texas A&M University-Corpus Christi or The Texas A&M University System. This catalog is for informational purposes only. The University reserves the right to change or alter any statement herein without prior notice. This catalog should not be interpreted to allow a student that begins his or her education under the catalog to continue the program under the provisions in the catalog.

Admissions
The student transferred from an accredited Texas private institution of higher education or an accredited out-of-state institution with acceptable college-level course work determined by the receiving institution. Texas A&M University-Corpus Christi has elected to use the following course work with the grade of A, B, C, or Pass/Credit to meet the following standards:Texas A&M University-Corpus Christi considers itself to be an advocate of opportunity, particularly for those persons residing in the South Texas Region. Accordingly, the admission standards and policies of the University have been designed to identify students who show potential for academic success.

Undergraduate Admission
There are eight categories of undergraduate admission to the University:
• Regular Freshman Admission (Regular First-Year Admission)
• Alternative Freshman Admission (Alternative First-Year Admission)
• Transfer Student Admission
• Transient Admission
• International Student Admission
• Postbaccalaureate Admission
• High School Dual Enrollment Program
• Readmission

These categories and their associated requirements are described below.

Applications to Texas A&M University-Corpus Christi through any of the eight admission categories will be processed only after all required documentation and fees have been received. An application is considered to be complete only when the Office of Recruitment and Admissions (http://admissions.tamucc.edu/) has received all required documentation, including completed application forms, required test scores, and any other information or fees specifically required. Incomplete applications will not be processed.

Completed applications are processed as they are received, and applicants are usually informed of their admission status within three to four weeks.

Application materials and information concerning all aspects of the admissions process may be obtained directly from:

Office of Recruitment and Admissions
Texas A&M University-Corpus Christi
6300 Ocean Drive, Unit 5774
Corpus Christi, TX 78412-5774
Telephone: (361) 825-2624

Prospective students are strongly urged to apply early.

Application Fee

Applicants applying or reapplying to Texas A&M University-Corpus Christi are required to pay a non-refundable application fee of $40. The fee may be waived only in exceptional cases for applicants with financial hardships. An applicant in such circumstances should request his or her high school counselor, financial aid officer, or social worker to submit a letter verifying the need for a waiver with the application for admission. Applications submitted after the published deadline for the intended semester of enrollment will be assessed an additional $10 late application fee.

Applicants who are not U.S. citizens are considered through International Admissions. For international applicants, the nonrefundable application fee is $75.00, paid in U.S. currency. Applications submitted after the published deadline for the intended semester of enrollment will be assessed an additional $10 late application fee.

Any student who has already graduated from high school at the time of application must furnish an official transcript, which includes the date of graduation, class rank, and grades for all courses taken and the official high school graduation plan. To be considered official, a transcript must bear an original signature of a school official and/or the school seal. Applicants should submit the application, transcript, application fee, and any supporting credentials directly to the Office of Recruitment and Admissions.

Testing

*Due to COVID-19 and with the Texas A&M University System Chancellor’s approval, submission of standardized test scores will be optional for first-time freshman applicants. Instead, Texas A&M University-Corpus Christi will utilize the combination of the student’s high school class rank and GPA. Students may still submit SAT and/or ACT test scores for admission; this will not give the student any advantage or disadvantage.

Applicants must take either the Scholastic Assessment Test (SAT) or American College Test (ACT). Students are encouraged to take the SAT or the ACT during the spring of their junior year in high school. However, scores from tests taken later are acceptable if submitted by the freshman admission deadlines.

The SAT and ACT are offered at conveniently located testing centers throughout the United States and in major cities in many foreign countries. Testing dates, locations, and fees required are described in the information bulletin, which may be obtained from the student’s high school or by writing the College Board, P.O. Box 6020, Princeton, NJ 08541-6200, or the American College Testing Corporation, ACT Registration, P.O. Box 414, Iowa City, IA 52243-4198.

When registering, designate that the results be sent to Texas A&M University-Corpus Christi by the testing agency. Test scores may also be submitted on the official high school transcript. Test scores are not official and will not be accepted unless furnished in these manners. For Texas A&M University-Corpus Christi, the SAT code is 0366 and the ACT code is 4045.

State of Texas Uniform Admissions Policy

Texas Education Code (TEC) 51.803 – 51.809 requires all first-time freshmen seeking admission at a public four-year institution in Texas to satisfy one of the following college readiness standards in order to be eligible to be considered for admission.

1. send an official final transcript indicating grades through the applicant’s junior year and his or her class rank and
2. confirm the courses that will be completed through the senior year.

Applicants must satisfy one of the following college readiness standards in order to be considered for admission.

• Successfully complete the Recommended or Advanced/ Distinguished high school programs or a pre-college high school curriculum equivalent in content and rigor; or
• Satisfy ACT College Readiness Benchmarks (English- 18, Reading- 22, Mathematics- 22, and Science- 23); or
• Earn at least a 1500 out of 2400 SAT assessment score (Verbal + Math + Writing) or the equivalent

Regular Freshman Admission

Add to My Favorites (opens a new window)
Share this Page
Print (opens a new window)
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Freshman Admission Procedure

Application and Transcript Submission

A student may apply for admission by completing the ApplyTexas Application (for U.S. Freshman Admission) online at www.applytexas.org or www.tamucc.edu. Upon completion of the application, an applicant should submit appropriate application fee to Texas A&M University-Corpus Christi. The student must request his or her registrar to (1) send an official final transcript indicating grades through the applicant’s junior year and his or her class rank and (2) confirm the courses that will be completed through the senior year. Any student who has already graduated from high school at the time of application must furnish an official transcript, which includes the date of graduation, class rank, and grades for all courses taken and the official high school graduation plan. To be considered official, a transcript must bear an original signature of a school official and/or the school seal. Applicants should submit the application, transcript, application fee, and any supporting credentials directly to the Office of Recruitment and Admissions.

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- Successfully complete the Recommended or Advanced/Distinguished high school programs or a pre-college high school curriculum equivalent in content and rigor; or
- Satisfy ACT College Readiness Benchmarks (English- 18, Reading- 22, Mathematics- 22, and Science- 23); or
- Earn at least a 1500 out of 2400 SAT assessment score (Verbal + Math + Writing) or the equivalent

Regular Freshman Admission

Freshman applicants are those citizens or permanent residents of the United States who have not been enrolled in any college-level institution except while still in high school or during the summer immediately following high school graduation and before enrolling in Texas A&M University-Corpus Christi for the subsequent fall. Freshman applicants are also called “first-year” applicants.

The best predictors of academic success have been a combination of high school class rank and standardized test scores. A student’s high school class rank results from ongoing opportunities to demonstrate capabilities in familiar situations, whereas standardized tests use objective measures for gauging academic potential. Regular Freshman Admission is based upon the combination of these two factors.

Applications are reviewed to ensure that applicants present the basic academic preparation required to pursue study at this University. Students who seek admission into Texas A&M University-Corpus Christi must successfully complete the Recommended High School Program, the Distinguished Achievement Program, or another pre-college curriculum that is equivalent in content and rigor to fulfill the academic preparation requirement.

The units of study and acceptable high school courses are:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Science</td>
<td>(at least one of which must be in Biology, Chemistry or Physics)</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics (at</td>
<td>the level of Algebra I, Geometry, Algebra II and a higher math)</td>
<td>4</td>
</tr>
<tr>
<td>Social Studies</td>
<td>(which includes Economics)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>(in one foreign language or American Sign Language)</td>
<td>2</td>
</tr>
</tbody>
</table>

Students who have graduated in the top 25% of their high school classes and who successfully complete the required pre-college curriculum are admitted without minimum SAT or ACT score requirements. Such students, however, are required to submit official scores on either the SAT or ACT to the Office of Recruitment and Admissions. Students who have graduated in the top 25% who have not successfully completed a required pre-college curriculum or an equivalent are required to satisfy the automatic admissions standards outlined in Texas Education Code 51.000, including earning a minimum SAT assessment score of 1500 out of 2400 or the ACT composite score of a 21 or satisfy ACT’s College Readiness Benchmarks on the ACT assessment.

The following requirements linking high school class standing and minimum SAT/ACT scores will apply:

<table>
<thead>
<tr>
<th>Class Standing</th>
<th>Required SAT Score</th>
<th>New Redesigned SAT Composite Score (March 2016 and forward)</th>
<th>ACT Composite Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 25%</td>
<td>No minimum</td>
<td>No minimum</td>
<td>No minimum</td>
</tr>
<tr>
<td>2nd Quarter</td>
<td>1,000</td>
<td>1080</td>
<td>21</td>
</tr>
<tr>
<td>3rd Quarter</td>
<td>1,100</td>
<td>1170</td>
<td>23</td>
</tr>
<tr>
<td>4th Quarter</td>
<td>1,200</td>
<td>1270</td>
<td>27</td>
</tr>
</tbody>
</table>

All GED graduates are to present their State of Texas Official Certificate of High School Equivalency indicating a test passing status with a certificate issue date and certificate number.

Holders of GED certificates who seek admission are also subject to Regular Admission Requirements as shown below:

<table>
<thead>
<tr>
<th>SAT Composite Score</th>
<th>New Redesigned SAT Composite Score (March 2016 and forward)</th>
<th>ACT Composite Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000</td>
<td>1080</td>
<td>21</td>
</tr>
</tbody>
</table>

Those applicants who do not meet these standards will be considered for Conditional Freshman Admission.

Freshman Admission Priority Application Dates

To ensure full consideration, the ApplyTexas Application, application fee, required transcripts, and any supporting documentation must be in the Office of Recruitment and Admissions by the following priority dates:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
<td>March 1</td>
</tr>
<tr>
<td>Spring Semester</td>
<td>November 1</td>
</tr>
<tr>
<td>Summer Session</td>
<td>April 1</td>
</tr>
</tbody>
</table>

Completed applications received after the deadline date but before the beginning of regular registration will be processed as received.

Conditional Freshman Admission

Those students who do not meet regular admission requirements may be considered for Conditional Freshman Admission. The Undergraduate Admissions Committee will convene early Spring semester to review applications for consideration. In addition to reviewing the student’s class rank, standardized test scores, and high school courses, the committee will consider other factors such as participation in extracurricular activities, including evidence of leadership; community service; talents and awards; extenuating circumstances; and employment, internships, and summer activities.

Applicants for Conditional Freshman Admission must have an official SAT or ACT score on file with the University. Applicants who score below a 19 on the ACT, a 900 on the old SAT or a 970 on the new SAT are not eligible for Conditional Freshman Admission. The applications considered under this procedure will be on a case-by-case basis. Students admitted under Conditional Freshman Admission will be subject
to specific enrollment conditions based on the applicant’s individual circumstances. These conditions may include enrolling in prescribed developmental course work, participating in tutoring sessions and other academic support activities, and meeting other conditions designed to promote academic success. The decision of the Undergraduate Admissions Committee is final. Subsequent admission reviews will be conducted on a case-by-case basis contingent on the submission of new academic credentials that demonstrate the student’s admissibility into the University.

**Exceptional Talent Policy**

Admission based upon exceptional talent provides an important pathway to higher education for students who do not meet regular admissions criteria but who have outstanding abilities and/or experience. Accordingly, a select group of applicants may be considered for admission because they possess exceptional talents that are important to the intellectual vitality, prestige, and diversity of the university community. Areas identified for consideration under exceptional talent admissions include outstanding achievement in intellectual or creative endeavors including the visual and performing arts, communications, athletics, and other experiences that demonstrate unusual promise for leadership.

To determine eligibility, a student must document for the Undergraduate Admissions Committee his or her talent through an audition, portfolio, videotape, or written evidence of exceptional performance. Three written recommendations from individuals who are knowledgeable about the student’s performance in his or her talent area are required. In the final selection of these students, the Undergraduate Admissions Committee must also take into consideration the academic record of each applicant to determine his or her potential to graduate in a timely manner and successfully complete his or her academic career. Applications considered under the Exceptional Talent Policy will be on a case-by-case basis. Students admitted to the University by way of their exceptional talent may be required to take additional leveling courses at the request of the Undergraduate Admissions Committee.

Enrollment Management will monitor the number students admitted under the provisions of this policy and will include this information as part of an annual report to the Faculty Senate and the Provost.

**Transfer Admission**

The University was an upper-division transfer institution for more than twenty years. During that time, the institution earned a reputation for working effectively with transfer students. It is the aim of Texas A&M University-Corpus Christi to maintain that transfer-friendly reputation. Students who have earned 24 or more transferable semester hours of credit and who wish to transfer to the University must have a minimum cumulative grade point average (GPA) of 2.0 on a 4.0 scale. Those students who wish to transfer with fewer than 24 transferable hours of credit must have minimum cumulative of 2.0 on a 4.0 scale and must also satisfy the regular freshman entry requirements. A transfer applicant may not disregard his or her college record and apply for admission as a freshman. The following additional rules also apply:

1. The applicant must provide official copies of transcripts from each college or university attended. To be considered official, the transcript must bear the seal of the granting institution and must be submitted to Texas A&M University-Corpus Christi by the granting institution.
2. No remedial or duplicate credits may be transferred.
3. The applicant must be eligible to return to his or her previous institution.
4. The cumulative GPA includes all work attempted, excluding remedial, high school, or duplicate courses.
5. Repeated courses are calculated within the GPA according to the standards and rules of the granting institution. When multiple institutions of higher education have been attended, Texas A&M University-Corpus Christi will use the highest repeated course grade in the grade point calculation.

**Transfer Admission Priority Application Dates**

To ensure full consideration, the completed ApplyTexas Application (for U.S. Transfer Admission) and all required documents and supporting material must be on file in the Office of Recruitment and Admissions by the following priority dates:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
<td>March 1</td>
</tr>
<tr>
<td>Spring Semester</td>
<td>December 1</td>
</tr>
<tr>
<td>Summer Session</td>
<td>May 1</td>
</tr>
</tbody>
</table>

**Transient Admission**

Students who are pursuing a degree at another college or university may be admitted as transient students if they provide proof of enrollment in good standing at their home college or university. Such students must complete an ApplyTexas Application (for Transient Admission) and submit an official transcript from their current institution of enrollment. Enrollment as a transient student is restricted to the summers or one long semester. Summer transient students must reapply each summer that enrollment is sought. Students admitted as transient students who later wish to pursue a degree at this University may do so by completing the regular admission process and meeting all admission requirements. International students cannot be admitted as transient students.

**International Admission**

International students (non-U.S. citizens) with outstanding academic records will be considered for admission. International students who seek admission to Texas A&M University-Corpus Christi must meet the following requirements:

1. Application and Fee: A completed ApplyTexas Application (for either International Freshman Admission or International Transfer Admission) and a $75 application fee are required.
2. Testing: Prospective students from other countries must demonstrate the ability to speak, write and understand the English language. Prospective students whose native language is not English must take the Test of English as a Foreign Language (TOEFL) examination or the International English Language Testing System (IELTS) examination unless they have already earned a bachelor’s degree from an accredited institution in the United States or Canada, or successfully completed two years of instruction (taught in the English language) at a United States or Canadian high school or college. They must also have achieved an SAT Critical Reading Score of 600 or higher or an ACT English Subscore of 27, or provide compelling evidence of English proficiency to the Office of Recruitment and Admissions. A minimum score of 550 on the TOEFL paper examination, 79-80 on the TOEFL internet examination, or a 6.5 or higher on the IELTS examination is required for admission to the University. The TOEFL is administered by the Educational Testing Service in over 200 centers around the world. A registration form and a “Bulletin of Information for Candidates” may be obtained by writing to TOEFL Registration Office.
7. Health Insurance: All international students (students who are not citizens or permanent residents of the United States) must be covered by the Texas A&M University System's student health insurance plan or show proof of an equivalent insurance coverage. Students without insurance will not be permitted to register for classes. For information, contact the Coordinator of International Student Services.

International students should contact the Office of Recruitment and Admissions for further information on admission requirements for international students.

The admission application review will not begin until all required documents are received by the Office of Recruitment and Admissions.

An international student must be enrolled for a minimum of 12 semester hours during both the spring and fall semesters. An international student may not be admitted in undergraduate transient (visiting) or non-degree status. An international student sponsored by a program in a regionally accredited college or university may be admitted with the approval of the Office of Recruitment and Admissions.

**International Admission Priority Application Dates**  
The completed ApplyTexas Application for admission of international students and all required documents and supporting material must be on file by the following priority dates:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
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</tr>
<tr>
<td>Spring Semester</td>
<td>November 1</td>
</tr>
<tr>
<td>Summer Session</td>
<td>April 1</td>
</tr>
</tbody>
</table>

**International Student Advising**
The Coordinator of International Student Services, located in the Office of International Education, oversees all academic and U.S. Citizenship and Immigration Services (USCIS) requirements of F-1 students attending A&M-Corpus Christi. International students are required to report to the Coordinator of International Student Services at the beginning of each semester to maintain accurate status and essential information. The Coordinator of International Student Services assists students with forms and paperwork required for optional and curricular practical training, changes on the I-20 form, change of status, reinstatement, and medical insurance.

For additional information regarding international students, contact the Coordinator of International Student Services in the Office of International Education at (361) 825-2258.

**Postbaccalaureate Admission**
A student holding a baccalaureate or higher degree who intends to seek an additional bachelor's degree or an additional undergraduate major or minor, or who intends to take undergraduate course work required for Texas public school teacher certification, should seek admission as postbaccalaureate student. Postbaccalaureate students may enroll in undergraduate-level courses (numbered below 5000) only. The following documents are required as part of the application process:

1. A completed ApplyTexas Application form.
2. A nonrefundable $40 application fee.
3. Official transcripts documenting all course work taken at any regionally accredited college or university attended and the degree awarded at the completion of all coursework. Official transcripts must
High School Dual Enrollment

TAMU-CC offers high school students the opportunity to earn dual credit; a dual credit course is a class that awards both high school and college credit upon completion. High school students who wish to enroll at the University may do so if they are enrolled in the Islander Academy.

The Islander Academy allows high school students in Nueces County to take college classes at TAMU-CC. Students must complete an Islander Academy application in order to take TAMU-CC classes. For more information see https://ucoll.tamucc.edu/Anchor%20Team/uphs-islander-academy.html

Qualifications for the Islander Academy:

- You must be a current high school student
- You must have the approval of your legal guardian/parent, your high school counselor and your high school principal
- You must enroll in a course selected from the list of approved dual credit courses for TAMU-CC
- You must be prepared to function in an adult learning environment
- You must meet the Texas Success Initiative (TSI) requirement for reading, writing and math skills prior to enrolling in courses or meet the exemption standards. (A high school student is also eligible to enroll in academic dual credit courses that require demonstration of TSI college readiness in reading, writing, and/or mathematics under the following conditions: if the student achieves a Level 2 final recommended score, as defined by the Texas Education Agency (TEA), on the English II State of Texas Assessment of Academic Readiness End of Course (STAAR EOC); or a combined score of 107 on the PSAT/NMSQT with a minimum of 50 on the reading test; or a score of 460 on the evidence-based reading and writing (EBRW) test on a PSAT/NMSQT exam administered on or after October 15, 2015; or a composite score of 23 on the PLAN with a 19 or higher in English or an English score of 435 on the ACT-Aspire. For Courses that require demonstration of TSI college readiness in mathematics: if the student achieves a Level 2 final recommended score, as defined by TEA, on the Algebra I STAAR EOC and passing grade in the Algebra II course; or a Level 2 final recommended score, as defined by TEA, on the Algebra II STAAR EOC; or a combined score of 107 on the PSAT/NMSQT with a minimum of 50 on the mathematics test; or a score of 510 on the mathematics test on a PSAT/NMSQT exam administered on or after October 15, 2015 or a composite score of 23 on the PLAN with a 19 or higher in mathematics or a mathematics score of 431 on the ACT-Aspire.)

High school students admitted under the Islander Academy will be advised by the Department of Undergraduate Studies. All students admitted into Islander Academy are subject to all Texas A&M University-Corpus Christi, Texas A&M University System, State of Texas, and federal rules and regulations applicable to degree-seeking students.

Students admitted under this program who wish to continue their degree with TAMU-CC following high school graduation must reapply for admission.

Readmission

Students who have a previous enrollment history with Texas A&M University-Corpus Christi but have not been enrolled for one (1) or more years are required to complete a new ApplyTexas Application. Re-enrollees who have not been enrolled in any postsecondary institution prior to the term for which they are applying and are in good academic standing with the University are eligible for admission.

Students who have enrolled at another institution prior to their return to the University are required to submit official transcripts from all postsecondary institutions attended since leaving A&M-Corpus Christi and must satisfy transfer admission requirements.

Texas Success Initiative (TSI)

The Texas Success Initiative is a state-legislated program that requires students to be assessed in reading, writing, and math skills prior to enrolling in a Texas public institution and to be advised based on that assessment. The Texas Higher Education Coordinating Board (THECB) has approved the TSI Assessment offered by College Board as the only acceptable assessment instrument for entering students. The assessment or the results of the assessment are not a condition of admission, but a condition of registration to an institution.

If a student’s score on any section of an assessment is below passing, the student must enroll in appropriate developmental classes. Placement and participation in developmental education is determined on an individual basis for students by the Center for Academic Student Achievement. Students may contact an Academic Success Coach at 361-825-2977 or visit the office in the Glasscock Student Success Center. Students may re-test to meet the TSI standard. Institutions may consider the performance in developmental education, in college-level courses, and on an assessment instrument in determining college readiness. If a student does not participate in the specified courses or program prior to completing all TSI requirements, the student may be dropped from all registered courses. The hours of the required developmental courses will count toward determining full-time status.

If the student fails one or more portions of an assessment and has 60 or more cumulative college level hours in the current semester, the student may not be permitted to enroll in any senior level courses (4000 level) until the student passes the developmental program.

A student is exempt from the TSI if any of the following applies:

- The student has an associate or baccalaureate degree from an accredited college or university.
- The student, on a single test administration prior to March 2016, has an ACT composite score of 1070 with at least 500 on the Verbal (Critical Reading) and Math sections.*
- The student, on a single test administration on or after March 2016, has a score of 480 on the Evidenced-Based Reading and Writing (EBRW) test and a score of 530 on the mathematics test. (There is no combined score).*
- The student, on a single test administration, has an ACT composite score of 23 with at least 19 on the Math and English sections.*
- The student has an exit-level TAKS score of 2200 on the Math and a 2200 on the English Language Arts section with a 3 on the Writing subscore.*
- The students has a minimum score of 2000 (Level 2) on the STAAR English III EOC for reading or writing and a minimum score of 4000 (Level 2) on the STAAR Algebra II EOC.*
- The student was honorably discharged, retired, or released from active duty as a member of the Armed Forces of the U. S. or the Texas
National Guard, or served as a member of a reserve component of the Armed Forces on or after August 1, 1990.

- The student has met the readiness standard at another Texas public higher education institution.
- The student transferred from an accredited Texas private institution of higher education or an accredited out-of-state institution with acceptable college-level course work determined by the receiving institution. Texas A&M University-Corpus Christi has elected to use the following course work with the grade of A, B, C, or Pass/Credit to meet the following standards:

  a. **Math readiness standard** – College Algebra [MATH 1314 College Algebra (3 sch)]
  b. **Reading readiness standard** - A three-credit hour course in history, political science/government, economics, philosophy, literature, or composition.
  c. **Writing readiness standard** – Composition I [ENGL 1301 Composition I (3 sch)] or Composition II [ENGL 1302 Writing and Rhetoric (3 sch)].

A student qualifies for a waiver from the TSI if one of the following applies:

- The student is serving on active duty in the Armed Forces of the U. S., Texas National Guard, or Reserve Component of Armed Forces and has been serving for at least three years preceding enrollment.
- The institution waives the TSI requirement for non-degree seeking students. (The student must complete a TSI waiver contract). At the point a student becomes degree-seeking, TSI standards must be met by the student.
- The student has successfully completed a college preparatory course under Texas Education Code §28.014 with one of our partnering school districts or institutions of higher education.¹

² SAT, ACT, TAKS, and STAAR EOC scores are valid five years from the date of testing to the first day of enrollment in an accredited Texas public institution of higher education. After April 1, 2004, students holding the composite score on the SAT/ACT may be exempt from a portion of the TSI approved examination in the individual area in which they met the required score. Partial exemptions also exist for TAKS and STAAR EOC scores. Students must have both the required reading and writing TAKS score to be partially exempt from the reading and writing portion of an assessment. Mixing or combining TAKS and STAAR EOC scores may not be used for this purpose. Students must have both the required reading and writing TAKS score to be partially exempt from the reading and writing portion of an assessment.

In regards to the college preparatory course, the waiver is good for a period of two years from the date of high school graduation with respect to the content area of the course.

For additional information, contact the Center for Academic Student Achievement at (361) 825-5933 or the Academic Testing Center at (361) 825-2334.

**Academic Fresh Start Legislation**

The “Right to an Academic Fresh Start” legislation, passed by the 73rd Texas Legislature, entitles residents of this state to seek admission to public institutions of higher education as undergraduate students without consideration of courses undertaken ten or more years prior to enrollment. This law gives students the option of electing to have coursework taken ten or more years prior to the starting date of the semester in which the applicant seeks to enroll either counted as usual or ignored for admission purposes. Applicants who elect to apply for admission under this law and who are admitted as students may not receive any course credit for courses undertaken ten or more years prior to enrollment.

The intent of the “Fresh Start” legislation is to provide students with an opportunity to clear their academic records, if they choose to do so, of all college-level work accumulated ten or more years ago. Students may not pick and choose what is to be ignored and what is not. Either all college hours ten or more years old are ignored or they are counted. Applicants interested in seeking a “Fresh Start” should contact the Office of Recruitment and Admissions.

**Immunization and Related Requirements**

**Recommended Vaccinations**

Students are encouraged to submit immunization records voluntarily in order to assure the availability of a more complete medical record while a student at Texas A&M Corpus Christi. Student Health Services strongly recommends that every student, and their family members, review our updated list of immunizations most appropriate for university students. This list of recommended vaccines was compiled by the American College Health Association (ACHA) with assistance from the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC). See Recommended Immunizations (https://www.acha.org/documents/resources/guidelines/ACHA_Immunization_Recommendations_Feb2021.pdf).

**Tuberculosis Screening Procedure**

Tuberculosis (TB) is a potentially life-threatening disease that has the ability to spread quickly in the close confines of classrooms and student residences on a university campus. Nearly one-third of the world’s population has the disease. Students from countries with a high incidence of tuberculosis (https://www.who.int/tb/en/) (as designated by the World Health Organization) and other students who have had extended visits to those countries are at a greater risk for carrying the disease. Of those with the disease, most have the latent form. Even so, on a college campus it is important to take precautionary measures.

**TB Testing Procedure for Newly Admitted International Students**

Texas A&M University-Corpus Christi (TAMU-CC), in consideration of the recommendations from the American College Health Association (April 2016), has developed a procedure for mandatory TB screening of newly admitted international students from countries where there is a high incidence of tuberculosis (https://www.who.int/tb/en/) (as designated by the World Health Organization).

All international students who apply to TAMU-CC will be asked screening questions during the application process. If a student is identified as someone who is at high risk for exposure to TB, a hold will be placed on their account and they will be contacted via email by the TAMU-CC Health Center so that they may begin a TB testing process, as outlined below. The student may enroll in the first semester of classes while being tested for TB but must comply with the procedure below in order to enroll in a second semester of classes.

- A newly admitted international student who is identified as in need of a PPD skin test will be required to provide proof of a skin test and reading to TAMU-CC Health Center (located in Sandpiper building) by the 8th day of class.
- Students can take the PPD test at the TAMU-CC Health Center for a cost of $10¹ or at the Nueces County Health Department.
for $15\textsuperscript{1}. The test can also be taken at many pharmacies and physicians’ offices at the student’s expense.

- The PPD skin test must be taken in the United States no more than six months prior to the start of the semester but after the visit or residency in the high-incidence country.
- If the skin test is negative, the student is cleared and the TB Hold is removed from the student’s account.
- If the PPD skin test is positive, the student must have a chest X-ray and provide proof of the X-ray to the TAMU-CC Health Center by the 12th day of class.
  - In Corpus Christi, X-rays can be done as a walk-in patient at Radiology Associates, 5742 Spohn Drive (begins with Route 37 on the RTA bus from campus; involves transfers), or Radiology & Imaging of South Texas, 3226 S. Alameda Street (Route 5 on the RTA bus from campus; no transfers). Students can pay in cash for the X-rays (around $30\textsuperscript{1} at RA and $65\textsuperscript{1} at R&I) or present their insurance cards.
  - If the X-ray is negative, the student is cleared and the TB Hold is removed from the student’s account.
  - If the X-ray is positive, the student must make immediate contact with the Nueces County Health Department at 361-826-7247 for further testing. The Health Department is located at 1702 Horne Road (begins with Route 5 on the RTA bus from campus; involves transfers).

Non-compliance with the above TB Testing Procedure can:
- Cause serious illness and death.
- Result in disenrollment from the university.
- Affect a student’s ability to stay in the US on an F-1 or J-1 visa.
- Require intervention by a university official.

**TB Testing Recommendations for Continuing Students and Faculty**

It is recommended that students and faculty who travel to countries with high incidence of tuberculosis discuss their specific travel circumstances before the trip with a health care provider who can determine the appropriate evaluation. If a month or more is spent in the country, it is recommended that a TB skin test be conducted 4-6 weeks after returning to the US.

**For More Information about TB**
- Center for Disease Control (https://www.cdc.gov/tb/)
- The World Health Organization (https://www.who.int/health-topics/tuberculosis#tab=tab_1)
- TAMU-CC Health Center (http://healthcenter.tamucc.edu/)

**Appeals**

Appeals can be made to the associate vice president for Academic Affairs by calling 361-825-3060.

**Campus Contact**

For additional information on this procedure, please contact the TAMU-CC Health Center by calling 361-825-2601.

\textsuperscript{1} Prices are subject to change.

### Bacterial Meningitis Vaccination Policy

In accordance with Texas Senate Bill 1107 (amended by SB 62, effective October 1, 2013), Texas A&M University-Corpus Christi requires all new students under the age of 22 to provide certified proof from a health practitioner that they have received a valid bacterial meningitis vaccination or booster within the last five years. Students must submit proof of vaccination or booster at least 10 days prior to the intended start of the term of enrollment.

A new entering student includes a first-time student of an institution of higher education or private or independent institution of higher education and includes a transfer student, or a student who previously attended an institution of higher education before January 1, 2012, and who is enrolling in the same or another institution of higher education following a break in enrollment of at least one fall or spring semester.

Students are strongly encouraged to obtain the bacterial meningitis vaccination before entering the United States or moving to the Corpus Christi area. A list of U.S. approved meningococcal vaccines is available. English (http://admissions.tamucc.edu/assets/CDC_Handout_vis-mening.pdf), Español (http://admissions.tamucc.edu/assets/CDC_Handout_sp_men05.pdf)

**Important Facts about Bacterial Meningitis** (https://www.cdc.gov/meningitis/)

Students who fail to submit certified proof of vaccination or a valid booster within the required time frame will be unable to register for their intended term. Please note, vaccinations older than 5 years will require a booster and all bacterial meningitis vaccinations and boosters must be administered by a health practitioner authorized by law to administer an immunization.

### Valid Proof of Vaccination

1. A complete Evidence of Vaccination against Bacterial Meningitis Form (http://admissions.tamucc.edu/assets/Evidence_of_Vaccination_Against_Bacterial_Meningitis_Form.pdf).
   Use this form if you plan to obtain your vaccination somewhere other than your personal physician’s office.

2. A document bearing the signature or stamp of the physician or his/her designee, or public health personnel (must include the month, day, and year the vaccination was administered).

3. An official immunization record generated from a state or local health authority (must include the month, day, and year the vaccination was administered).

4. An official record received from school officials, including a record from another state (must include the month, day, and year the vaccination was administered).

### Valid Proof of Vaccination Exemption

1. An affidavit or a certificate signed by a physician who is duly registered and licensed to practice medicine in the United States, in which it is stated that, in the physician’s opinion, the vaccination required would be injurious to the health and well-being of the student.

2. **Conscientious Objection Form:** An affidavit signed by the student stating that the student declines the vaccination for bacterial meningitis for reasons of conscience, including a religious belief. A conscientious exemption form from the Texas Department of State Health Services (TDSHS) must be used and can be downloaded from the following link: TEXAS DEPARTMENT OF STATE HEALTH SERVICES FORM (https://www.dshs.state.tx.us/immunize/docs/EF11-13140.pdf). Please complete following the instructions provided on the conscientious exemption form. Please allow several weeks for delivery.
Other Vaccination Exemptions
A student is not required to submit evidence of receiving the vaccination against bacterial meningitis, or a booster dose, if:

1. The student is 22 years of age or older by the first day of the start of the semester; or
2. The student is enrolled only in online or other distance education courses; or
3. The student is enrolled in a continuing education course or program that is less than 360 contact hours, or continuing education corporate training; or
4. The student is enrolled in a dual credit course which is taught at a public or private K-12 facility not located on a higher education institution campus; or
5. The student is incarcerated in a Texas prison.

Students are encouraged to visit their primary care provider prior to enrollment at the University. The cost of the bacterial meningitis vaccination may be less expensive in a student’s home country or through the student’s primary care provider. Students may also obtain the Meningitis vaccination or booster from their local County Public Health Department or other local pharmacies.

For medical questions concerning the meningitis vaccination or booster, students may contact the University Health Center Nurse Line at 361.825.5735. For questions regarding document submission and approval, students should contact the Office of Recruitment and Admissions at 361.825.2624.

All new students must receive the bacterial meningitis vaccination at least 10 days prior to the start of the intended term of enrollment.

How to Submit Evidence of Vaccination or an Affidavit to Decline Vaccination
All documents pertaining to compliance with the bacterial meningitis vaccination policy should be mailed, faxed, emailed, or hand-delivered to Texas A&M University-Corpus Christi Office of Recruitment and Admissions. Applicants who wish to fax their documentation are asked to use the Office of Recruitment and Admissions Fax Cover Sheet (http://admissions.tamucc.edu/assets/BMV_Fax_Cover_Sheet.pdf).

- **Mailing Address:**
  Texas A&M University-Corpus Christi
  Office of Recruitment and Admissions
  6300 Ocean Drive, Unit 5774
  Corpus Christi, TX 78412-5774
  Phone: 361.825.2624 or 1.800.4.TAMUCC

- **Fax:** 361.825.5887, Fax Cover Sheet (http://admissions.tamucc.edu/assets/BMV_Fax_Cover_Sheet.pdf)

- **E-mail:** admiss@tamucc.edu (Please type *Meningitis Vaccination* in the Subject Line)

- **Hand-Delivered:** Student Services Center, Office of Recruitment and Admissions, Customer Service Kiosk

*Student Services Center Hours of Operation:*
Monday – Friday (8 a.m. to 5 p.m. CST)

## Graduate Admission
For information on graduate admission requirements, see the Graduate Catalog (http://catalog.tamucc.edu/graduate/).

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## General Academic Policies and Regulations

### Student Responsibility
University personnel may assist students in progressing toward the degree that they are seeking. However, the final and ultimate responsibility for understanding and following the degree requirements rests with the students themselves. Each student is held responsible for knowing degree requirements, for enrolling in courses that fit into degree programs, and for taking courses in the proper sequence to ensure orderly progression of work. The student must seek advice about degree requirements and other University policies when necessary. The student is held responsible for knowing and abiding by University regulations regarding the standard of work required to continue in the University, as well as those dealing with academic integrity, scholastic probation, suspension, and dismissal. Additionally, the student is expected to comply with the rules in the Student Handbook and Student Code of Conduct, as well as the processes in the latter, which are administered by the Office of Student Engagement and Success. The Student Handbook and Student Code of Conduct are accessible at http://www.tamucc.edu/~students (http://falcon.tamucc.edu/~students/).

The University reserves the right to require a student to withdraw at any time, as well as the right to impose probation on any student whose conduct is unsatisfactory. An admission on the basis of false statements or documents is void upon discovery of the fraud, and the student is not entitled to any credit for work that the student may have done at the University. Upon dismissal or suspension from the University for cause, there will be no refund of tuition and fees. The balance due the University will be considered receivable and will be collected.

### Transfer Credit Policies

#### General Regulations
Texas A&M University-Corpus Christi will consider for credit collegiate level work from regionally accredited institutions. However, work completed while an institution is a candidate for accreditation may also be considered. Course work transferred or accepted for credit toward an undergraduate or graduate degree must represent collegiate course work relevant to that degree, with course content and level of instruction resulting in student competencies at least equivalent to those of students enrolled in the relevant degree programs at Texas A&M University-Corpus Christi. College-level work posted on a sending institution’s transcript as the result of the College Level Examination Program (CLEP) and other credit-by-examination programs will be treated as transfer work. Remedial, high school, or duplicate work will not be transferred to the University. Acceptability of credit for transfer does not imply that it is applicable to the requirements of a particular degree program.

The student must provide official copies of transcripts from each institution attended. The granting institution must submit official transcripts directly to the University. Hand carried documents will not be accepted for evaluation. Upon receipt, the documents become the property of the University and will not be returned to the student as originals.

All transferred work (with accompanying grades or marks) will be translated into Texas A&M University-Corpus Christi terms. If an equivalency for an undergraduate course has not already been established, the Office of Recruitment and Admissions will consult with
the department that represents the course content to determine the course equivalency. If the content and level renders an equivalency impossible, the work will be given a generic title and number. Should the Executive Director of Recruitment and Admissions determine that a student has taken courses of similar level and content at more than one institution (duplicated work), the highest grade of the course attempted will be the grade of record, and all others will be recorded without credit. Transfer work will become a part of the student’s record only after matriculation and then only when the student has enrolled in a credit bearing course.

The Office of Recruitment and Admissions is responsible for the evaluation of undergraduate transfer credit. Appeals related to the evaluation of undergraduate transfer credit are submitted to The Office of Recruitment and Admissions.

No more than 45 semester hours of undergraduate work may be transferred from military service, credit by examination and vocational technical courses. This limit applies both to work completed prior to and after matriculation.

The holding of an associate’s degree from another institution does not affect the transfer of credit or the transfer policies and practices of Texas A&M University-Corpus Christi.

Texas Common Course Numbering System

The University participates in the Texas Common Course Numbering System (https://www.tccns.org/search/compareinstitutions/) (TCCN), a program developed to facilitate transfer of academic course work between Texas public junior and senior institutions. This system is used as the basis for numbering most lower-division courses on campus. A lower-division course with a common course number equivalent will generally use the common number. The catalog section on Lower-Division Transfer Courses lists Texas A&M University-Corpus Christi courses that are equivalent to courses in the common course numbering system.

Resolution of Transfer Disputes for Lower-Division Courses

Public institutions of higher education in Texas use the following procedures in the resolution of credit transfer disputes involving lower-division courses, as required by the Texas Higher Education Coordinating Board:

1. If an institution of higher education does not accept course credit earned by a student at another institution of higher education, the receiving institution shall give written notice to the student and to the sending institution that transfer of the course credit is denied. A receiving institution shall also provide written notice of the reasons for denying credit for a particular course or set of courses at the request of the sending institution.
2. A student who receives notice as specified above may dispute the denial of credit by contacting a designated official at either the sending or the receiving institution. (The designated officer at Texas A&M University-Corpus Christi is the Executive Director of Recruitment and Admissions.)
3. The two institutions and the student shall attempt to resolve the transfer of the course credit in accordance with Board rules and guidelines.
4. If the transfer dispute is not resolved to the satisfaction of the student or the sending institution within 45 days after the date the student received written notice of denial, the institution that denies the course credit for transfer shall notify the Commissioner of its denial and the reasons for the denial.

The Commissioner of Higher Education or the Commissioner’s designee shall make the final determination about a dispute concerning the transfer of course credit and give written notice of the determination to the involved student and institutions.

The Board shall collect data on the types of transfer disputes that are reported and the disposition of each case that is considered by the Commissioner or the Commissioner’s designee.

If a receiving institution has cause to believe that a course being presented by a student for transfer from another school is not of an acceptable level of quality, it should first contact the sending institution and attempt to resolve the problem. In the event that the two institutions are unable to come to a satisfactory resolution, the receiving institution may notify the Commissioner of Higher Education, who may investigate the course. If its quality is found to be unacceptable, the Board may discontinue funding for the course.

Military Transfer Credit

Persons who have been granted honorable or general discharge from military service of the United States and who would like a review of service records for potential college credit must request the appropriate documentation. Depending on the type of military service, students must request one of the following transcripts sent directly to the Office of Recruitment and Admissions.

1. JST (Joint Services Transcript): Army, Coast Guard, Navy - jst.doded.mil/official.html
2. CCAF Transcript (Community College of the Air Force)

The American Council on Education guidelines will be used in the evaluation. Credit will be awarded only in areas offered within the current curriculum of the institution, and only when the course work is appropriately related to the student’s educational programs. The evaluation of military credit is utilized in awarding college credit only and is not considered in determining admission eligibility.

Foreign Institutions Transfer Credit

Students who wish to transfer work from foreign institutions must present transcript copies rendered into standard English and certified as true copies by a translator approved by the Executive Director of Recruitment and Admissions. Originals must also be provided. In cases where it is impossible, practically, to obtain official transcripts, alternatives to translated transcripts may be considered on a case-by-case basis.

The University requires students transferring work from foreign institutions to provide an evaluation from a professional source. A list of acceptable companies is available from the Office of Recruitment and Admissions (http://admissions.tamucc.edu/international/). The student is responsible for costs associated with this service.

Credit by Examination

Texas A&M University-Corpus Christi recognizes the validity of accepting credit for specified levels of achievement on institutionally approved, standardized examinations. Examples include College Level Exam Program (CLEP), Advanced Placement (AP), DSST Program, American Council on the Teaching of Foreign Languages (ACTFL) Oral Proficiency Interview (OPi) test and International Baccalaureate (IB) exams. Such work will be treated as transfer credit. The minimum scores acceptable
for the different examinations are stated below. The testing agency must provide examination results (scores) directly to Texas A&M University-Corpus Christi.

A grade of CR (credit) will be assigned where applicable. This grade will not be computed in the student’s grade point average, will not carry grade points, and cannot be translated into grades A, B, C, or D. The grade of CR will not replace any existing course grade earned at Texas A&M University-Corpus Christi. Credit earned by examination does not count toward the number of semester credit hours required for graduation with honors. For information regarding applicability of these tests to specific degree programs, students should contact an academic advisor.

**CLEP Examinations**

The table below shows CLEP exams that may be accepted for lower-division credit (unless otherwise specified), the minimum scores required, the equivalent Texas A&M University-Corpus Christi courses, and the number of semester credit hours that may be awarded for these exams.

CLEP has a policy that an exam of the same title may not be retaken in a three-month period. CLEP will not release scores for an examination of the same title taken within the 3-month period after the initial administration. If a candidate retakes the examination within the 3-month period, the administration will be considered invalid, the score will be canceled and fees will be forfeited. Candidates who are military service members and whose exams are funded by the Dantes Subject Standardized Tests (DSST) may not repeat an examination of the same title; however, they may personally fund a retest after waiting the required period of time.

<table>
<thead>
<tr>
<th>CLEP Exam</th>
<th>Minimum Score Required</th>
<th>A&amp;M-Corpus Christi Course(s)</th>
<th>Credit Hours Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Composition and Literature:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Literature</td>
<td>50</td>
<td>ENGL 2333</td>
<td>3</td>
</tr>
<tr>
<td>Analyzing and Interpreting Literature</td>
<td>50</td>
<td>Satisfies the sophomore literature requirement</td>
<td>3</td>
</tr>
<tr>
<td>College Composition</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>English Literature</td>
<td>50</td>
<td>Satisfies the sophomore literature requirement</td>
<td>3</td>
</tr>
<tr>
<td><strong>College Composition with Modular</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>50</td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Foreign Languages:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French</td>
<td>50</td>
<td>FREN 1311 &amp; FREN 1312</td>
<td>6</td>
</tr>
<tr>
<td>German</td>
<td>50</td>
<td>GERM 1311 &amp; GERM 1312</td>
<td>6</td>
</tr>
<tr>
<td>Spanish Language</td>
<td>50</td>
<td>SPAN 1311 &amp; SPAN 1312</td>
<td>6</td>
</tr>
<tr>
<td>History &amp; Social Sciences:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Government</td>
<td>50</td>
<td>POLS 2305</td>
<td>3</td>
</tr>
<tr>
<td>Human Growth &amp; Development</td>
<td>50</td>
<td>PSYC 2314</td>
<td>3</td>
</tr>
<tr>
<td>Intro to Educational Psychology</td>
<td>N/A</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>Principles of Macroeconomics</td>
<td>50</td>
<td>ECON 2301</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Microeconomics</td>
<td>50</td>
<td>ECON 2302</td>
<td>3</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td>50</td>
<td>PSYC 2301</td>
<td>3</td>
</tr>
<tr>
<td>Introductory Sociology</td>
<td>50</td>
<td>SOCI 1301</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences and History</td>
<td>50</td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>U.S. History I: Early Colonizations to 1877</td>
<td>50</td>
<td>HIST 1301</td>
<td>3</td>
</tr>
<tr>
<td>U.S. History II: 1865 to the Present</td>
<td>50</td>
<td>HIST 1302</td>
<td>3</td>
</tr>
<tr>
<td>Western Civilization I: Ancient Near East to 1648</td>
<td>50</td>
<td>HIST 2311</td>
<td>3</td>
</tr>
<tr>
<td>Western Civilization II: 1648 to Present</td>
<td>50</td>
<td>HIST 2312</td>
<td>3</td>
</tr>
<tr>
<td><strong>Science and Mathematics:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calculus</td>
<td>50</td>
<td>MATH 2413</td>
<td>4</td>
</tr>
<tr>
<td>College Algebra</td>
<td>50</td>
<td>MATH 1314</td>
<td>3</td>
</tr>
<tr>
<td>College Mathematics</td>
<td>50</td>
<td>MATH 1332</td>
<td>3</td>
</tr>
<tr>
<td>Biology</td>
<td>50</td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>50</td>
<td>Elective</td>
<td>6</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>50</td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Pre Calculus</td>
<td>50</td>
<td>MATH 2312</td>
<td>3</td>
</tr>
<tr>
<td><strong>Business:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Systems</td>
<td>50</td>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>
Introductory Business Law 50 BLAW 3310 3
Financial Accounting 50 ACCT 2301 3
Principles of Management 50^3 Elective Credit 3
Principles of Marketing 50 MKTG 3310 3

This table is subject to change. For the latest information on CLEP exams, including information on additional CLEP exams for which credit may be accepted, contact the Office of Recruitment and Admissions.

1 For the English Literature and Analyzing and Interpreting Literature exams, the department may award credit for ENGL 2332 Literature of the Western World: From the Classics to the Renaissance (3 sch) or ENGL 2333 Literature of the Western World: From the Enlightenment to the Present (3 sch) respectively.

2 The Spanish Language Exam can be used for credit towards a major or minor in Spanish, but Spanish faculty must approve it first. For more information, see the Academic Advisor for the Spanish Program.

3 Refer to the Graduate Program Director in the College of Business for restrictions on credit for graduate programs.

Advanced Placement Examinations
The list below indicates which Advanced Placement (AP) exams will be accepted as equivalent to Texas A&M University-Corpus Christi courses, the minimum score required, and the number of semester credit hours that may be awarded for these exams.

<table>
<thead>
<tr>
<th>AP Exam</th>
<th>Minimum Score Required</th>
<th>A&amp;M-Corpus Christi Course(s)</th>
<th>Credit Hours Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History</td>
<td>3</td>
<td>ARTS 1303</td>
<td>3</td>
</tr>
<tr>
<td>Biology</td>
<td>3</td>
<td>BIOL 1406</td>
<td>4</td>
</tr>
<tr>
<td>Biology</td>
<td>4</td>
<td>BIOL 1406 &amp; BIOL 1407</td>
<td>8</td>
</tr>
<tr>
<td>Calculus AB</td>
<td>3</td>
<td>MATH 2413</td>
<td>4</td>
</tr>
<tr>
<td>Calculus BC</td>
<td>3</td>
<td>MATH 2413</td>
<td>4</td>
</tr>
<tr>
<td>AB subsection of BC Exam</td>
<td>3</td>
<td>MATH 2413</td>
<td>4</td>
</tr>
<tr>
<td>Calculus BC</td>
<td>4</td>
<td>MATH 2413 &amp; MATH 2414</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry</td>
<td>3</td>
<td>CHEM 1411</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry</td>
<td>4</td>
<td>CHEM 1411, CHEM 1412</td>
<td>8</td>
</tr>
<tr>
<td>Comparative Govt. &amp; Politics</td>
<td>N/A</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>Computer Science A</td>
<td>3</td>
<td>COSC 1315</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science A</td>
<td>4</td>
<td>COSC 1435</td>
<td>4</td>
</tr>
<tr>
<td>Computer Science Principles</td>
<td>N/A</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>English, Language and Composition</td>
<td>3</td>
<td>ENGL 1301</td>
<td>3</td>
</tr>
</tbody>
</table>
International Baccalaureate Diploma (IBD)

The International Baccalaureate Diploma (IBD) is an international program of courses and exams offered at the high school level. In keeping with Senate Bill 111 passed in 2005, Texas A&M University-Corpus Christi will grant credit (CR) for International Baccalaureate (IB) exams with certain required scores beginning fall of 2006 to incoming freshmen students.

Texas institutions of higher education must award at least 24 semester credit hours in appropriate subject areas on all IB exams with scores of 4 or above, as long as the incoming freshman has earned an IBD. However, course credit does not have to be awarded on any IB exam where the score is a 3 or less. This may mean that students will not receive 24 hours of college credit, even if they have an IBD.

Students submitting an IB transcript for credit evaluation should consider the total number of qualifying credits to be awarded. Federal Financial Aid regulations limit the total number of hours for which a student may receive financial aid based on the total number of hours for the degree. Care should be taken to ensure the credits awarded through the IB transcript evaluation may be applied directly to the student’s program of choice to avoid adverse impact on the student’s future financial aid eligibility.

Students must submit an official IB transcript to the Office of Recruitment and Admissions. Students may contact the Office of Recruitment and Admissions for more information.

DSST Examinations

The table below shows DSST exams that are accepted for lower-division credit (unless otherwise specified), the minimum scores required, the equivalent Texas A&M University-Corpus Christi courses, and the number of semester credit hours that may be awarded for these exams.

<table>
<thead>
<tr>
<th>DSST Exam</th>
<th>Minimum Score Required</th>
<th>A&amp;M-Corpus Christi Course(s)</th>
<th>Credit Hours Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astronomy</td>
<td>48/400</td>
<td>PHYS 1304</td>
<td>3</td>
</tr>
<tr>
<td>Computing and Information Technology</td>
<td>45/400</td>
<td>COSC 1315</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Physical Science I</td>
<td>47/400</td>
<td>SMTE 3315</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Statistics</td>
<td>48/400</td>
<td>MATH 1442</td>
<td>3</td>
</tr>
</tbody>
</table>

ACTFL Examinations

Students may receive course credit for their oral proficiency levels in a foreign language through the American Council on Education (ACE) Credit Recommendation Service and Language Testing International (LTI), the assessment agency for the American Council on the Teaching of Foreign Languages (ACTFL). Students who have taken an ACTFL Oral Proficiency Interview (OPI/OPIc) or Writing Proficiency Test (WPT) through LTI, received a proficiency rating by LTI, and received credit recommendation by ACE will receive the following lower-division (LD) course credits in a foreign language at Texas A&M University-Corpus Christi:

<table>
<thead>
<tr>
<th>Official OPI, OPIc, WPT Rating</th>
<th># of Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novice High/Intermediate Low</td>
<td>3 LD</td>
</tr>
<tr>
<td>Intermediate Mid/Intermediate High</td>
<td>6 LD</td>
</tr>
<tr>
<td>Advanced Low/Advanced Mid</td>
<td>9 LD</td>
</tr>
<tr>
<td>Advanced High/Superior</td>
<td>12 LD</td>
</tr>
</tbody>
</table>

Legend

1 The 10 ACTFL OPI language proficiency ratings are: Superior, Advanced High, Advanced Mid, Advanced Low, Intermediate High, Intermediate Mid, Intermediate Low, Novice High, Novice Mid, and Novice Low. For candidates completing French, German, or Spanish, credit can be earned in the respective courses of 1311, 1312, 2311, or 2312 based on the approved rating. For candidates completing Chinese, credit can be earned for CHIN 1311 Chinese I (3 sch), CHIN 1312 Chinese II (3 sch), and 6 hours of additional general credit based on the approved rating. Candidates taking any of the other foreign languages not taught at Texas A&M University-Corpus Christi will receive the respective amount of general credit.

For a complete listing of languages and a description of levels of speaking proficiency, please refer to the ACTFL website (http://www.actfl.org). To begin the process, students must submit an application to LTI (www.languagetesting.com (http://www.languagetesting.com))

Other Examinations

Credit may be accepted for other nationally recognized standardized exams. Credit for such exams will be considered on a case-by-case basis.

Additional Information on Credit by Examination

For further information on testing, contact the Office of Academic Testing (http://testing.tamucc.edu/credit_by_examination/) at 361-825-2334.

For more information on the awarding of credit, contact the Office of Recruitment and Admissions at 361-825-7024.

Other Non-Collegiate Experiences

Texas A&M University-Corpus Christi recognizes the quality and importance of some non-collegiate training programs offered through industrial sources. In collaboration with university faculty, offerings detailed in the appropriate ACE publication will be reviewed for potential credit award. CEU and similar professional credits cannot be translated into academic credit hours.

Equivalencies

For purposes of transfer, work taken on a trimester system will be converted to semester hours on a 1-to-1 basis. In the event that the work was taken on a class hour basis, 15 class hours will be equated to 1 semester hour. For conversion from quarter hours to semester hours, Texas A&M University-Corpus Christi has established the following equivalencies:

<table>
<thead>
<tr>
<th>Quarter hours</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>3</td>
<td>2.0</td>
</tr>
<tr>
<td>4</td>
<td>2.7</td>
</tr>
</tbody>
</table>
The University uses the summation of the individual course equivalencies from a particular institution to compute grade point average and/or credits earned. For credit systems other than those listed above, the University Registrar will determine the mathematical relationship and apply it to the record in question.

Non-Credit Admission (Auditing)
A student may attend classes for a course without receiving credit if the student submits a Course Audit Form at the time of registration and has the permission of both the instructor of the course and the dean of the college in which the course is offered. No formal admission to the University is required for course audits. The Course Audit Form is available from the Office of the University Registrar. The fee for auditing a course is the same as that required for registration for credit, however no credit will be awarded, no records will be kept, and the student may be restricted from lab work and tests. A student will not be given permission to audit a course until the first day of classes. Students may not change from credit to audit status after the 12th class day during a long semester or after the 4th class day during the summer. Senior citizens (65 or over) may audit with all fees exempted except material or field trip fees on a space available basis only. If the student is under the age of 22, Texas A&M University-Corpus Christi will require the students to provide certified proof from a health practitioner that the student has received a Bacterial Meningitis vaccination or booster within the last five years. Under no circumstance may audit be converted to credit. No refunds are given on audits.

Registration
New students must apply for admission through the Office of Recruitment and Admissions prior to the term of enrollment. Former students may need to reapply for admission or reactivate their records in the Office of Recruitment and Admissions prior to the term of enrollment. As a general rule, students who have previously attended classes at the University, but who have not been enrolled for two consecutive long semesters, need to reapply for admission. Information regarding dates, registration, and course offerings are available through the Office of the Registrar. Unless exempted from the Texas Success Initiative (TSI), students must be assessed in reading, writing, and math skills prior to registration. Additional information on the Texas Success Initiative (TSI) is available in the Admissions (p. 11) section of this catalog. Students must register by the specified deadlines for the term in order to be eligible to receive course credit. Registration requires the payment of tuition and fees. More information on tuition, fees, and payment options is available under the Tuition, Fees, and Financial Assistance section of this catalog.

Unit of Credit
A semester hour is the amount of credit for one class hour per week for one semester. Each class hour generally requires two hours of preparation on the part of the student, though the actual time required may vary from one to three. Three hours of laboratory work are equivalent to one class hour. Most courses are for three semester hours of credit. Some have variable credit from one to three hours, others four to six hours.

Classification of Degree-Seeking Students
Texas A&M University-Corpus Christi enrolls degree-seeking students in both undergraduate and graduate programs. An undergraduate student is one who has not yet received a baccalaureate degree. Graduate student is a student who has earned a baccalaureate degree and is enrolled in graduate coursework.

A degree-seeking undergraduate is classified as a freshman (or first-year student), sophomore, junior, or senior according to the number of semester credit hours earned, as follows:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Semester Credit Hours Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman (or First-Year Student)</td>
<td>fewer than 30</td>
</tr>
<tr>
<td>Sophomore</td>
<td>at least 30, but fewer than 60</td>
</tr>
<tr>
<td>Junior</td>
<td>at least 60, but fewer than 90</td>
</tr>
<tr>
<td>Senior</td>
<td>90 or more</td>
</tr>
</tbody>
</table>

Enrollment Status for Financial Assistance
Enrollment status affects a student’s eligibility for financial assistance. Students who are enrolled at least half time may be eligible for financial aid. Rules applying to veterans’ benefits are available under Veterans Educational Benefits (p. 32).

<table>
<thead>
<tr>
<th>Enrollment Status</th>
<th>Semester Credit Hours Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time undergraduate student:</td>
<td>Fall or spring term = 12 hours</td>
</tr>
<tr>
<td>Three-quarter-time undergraduate student:</td>
<td>Fall or spring term = 9 hours</td>
</tr>
<tr>
<td>Half-time undergraduate student:</td>
<td>Fall or spring term = 6 hours</td>
</tr>
</tbody>
</table>

Non-degree students are not classified as part-time or full-time students, nor are they classified as freshmen (first-year), sophomores, juniors, or seniors.

Courses of Instruction
All undergraduate courses offered at Texas A&M University-Corpus Christi are listed in the Courses A-Z (p. 558) section of this catalog. Although the lists of courses are based on the best information available at the time of catalog preparation, course offerings are subject to change without notice. This catalog was prepared well in advance of its effective date; therefore, changes may occur in course content or availability. Some new courses and modified courses are included in this catalog pending their approval by the Texas Higher Education Coordinating Board.

When registering for courses, students should consult the semester class schedule, a separate online publication that provides specific course offering information for a particular semester or session. The class schedule is made available online before the registration period for each term.

Applying for Admission
Applying for Admission: A student may add or drop a course during the time specified in the class schedule. To add or drop a course
after the first class day, the student must complete a Class Scheduling Form (http://registrar.tamu.edu/assets/Class%20Scheduling%20Form_new.pdf) from the Office of the University Registrar.

**Deadline for Dropping a Course with a Grade of W:** The grade of W will be assigned to any student officially dropping a course by the date stated in the class schedule. No student is eligible to receive a W without completing the official drop process by this deadline. After the drop date listed in the class schedule, a student will not be allowed to drop a course. A change of section or a change from credit to audit is a change of registration and requires that the add/drop process be followed.

**Implications for Financial Assistance:** Dropping courses may affect student eligibility for financial assistance.

**Six-Course Drop Limit:** The State of Texas enacted a statute that applies to students who enroll in public institutions of higher education as first-time freshmen in fall 2007 or later. Under section 51.907 of the Texas Education Code, “an institution of higher education may not permit a student to drop more than six courses, including any course a transfer student has dropped at another institution of higher education.” Any course a student drops after the census date published in the class schedule or academic calendar is counted toward the six-course limit unless specifically identified as being exempt. Should you attempt to drop a seventh course, your request will be denied by the University Registrar and the drop not processed due to exceeding the six-drop limit. As a result, you will have to accept a grade in all courses in which you are enrolled and should plan your schedule accordingly.

**Withdrawal:** If a student should drop all courses for a given semester or term, a Withdrawal Form must be processed. Refer to the following paragraph.

**Withdrawal from the University**

A student who finds it necessary to withdraw from the University during a semester must file a Withdrawal Form with the Office of the University Registrar. The deadline for withdrawing from the University is the day before the last day of classes during a long semester (fall or spring), and two days before final examinations during a summer session. Failure to file a Withdrawal Form can result in grades of “F” for all courses in progress.

A student who withdraws from the University according to procedures stipulated for a withdrawal, will be allowed a grace period to rescind the withdrawal. A student may rescind a withdrawal no later than the end of the second University business day following the date of withdrawal or the last class day, whichever is sooner. The date of reinstatement must be among the regular days of classes; days of final examinations and thereafter are specifically excluded.

Should space no longer be available in a class, the student must secure the approval of the dean and instructor before reinstatement in class is allowed.

All indebtedness to the University must be satisfied prior to the reinstatement.

Reinstatement must be requested in writing by the student to the University Registrar. All documentation and requirements for the reinstatement must be filed with the University Registrar by the end of the second business day (following the withdrawal), or else the reinstatement will not occur.

Students receiving veterans benefits for education should contact the Office of Veterans Affairs for specific policies concerning drops and withdrawals. These changes have a direct effect on VA benefits.

**Withdrawal of Students Called to Active Duty**

Section 54.006 of the Texas Education Code states:

1. refund the tuition and fees paid by the student for the semester in which the student withdraws;
2. grant a student who is eligible under the institution’s guidelines, an incomplete grade in all courses by designating “withdrawn-military” on the student’s transcript; or
3. as determined by the instructor, assign an appropriate final grade or credit to a student who has satisfactorily completed a substantial amount of coursework and who has demonstrated sufficient mastery of the course material.

**Retroactive Withdrawal**

A student may request that all grades in an academic period be retroactively removed and replaced by entries of “W” on his or her transcript. A retroactive withdrawal may be granted only when a student has experienced circumstances of such serious and compelling nature that the student could not reasonably have been expected to satisfactorily complete the academic period or submit a petition for regular withdrawal by the deadline specified in the Academic Calendar. Such serious and compelling circumstances may include (but are not limited to) hospitalization, incarceration, debilitating mental illness, or sudden absence at the end of the semester due to family crisis. Failure to academically perform due to factors such as bad habits, poor judgment, time management issues, failed relationships, roommate conflicts, or ignorance of University policies would not generally qualify a student for retroactive withdrawal.

To withdraw retroactively from the University, the student must request this action in writing through the Office of the University Registrar via an online appeal form that will be reviewed by the Associate Registrar. The appeal must be accompanied by supporting documents which demonstrate serious and compelling reasons why action was not taken through the regular withdrawal process during the academic period in question. The time limit for submitting this appeal is the end of the next long semester following the academic period in question; requests that extend past this period will be denied.

If the retroactive administrative withdrawal is granted, the Office of the University Registrar will set all grades for the relevant term to a non-punitive mark of “W.” If the student should wish to appeal a decision on retroactive withdrawal, an appeal can be made, in writing, to the University Registrar within 14 days of the date of notification. The decision of the University Registrar is final.

**Class Attendance**

Students are held responsible for class attendance. Excessive absences may adversely affect course grades. Every instructor is required to make clear the policy on class attendance at the beginning of each course.
If students are absent from class on approved university business (e.g., intercollegiate athletics competition/travel, field trips, student research conferences, Board of Regents meetings), faculty members should count this as an excused absence and should not penalize the student for it. Students should be allowed to make up any required course work in advance or within two weeks after their return to campus. Students are responsible for informing their instructors about the trip in advance so that the faculty members can make plans accordingly. Students need to make prior arrangements to make up labs. If students have any doubt as to whether the activity in question is considered official university business, they should contact the Office of the Provost.

Student Absences on Religious Holy Days

In accordance with Texas Education Code 51.911, Texas A&M University-Corpus Christi will excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused for observance of a religious holy day may not be penalized for that absence and must be allowed to take an exam or complete an assignment from which the student is excused within a reasonable time after the absence.

Texas Education Code, Section 51.911 defines a religious holy day as a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20, Tax Code. If a student and an instructor disagree that the absence is for the observance of a religious holy day, or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the Provost. The student and instructor shall abide by the decision of the Provost.

If a student’s academic course work includes patient care, the University may exclude from these policies and procedures any student absence for religious holy days that may interfere with patient care.

Grades

Grades for undergraduate courses shall be reported by the symbols below, with grade points as noted:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Interpretation</th>
<th>Grade Points per Semester Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Average</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Passing</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>Failure; work not passed</td>
<td>0</td>
</tr>
</tbody>
</table>

[Note: Graduate students should consult the graduate catalog.]

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>Satisfactory, but without qualitative grading. See “Alternate Grading Systems” section below.</td>
</tr>
<tr>
<td>NC</td>
<td>No credit.</td>
</tr>
</tbody>
</table>

W

Course dropped or withdrawal from the University. Automatically given, regardless of the student’s standing in class, when a student officially withdraws from the University or drops a course prior to the deadline as indicated in the class schedule. See “Adding or Dropping a Course” and “Withdrawal from the University” in this catalog.
Withdrawal pass. Before the fall semester of 1996, this grade was assigned to a student who dropped a course or withdrew between designated dates in the semester or summer term and was passing the course at the time of the withdrawal. Grades of WP assigned before fall 1996 will remain on the transcript.

Withdrawal failure. Before fall 1996, this grade was assigned to a student who dropped a course or withdrew between designated dates in the semester or summer term and was failing the course at the time of withdrawal. Grades of WF assigned before fall 1996 will remain on the transcript.

CR, NC, P, NP, S, U, UP, I, IM, IR, W, and WP grades are not counted in computing the GPA. A grade of WF assigned before the fall semester of 1996 is counted in computing the GPA.

The presence of a "D" preceding a qualitative grade of A-F references a developmental course and does not count toward hours earned nor grade points in computing GPA.

For a grade of W to be assigned, a student must officially withdraw from the course or University through the Office of the University Registrar. The receipt from the Office of the University Registrar should be kept as proof of withdrawal. If a student discontinues attending a class and fails to officially withdraw, and does not qualify for an "I," a qualitative grade (A-F) will be assigned.

If no grade is submitted by an instructor, a temporary notation (XX) will be placed on the student's records. In such cases, the course grade must be submitted within 30 days from the beginning of the next semester. If the instructor is not able to submit the grade within the 30 days, the dean in consultation with faculty will submit the course grade.

Calculation of Grade Point Average

Texas A&M University-Corpus Christi uses a 4.0 scale for calculation of Grade Point Average (GPA). GPA is determined by dividing the total number of grade points earned by the number of semester credit hours taken for a qualitative grade (A=4, B=3, C=2, D=1, F=0). The result of this division is expressed as a number carried to the fourth decimal place and rounded up to the third.

For Purposes of Undergraduate Transfer Admission

See "Transfer Admission" in the "Admissions (p. 11)" section.

For Purposes of Graduation with Honors

See "Graduation with Honors" in the "Undergraduate Programs (p. 43)" section.

For Purposes of Graduation and Academic Rank

Only grades earned at this University will be used to calculate the Texas A&M University-Corpus Christi grade point average as used in determination of academic rank and eligibility for graduation.

Grades are made available to students at the end of each grading period at http://sail.tamucc.edu.

Change of Grade

A change of grade (among the values A, B, C, D, F) may occur only if there has been an error in computation or recording of the grade or if a change has been ordered as a result of the grade appeal process. A grade may not be changed because of consideration of work completed following the end of the grading period for which the grade was issued. If not associated with the grade appeal process, a grade change is initiated by the instructor of record and approved by the dean of the college of record. In rare circumstances, the approval of the Provost may be required. To be valid, a grade change must be submitted to the Office of the University Registrar on or before the last day of the next regular semester following the term in which the grade was originally issued, and on the form provided for that purpose.

Grade Appeal Process

As stated in University Procedure 13.02.99.C0.03 (http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf), Student Grade Appeals, a student who believes that he/she/they have not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal.

A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. If the problem cannot be resolved at this level, the student may take the steps below:

1. Written appeal to department chair or area coordinator. (This step must be taken within 20 business days after the start of the next term.)
2. If no satisfactory resolution can be found, the Department Chair will refer the matter, normally within 5 business days, to the Associate Dean for a hearing by the College Grade Appeal Committee (CGAC).
3. The Associate Dean will schedule a hearing before the College Grade Appeal Committee normally within 20 business days.
4. The Committee shall hear all parties to the case and review all evidence presented. Both the faculty member and student shall be present at the same time during the formal hearing.
5. The College Grade Appeal Committee will determine the facts of the case and attempt to develop a fair and appropriate resolution to the complaint.
6. The Chair of the CGAC will present its findings and recommendations, in writing, to the Associate Dean normally within 5 business days after completion of its hearings and deliberations.
7. The Associate Dean will send written notification of the decision to the student and the faculty member involved normally within 5 business days after receiving the CGAC's findings and recommendations.
8. The decision of the Associate Dean is final.

For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C0.03 (http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf), Student Grade Appeals.
For assistance and/or guidance in the grade appeal process, students may contact the Office of the Provost.

**Removing the Grade of Incomplete**

The notation of “I” indicates that work in a course is satisfactory but incomplete (certain work is postponed by the student for substantial reason with the prior consent of the instructor). This work must be completed by the last class day of the next regular (fall or spring) semester unless the instructor designates an earlier date for completion. If the work is not completed by the appropriate date, the qualitative grade provided by the instructor on the incomplete notation application will be submitted to the Office of the University Registrar and will replace the “I.” An incomplete notation cannot remain on the student’s permanent record and must be replaced by a qualitative grade (A–F) at the conclusion of the next regular semester. If the grade of “I” has not been changed at the conclusion of the next regular semester and no qualitative grade was provided on the incomplete notation application, it will be changed to a final grade of “F” by the Office of the University Registrar.

**Removing Grade of Incomplete-Military (IM)**

The “IM” notation may be given to a student who is called to active military service and who consequently can no longer attend class. Such a notation may be assigned if the student is passing a course but will not be able to complete a term paper, examination, or other required work for the course before the end of the semester or session because of required active military service. Assignment of the “IM” notation requires the approval of the instructor. Normally the “IM” grade is not assigned unless the student has completed a substantial amount of course work. The remaining course work must be completed by the last day of the next regular semester (fall or spring) following the student’s return from active military service. The “IM” designation will remain on the student’s permanent record if the work is not completed by the appropriate date. For more information on options available to students who are called to active military service, see “Students Called to Active Duty (p. 20).”

**Pass/No Pass Policy**

Each upper-division student may take up to two academic courses (eight semester hours maximum) graded on a pass/no pass basis during a particular degree program. These courses (if passed) will count as part of the total needed to graduate but will not enter into calculation of grade point average. Designated general education requirements and specific courses required by the major/minor, including required foundation courses outside the discipline of the student’s major, as approved by the college of the student’s major, cannot be taken pass/no pass, unless so stated in the catalog. A course that has been recorded as P cannot be used as a component of general education requirements or of the major/minor field of study. Students will indicate to the Office of the University Registrar their intention to take a course on a pass/no pass basis before the 12th class day of a fall or spring semester or the 4th class day of a summer session or term, as shown in the class schedule. Once such a declaration is made, it cannot be changed on any account including a change of major or degree designation. The faculty member will not be informed that a student is taking the course on a pass/no pass basis. Pass/no pass grades are not used in graduate courses.

**Alternate Grading Systems**

Certain courses proposed by individual colleges and approved by the Faculty Senate may use the alternate grading system CR/NC when the standard system authorized for the University (A, B, C, D, F, I, IP, W) is not considered appropriate. CR/NC is a designation of the University given to certain courses, all of whose students receive one of these grades; P/NP is an option that a student may designate in any course, subject to the restrictions above.

A student may apply no more than ten credit hours earned at this university outside the standard grading system (e.g., grades of CR/NC or P/NP) toward a baccalaureate degree. No more than seven semester hours of CR/NC may be in a student’s major field of study. The hours graded P (pass) or CR (credit), given in those instances where standard letter grades are not used, will not be applied in computing grade point averages nor influence student eligibility for academic honors.

**Final Examinations**

Final examinations must be scheduled during the regularly scheduled examination time listed in the official class schedule. If papers or take-home examinations are assigned in lieu of a final examination, the due date must be at the regularly scheduled examination time listed in the official class schedule. If final presentations or final critiques assigned in lieu of final examinations require multiple days to complete, then the final day for the critiques/presentations must occur on the regularly scheduled exam day.

Students are not required to take more than two final examinations in any one day. Any student with three or more final examinations scheduled on the same day may request to take one of the examinations on another day during the final examination period. The process is described below.

1. The student should first try to resolve the matter with the appropriate instructor(s).
2. If the matter remains unresolved, the student should submit a request for an alternative final exam time in writing to the Office of Academic Affairs. This request must be submitted by the drop date (the last day to drop a course for the semester with an automatic grade of W as stated in the semester class schedule).
3. The Office of Academic Affairs will select which of the exams should be taken at an alternative time and formally contact the faculty member at least 15 working days before the final examination period. Preference for selection of which course would have an alternative final exam time must be based on the course with the smaller class size and, then, courses with final exam times in between other exams.
4. The Office of Academic Affairs will select which of the exams should be taken at an alternative time and formally contact the faculty member at least 15 working days before the final examination period. Preference for selection of which course would have an alternative final exam time must be based on the course with the smaller class size and, then, courses with final exam times in between other exams.

For additional information regarding this process students should refer to University Procedure 13.99.99.C0.01: Course Examinations and Study Week (http://academicaffairs.tamucc.edu/rules_procedures/assets/13.99.99.c0.01_course_examinations_and_study_week.pdf).

**Graduation Under a Particular Catalog**

A student may receive the baccalaureate degree upon satisfying the requirements of the catalog under which credit was first earned in this University or upon satisfying the requirements of the catalog of any subsequent year in which credit was earned as a student in the University. This provision is subject to the restriction that all requirements must be completed within six years of the date of the catalog chosen.
and that the University still offers programs and required curriculum described in the earlier catalog. A student who transfers from a public community college in Texas may choose to graduate under the University catalog in effect at the time the student first earned credit at the community college or a later catalog in effect when the student earned credit at either the community college or the University. This provision is subject to the six-year restriction stated earlier. Certification or licensure requirements are subject to change. Students enrolled in programs leading to certification or licensure must meet all current requirements, regardless of the catalog chosen.

**Application for Graduation**

Students who plan to participate in a graduation exercise and/or receive a diploma and degree conferred must submit an online application for graduation by the deadline indicated in the Academic Calendar (p. 6) and pay the associated fee. Students are strongly advised to consult their academic advisor prior to submitting an application for graduation. The application for graduation and associated fees is not transferable to a subsequent semester. If a student does not graduate, the application will be canceled and a new application and fee must be submitted. Students participating in the graduation exercise will also be required to obtain an appropriate cap and gown.

**Academic Integrity**

Texas A&M University-Corpus Christi students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, which include but are not limited to illicit possession of examinations or examination materials, falsification, forgery, plagiarism or collusion in any of these behaviors.

**Responsibility of the Student:** It is the responsibility of the student to become educated regarding University Rules, Regulations and Policies regarding academic misconduct. This includes, but is not limited to, seeking clarification from each instructor regarding acceptable behaviors and guidelines for completing individual assignments. A failure to become educated with the University Rules, Regulations and Policies or the instructors’ guidelines will not excuse the student from accountability for violations of such policies.

**Responsibility of the Instructor:**

The instructor should maintain a policy regarding academic misconduct within the course syllabus and provide clear expectations regarding behaviors that will and will not be permitted regarding the completion of in-class and out-of-class assignments. The instructor shall address all matters of suspected academic misconduct with the student in question and may choose to document and refer the matter to the Student Conduct & Community Standards. The burden of proof shall lie with the instructor when presenting cases of academic misconduct to the Student Conduct & Community Standards.

Disciplinary action for academic misconduct is first the responsibility of the faculty member assigned to the course. The faculty member is charged with assessing the gravity of any case and with recommending sanctions for any student involved.

Sanctions that may be recommended by the faculty member for individual cases of academic misconduct include one or more of the following:

- Assigning grade of ‘F’ to work in question;
- Assigning grade of ‘F’ for course;
- Requirement to re-do work in question;
- Requirement to submit additional work;
- Lowering of grade on work in question;
- Recommendation for more severe punishment, such as suspension, dismissal from program, or expulsion from the University.

If the faculty member recommends a more severe sanction, such as dismissal from program or expulsion from the program or from the University, the matter will automatically be reviewed by Student Conduct & Community Standards and may be referred to an Academic Integrity Hearing Panel. Additionally, if the student has a history of academic misconduct, the matter will be reviewed by the Academic Integrity Hearing Panel.

The faculty member must file a report for each case of academic misconduct, including a description of the incident, the disciplinary action taken, the assignment, the instructions for the assignment, and evidence indicating misconduct, and a current syllabus for the course to the Student Conduct & Community Standards. The faculty member should also provide a copy to the chair of their department. The Student Conduct & Community Standards will maintain records of such cases for a period of five years after the student’s last enrollment date.

For additional information regarding this process students should refer to University Rules and Procedures 13.02.99.C0.04: Student Academic Misconduct Cases (http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.04_student_academic_misconduct.pdf).

**Academic Records**

Permanent academic records are maintained in the Office of the University Registrar. When a transcript or other document has been submitted to Texas A&M University-Corpus Christi, it becomes the property of the University and will not be returned to the student as an original.

Academic files and degree plans are maintained in the offices of the college deans. The college deans are responsible for certifying that students receiving undergraduate degrees have satisfied all college degree requirements. The Office of the University Registrar is responsible for certifying that University minimum requirements have been satisfactorily completed.

**Challenge to an Academic Record**

A student who wishes to challenge the accuracy of the academic record established at Texas A&M University-Corpus Christi and held in his or her behalf, must notify the Office of the University Registrar in writing and explain in detail the nature of the error. The Office of the University Registrar will study the challenge and the contents of the student’s file, and consult with the appropriate academic personnel. The Office of the University Registrar will reply to the student within 30 business days.

The student has one calendar year from the date that the data becomes a fact of record to initiate a challenge. If a challenge is successful and affects the student’s GPA, honors status or similar rubric, the historical record will be altered accordingly.
Application of this policy is not intended to abridge, supplant, or supersede other deadlines. The University reserves the right to correct or amend an academic record at any time that an error may be detected. In each case, the student will be given written notice of the change.

Change of Name or Address
Changes of name must be filed in the Office of the University Registrar. Address and/or telephone number changes may be processed through the Office of the University Registrar or through Student Academic Information Link (SAIL) (http://sail.tamucc.edu/).

Student Records Policy
The University accumulates data and keeps records to enable staff and faculty to plan educational opportunities to meet the needs of individual students, to better understand students, to counsel them more effectively, and to assist them in placement in graduate education or employment after graduation.

The University maintains student records in several locations, including the Office of the University Registrar, Office of Student Financial Assistance, Business Office, offices of academic deans and faculty, Office of Student Engagement and Success, College of Graduate Studies, Office of Communications and Public Affairs, Career Services, University Health Center, University Counseling Center, Disability Services, and Alumni Office. Provisions are made in these offices for students to review and challenge the accuracy of records when appropriate and upon request.

The University complies with the Family Educational Rights and Privacy Act of 1974 (FERPA) and with the Texas Public Information Act. FERPA is a federal law intended to protect the privacy of education records, to establish the rights of students to inspect and review their education records and to provide guidelines for the correction of inaccurate or misleading information through informal or formal hearings. Information in student records may be provided to parents without the written consent of the student if the eligible student is a financial dependent of his or her parents as defined under Section 152 of the Internal Revenue Code of 1954. Such requests should be submitted to the Office of the University Registrar.

Students have the right to inspect and review their education records, except for the following:

1. Financial records of the student’s parents.
2. Confidential records and statements of recommendation, which were placed in the education records prior to January 1975.
3. Confidential records and statements of recommendation, which were placed in the student’s education records on or after January 1, 1975, if the student has waived the right to review the letters or statements.

Education records, as defined by FERPA, do not include the following: a personal record of a University faculty or staff member that is in the sole possession of the individual who made it and that has never been revealed to any other person except the maker’s temporary substitute; certain employment records; student health records; student records of personal counseling (records protected under other laws and regulations); and records maintained by a University law enforcement unit that were created by that unit for the purpose of law enforcement. (However, the University may release to an alleged victim of a crime of violence the results of a University disciplinary proceeding concerning the alleged perpetrator of the crime.)

The University maintains two types of student education records: directory information and other student records. Directory information is considered public information and will be released by the University upon request, in accordance with existing law. This public information includes: name; student ID, permanent address; permanent telephone number; University email address; field of study; enrollment status (full-time, part-time, undergraduate, graduate, etc.); classification (fr., so., jr., sr.); dates of attendance; degrees, certificates, and other awards received (if any); the type of degree received; date of graduation; name of most recent previous institution attended; and similar information. A student who does not wish this public information to be released must complete the appropriate form and submit it to the Office of the University Registrar.

With the exception of directory information, the University will not permit the release of personally identifiable information in education records without the prior written consent of the student, except as follows:

1. To appropriate University personnel who need access to educational records to perform their legitimate educational duties.
2. To officials of other schools in which the student seeks to enroll, provided the student is notified of what is being released and is given a copy if desired.
3. To federal, state, or local officials authorized by law.
4. In connection with a student’s application for, or receipt of, financial aid.
5. To organizations conducting educational studies, provided that these organizations do not release personally identifiable data.
6. To accrediting organizations.
7. To the parents who certify that a student is carried as a dependent for federal income tax purposes.
8. To appropriate persons, in an emergency, if the knowledge of such information is necessary to protect the health or safety of the student or other persons.
9. To individuals requiring such information by means of a judicial order or a lawfully issued subpoena, provided a reasonable effort is made to notify the student in advance of compliance.

The University does not maintain records of membership in organizations or of political, racial, or religious affiliations.

The acquisition and dissemination of information for records is based on a respect and concern for the privacy and protection of the individual student. However, the obligation of confidentiality may lapse when the common welfare of the community or the welfare of the individual demands revelation such as in the case of suicidal preoccupations, expressed homicidal thoughts or actions, commission of a felony, or similar circumstances. Evaluation and interpretation of a student’s records shall be done only by a professional and qualified staff person.

Policies Subject to Change
Although every effort has been made to provide complete and accurate information in this catalog, changes may occur at any time, without notice, in academic policies and regulations.
Tuition, Fees & Financial Assistance

Tuition and Fees
The Business Office (http://businessoffice.tamucc.edu/) website provides current tuition and fee information. Tuition and fees are subject to change.

Texas Residency
All students attending Texas A&M University-Corpus Christi who are non-residents of Texas will be charged additional tuition in accordance with State law. In general, students will be classified as Texas residents if they meet one or more of the following criteria:

1. Any individual who has resided in Texas from birth.
2. Any individual 18 years of age or over who has come from outside Texas and who is gainfully employed in Texas for a 12-month period immediately preceding registration in any institution of higher learning.

Additionally, there are certain other circumstances under which an individual may be classified as a Texas resident. Residency status will be established according to the interpretations by the Texas Higher Education Coordinating Board. The Coordinating Board (https://texreg.sos.state.tx.us/public/readtac%24ext.TacPage/?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=19&pt=1&ch=21&aid=24) provides rules on determining residency status.

Although classified as a non-resident, a member of the armed services who is assigned to duty in Texas, as well as their immediate family members, may register at the Texas resident fee rate.

Under State law, certain other categories of students may be eligible for tuition and fees exemptions or adjustments. Additional information is available through the Business Office (http://businessoffice.tamucc.edu/).

The student is responsible for registering under the correct residency status. Students should consult with the Office of Recruitment and Admissions prior to registration to address residency questions.

A non-Texas resident seeking to change residency status must submit a Core Residency Questionnaire to the Office of Recruitment and Admissions prior to registration. Additional information about Texas Residency (http://admissions.tamucc.edu/residency.html) is available through the Office of Recruitment and Admissions.

Financial Obligations
Students are expected to pay all financial obligations to the University by the published deadline. Failure to meet financial obligations may result in:

- Removal from the University
- Transcripts placed on hold
- Exclusion from final exams and graduation
- Exclusion from further enrollment

Financial obligations include, but are not limited to, the following:

- Returned checks and returned check charges
- Library fines
- Lost or damaged book fines
- Replacement costs of long-overdue books
- Loss or breakage of university instructional material or equipment
- Dormitory fees
- Installment payments
- Parking fines
- Repayment of financial aid loans and emergency loans

All tuition and fee costs are due upon registration. Failure to pay may result in deregistration from classes. Registration is not completed until the University Business Office has received payment and all necessary documentation has been completed. Ultimate financial responsibility rests with the student. Payment made after the established deadline will result in a fee of $50.00. An additional fee of $100.00 will be assessed for reinstatement into classes lost as a result of non-payment. The University Business Office periodically performs audits on student accounts to verify tuition and fee charges. This may result in additional charges or refunds.

Returned Checks
When personal checks or online payments are returned for insufficient funds, the individual responsible for the payment will be notified. Within seven days of notification, the full amount due, plus a return check fee of $25, must be paid to the university Business Office (http://businessoffice.tamucc.edu/).

Payment may be made in person or by mail and must be in the form of cash, money order, or cashier’s check. The University will not accept a personal check in payment following a returned check.

Failure to submit full payment by the deadline may result in disciplinary action, which may include removal from the University, legal action as prescribed by law, and payment of additional collection fees. The University reserves the right to refuse payment in the form of personal checks from individuals who have previously had three checks returned for insufficient funds.

Returned checks written for SandDollar accounts will result in the account being deactivated until the full amount, plus returned check fees are paid.

Refund of Tuition and Fees
A student officially and completely withdrawing from the University during the semester may be eligible for a refund of applicable tuition and fees according to the following schedule:

10 Weeks or Longer Term:

100% prior to the University’s first official class day of the semester
80% during the first five class days of the semester
70% during the second five class days of the semester
50% during the third five class days of the semester
25% during the fourth five class days of the semester
No refund thereafter

Less than 10 Weeks but Greater than 5 Weeks Term:

100% prior to the University’s first official class day of the semester
80% during the first three class days of the semester
50% during the second three class days of the semester
25% during the fourth three class days of the semester
No refund during the seventh class day and thereafter

5 Weeks or Less Term:

100% prior to the University’s first official class day of the semester
80% during the first class day of the semester

50% during the second class day of the semester  
No refund during the third class day and thereafter  

The number of class days is counted from the first official class day of the semester, not the first meeting day of a particular class.  

For more information, contact the Business Office or go to http://businessoffice.tamucc.edu (http://businessoffice.tamucc.edu/) and click on Important Dates.  

The process to withdraw from the University begins in the Registrar’s Office (http://registrar.tamucc.edu/).  

A student dropping a course or courses who remains enrolled in other courses for the semester may be subject to a refund of applicable tuition and fees as follows:  

Ten Weeks or Longer Term:  
100% prior to and including 12th class day of the semester  
No refund after 12th class day  

Less than Ten Weeks but Greater than Five Weeks Term:  
100% prior to and including 4th class day of the semester  
No refund after 4th class day  

Five Week Summer Term:  
100% prior to and including 3rd class day of the semester  
No refund after 3rd class day  

2½ Half Week Summer Term:  
100% prior to and including 2nd class day of the semester  
No refund after 2nd class day  

For more information, contact the Business Office (http://businessoffice.tamucc.edu/) or go to http://businessoffice.tamucc.edu/index.html and click on Important Dates.  

The number of class days is counted from the first official class day of the semester, not the first meeting day of a particular class.  

After an audit of all fees has been made, the refund process will begin. This process requires a reasonable length of time. No refunds are given on audited courses.  

Students using the Installment Payment Plan who withdraw from the institution will have the refund, if any, calculated based on the total amount of tuition and fees due at the time of registration, not the amount of tuition and fees paid at the time of withdrawal.  

Students with financial aid who withdraw may be subject to the federal refunding timetable and rates. Students should consult with the Financial Aid Office about their situation before withdrawing.  

BankMobile and Refunds  
A refund will occur when a credit balance remains on each student’s Business Office account after all charges are paid. A credit balance may occur due to overpayments, dropped courses, withdrawals or financial aid (loans, scholarships, grants, etc....). Refunds are issued to the students by BankMobile. A new student, upon registration, will receive in the mail, from BankMobile, a Refund Selection Kit along with refund preference instructions. BankMobile will use the Billing Address on file with the University to send this correspondence to the student. It is important that this address is current. The Refund Selection Kit will contain a personal code which is used to make your refund selection preference with BankMobile. Once it arrives, you’ll simply login to S.A.I.L, select Student, Student Account and Student Refunds to select your refund preference. The three preferences are: 1) Direct Deposit into a bank account of their choice, 2) Opening a BankMobile Vibe Account or 3) Paper Check. If the student does not make a refund selection preference, BankMobile will not be able to process the refund.  

New students will begin the process of receiving their Refund Selection Kit approximately 5-9 business days after registration. If a student does not receive their Refund Selection Kit they should contact the Business Office (http://businessoffice.tamucc.edu/) at 361-825-2600.  

Tuition Rebates for Certain Undergraduates  
Certain undergraduate students who attempt no more than three hours in excess of the minimum number of semester credit hours required to complete their degrees may be entitled to tuition rebate of up to $1,000 after graduation.  

To be eligible for rebates under this program, students must meet all of the following conditions:  

1. They must have enrolled for the first time in an institution of higher education in the fall 1997 semester or later,  
2. They must be requesting a rebate for work related to a first baccalaureate degree received from this University,  
3. They must have been a resident of Texas, must have attempted all course work at a Texas public institution of higher education, and have been entitled to pay resident tuition at all times while pursuing the degree, and  
4. They must have attempted no more than three hours in excess of the minimum number of semester credit hours required to complete the degree according to the catalog to which under they were graduated. Hours attempted include transfer credits, course credit earned exclusively by examination, courses that are dropped after the official census date, for-credit developmental courses, optional internship and cooperative education courses, and repeated courses. Courses dropped for reasons that are determined by the institution to be completely beyond the control of the student will not be counted.  
5. Beginning with students admitted for the first time in fall 2005, a student must also graduate in a timely manner to earn the tuition rebate. A student who wants to qualify to receive the rebate must graduate within four calendar years for a four-year degree or within five calendar years for a five-year degree if the program is determined by the Texas Higher Education Coordinating Board to require more than four years to complete.  

In order to qualify for tuition rebates, students are responsible with complying with all rules related to the administration of the program. Students are responsible for enrolling only in courses that will qualify them for the rebates. Students who have transferred from other institutions of higher education are responsible for providing the University with official transcripts from all institutions attended. Students must apply for rebates on the appropriate forms prior to receiving their baccalaureate degrees and must keep the University apprised of their addresses for a specified period following graduation.  

The amount of tuition to be rebated to students under this program is based on state guidelines. If a student entitled to a rebate has an outstanding balance owed to the University or to student loans, the University will apply the amount of the rebate to the balances owed.
If the amount of the rebate exceeds the amount of indebtedness, the University will pay the student the remaining amount.

For more information on this program, contact the Business Office or the Office of the University Registrar or visit the College for Texans (http://www.collegeforalltexans.com/) website.

**Fees for Multiple Repeats of a Course**

The State of Texas will not provide funds to state institutions of higher education for semester credit hours related to a course in which a student is enrolled for the third time. Therefore, as permitted by state law, the University will charge an additional fee of $100 per semester credit hour for a course in which a student registers for a third time or more. The courses counted toward the limitation include all hours attempted by the student except: Thesis, Dissertation, Individual Music Lessons, Theater Practicum, Music Performance, Ensembles, Studio Art, certain P.E. and Kinesiology courses, Independent Study (topic changes), Special Topics (topic changes), and Developmental Education (not to exceed 18 semester credit hours).

**Tuition for Excessive Undergraduate Hours**

The State of Texas will not provide funds to state institutions of higher education for excess semester credit hours earned by a resident undergraduate student. Therefore, as permitted by state law, the University will charge additional tuition to students who exceed the semester credit hour limit for their programs. The additional charge per semester credit hour may be billed to any student that meets these criteria. Information on excessive credit fees is available through the university Business Office. The excess hour tuition rate will not exceed the rate charged to nonresident undergraduate students. Excess semester credit hours are those which accrue after the student exceeds by 30 hours the number of semester credit hours required for the completion of the degree program in which the student is enrolled. Thus, the student may accumulate up to 30 hours beyond those required for the chosen degree program and not exceed the limitation. The limitation on excess credit hours applies only to those undergraduate students who first enter higher education in fall 1999 or later. The semester credit hours counted toward the limitation include all hours attempted by the student except:

- Semester credit hours earned by the student before receiving a baccalaureate degree that was previously awarded to the student
- Semester credit hours earned by the student by examination or under any other procedure by which credit is earned without registering for a course for which tuition is charged
- Credit for a remedial education course, a technical course, a workforce education course funded according to contact hours, or another course that does not count toward a degree program at the institution
- Semester credit hours earned by the student at a private institution or an out-of-state institution

**Methods of Payment**

The methods of payment that are accepted by the Business Office include cash, checks, credit/debit cards, installment payment plans and emergency loans. Installment payment plans and emergency loans are discussed below. For information on payment by check or credit/debit card, see the Business Office (http://businessoffice.tamucc.edu/).

**Installment Payment Plan (Fall and Spring Only)**

An installment payment plan is available to most students under the provisions of Section 54.007 of the Texas Education Code. The University offers an option to pay by installments: a four-payment plan (25% prior to the start of the semester with three more payments during the semester of 25%). Subsequent installment payments should be made directly through S.A.I.L or to the Business Office. A nonrefundable processing fee of $20.00 will be charged and a late fee of $25.00 will be added to each installment not received by the due date.

Students utilizing the installment option must execute an electronic agreement which sets forth the conditions and repayment schedule of the payment plan selected. Under the provisions of the installment payment option in the law, a student who fails to make full payment of tuition and fees, including any incidental fees, by the due date may be prohibited from registering for classes until full payment is made. A student who fails to make payment prior to the end of the semester (last class day) may be denied credit for work done that semester.

Students who register for classes and wish to use an Installment Payment Plan must sign up online though the SAIL website at http://sail.tamucc.edu/. More information about Installment Payment Plans can be found on the Business Office website at http://businessoffice.tamucc.edu/method_pay.html.

**Emergency Loans**

Short-term emergency loans are available to students who need assistance in covering tuition and fees and books. Funds are limited and will be provided on a first-come, first-served basis to eligible applicants. Information on eligibility requirements and the application process can be found on the Business Office website at http://businessoffice.tamucc.edu/method_pay.html. There is a non-refundable processing fee of $25.00 per loan. A late payment fee of $25 will be added to each loan that is not paid in full by the due date.

**Fees**

Information on current tuition and fees can be found on the Business Office website at http://businessoffice.tamucc.edu/tuition_and_fees%20/index.html (http://businessoffice.tamucc.edu/tuition_and_fees%20/).

**Fees for Proctored Exams**

Online courses may require the use of exam-proctoring involving third party charges. Exam-proctoring charges may range from $1 - $50.00 per exam. Students may be required to schedule exams at least 24 hours in advance or incur late scheduling charges. All costs for exams are the responsibility of the student. Students may also be responsible for providing web-cams to be used in test proctoring.

**Parking Fees**

All students who park their vehicles on campus lots, including the lots at the housing complexes, must obtain a permit to park in the designated areas. The University Police Department (https://police.tamucc.edu/) implements and enforces the parking regulations. Information on costs of parking permits and access to the TAMUCC Parking Portal can be found on the University Police Department website at https://police.tamucc.edu/park/parking_services.html.

**Designated Tuition**

Information on current tuition and fees can be found on the Business Office website at http://businessoffice.tamucc.edu/tuition_and_fees%20/index.html (http://businessoffice.tamucc.edu/tuition_and_fees%20/).
Undergraduate Student Tuition
Information on current tuition and fees http://businessoffice.tamucc.edu/tuition_and_fees%20/index.html (http://businessoffice.tamucc.edu/tuition_and_fees%20/).

Hope and Lifetime Learning Tax Credits

Financial Assistance
Programs to assist students and parents in financing an education at Texas A&M University-Corpus Christi are administered by the Office of Student Financial Assistance. Students may apply for financial assistance through scholarship, grant, work study, and loan programs.

Eligibility for the majority of financial aid programs is determined through a financial needs analysis. This analysis is made after the student completes and submits a Free Application for Federal Student Aid (FAFSA). Before an undergraduate student can be considered for financial aid, the student must:

1. be officially admitted to the University;
2. be working toward a degree and classified by the Office of Admissions as degree-seeking;
3. be enrolled at least half-time (6 semester hours during a long semester or 3 hours during each summer term);
4. meet the deadlines set by the Office of Student Financial Assistance;
5. not be in default or owe a refund on any Title IV grant(s) or loan(s);
6. provide proof of eligibility if not a citizen of the United States;
7. provide documents that support information reported on applications for financial aid;
8. meet minimum G.P.A. requirements of a 2.0 cumulative for all undergraduate students and maintain satisfactory academic progress as required for financial aid eligibility to fulfill federal requirements

Financial aid programs available to undergraduates include Federal Pell Grant, Federal College Work Study, Federal Supplemental Educational Opportunity Grant, Texas Public Educational Grant (resident and nonresident), A&M-Corpus Christi Grant; TEXAS Grant; Texas Be on Time Loan (Renewal Only), Federal Perkins Student Loan (Renewal Only), Federal Direct Loan programs, and various scholarships. Several grants and scholarships are offered through the Texas Higher Education Coordinating Board. Federal Direct Loans are distributed in two disbursements in accordance with Federal regulations. If the student is receiving a loan for one term, the first check will be disbursed at the beginning of the semester and the second after the midpoint of the semester. A loan that covers both fall and spring terms will result in a disbursement at the beginning of each semester. First year, first time borrowers will not receive their first loan disbursement until 30 days into the semester.

Most financial aid programs have a limited amount of funds, which must be granted on a first-completed, first-awarded basis. Therefore, students are strongly encouraged to have their financial aid files completed by February 15 for summer, by March 31 if applying for assistance for both fall and spring, or by November 1 if applying for assistance for spring only.

Application forms and detailed instructions on applying for financial aid are available through the Office of Student Financial Assistance and at the following web address: http://osfa.tamucc.edu.

Satisfactory Academic Progress Policy
The Higher Education Act of 1965, as amended, mandates that institutions of higher education establish policies to monitor the academic progress of students who apply for and/or receive federal financial assistance. Texas A&M University-Corpus Christi applies its minimum standards to all federal, state, and institutional financial aid programs in order to maintain a consistent policy for all financial aid applicants. Though this policy establishes the minimum standards for all financial aid programs at A&M-Corpus Christi, an individual aid program may have unique qualitative and/or quantitative standards specific to the program as mandated by law or the program's governing entity. Examples include Texas Grant, Texas Be On Time Loans, Academic Scholarships, and Athletic Scholarships.

To be awarded or receive any financial aid, a student must be accepted to the University in good academic standing (i.e., no conditional admittance), be enrolled in credit courses leading toward a degree or teaching certificate, and maintain satisfactory academic progress in the course of study pursued. This policy is consistently applied to all enrollment periods regardless of whether or not the student received aid.

Minimum Standards of Satisfactory Academic Progress
At the end of each academic year (spring semester), students must show satisfactory progress toward a degree or certificate based on the following elements:

1. Academic Standards
2. Maximum Frame for Degree/Certificate Completion
3. Successful Credit Hour Completion Rate

Academic Standards
Students must maintain the following cumulative grade point average to retain financial aid eligibility:

All undergraduate students = 2.0 cumulative G.P.A.
All graduate students = 3.0 cumulative G.P.A.

Learn how G.P.A. is calculated by clicking here (http://casa.tamucc.edu/gpa.php).

Maximum Frame (At tempted Hours) for Degree/Certificate Completion
For financial assistance purposes, students will be limited to the following number of attempted hours to complete their degree or certification program:

Undergraduate Degree/Certification 180 attempted hours

Attempted hours include all transfer hours and all registered hours at A&M-Corpus Christi per semester whether or not the student earns a grade, receives credit, or received financial aid. The following are considered hours attempted, but not completed/earned:

• Grades of F or NC
• I or incomplete
• W or withdrawal from courses
The following are considered hours attempted and successfully completed/earned:

Grades of A, B, C, D, CR, and IP

Successful Credit Hour Completion Rate
Students must successfully complete/earn a minimum of 67% of all attempted semester credit hours. Note: All partial credit hours will be rounded down to the nearest hour. Examples:

1. If a student attempts (registers for) 24 credit hours in an academic year, the student must complete a minimum of 16 credit hours (24 x 67% = 16) in order to meet the requirements for satisfactory academic progress for the year.
2. If at the end of the second year, a student has attempted 60 hours, the student must have completed a minimum of 40 credit hours (60 x 67% = 40) to meet the requirements for satisfactory academic progress.

Remedial Course Work
Students may receive financial assistance for remedial course work if acceptance to a program has been confirmed, and the remedial course work is necessary to complete the program. Students cannot receive financial assistance for remedial course work if their acceptance to a program is based on the completion of the remedial work. Remedial course work is limited to 24 semester hours.

Review Policy
At the end of each spring semester, the Office of Student Financial Assistance will review the progress of each financial aid recipient to determine eligibility for aid consideration for the upcoming academic year.

Financial Assistance Suspension Policy
If it is determined that a student does not meet the minimum satisfactory academic progress requirements, the student will automatically be placed on financial assistance suspension and will be notified accordingly. Students on financial aid suspension are not eligible for any type of federal, state, or institutional aid.

Note: Students on scholastic suspension/dismissal or enforced withdrawal will also be placed on financial assistance suspension.

Conditions for Reinstatement
Students may attend the next semester/term at A&M-Corpus Christi without financial aid to reestablish eligibility. If, at the end of the semester/term, the student again meets the minimum satisfactory academic progress standards, the student may submit a written request to the Office of Student Financial Assistance to have their application for financial aid reinstated for the next and subsequent semesters/terms of the current academic year. Continued eligibility for the next academic year will be determined again at the end of the spring semester during the regular review process.

Appeal Policy
Students who fail to maintain satisfactory progress due to extenuating circumstances may submit an application for appeal to be reviewed by the Aid Appeals Committee. To appeal for reinstatement of financial aid eligibility, students must complete and submit the Request for Appeal form to the Office of Student Financial Assistance. A completed appeal application includes a letter and supporting documentation providing a detailed explanation of the extenuating circumstances, such as personal injury or medical problems, illness or death of an immediate family member, etc. In addition, if a student has exceeded the maximum time frame and is appealing based on a change of major, the student should state the reason for the change and indicate the number of hours remaining to be taken in the new major. The student's academic advisor must complete the advisor section of the application.

If the appeal is approved by the Aid Appeals Committee, financial aid will be continued as if the student is otherwise eligible. If denied, the student may request a meeting with the appeals committee. If the outcome of the meeting does not result in an approval of the appeal, the student must reinstate eligibility according to actions outlined in the previous section.

The decision of the committee is final and may include additional conditions the student must meet as deemed appropriate by the committee. All students (approved or denied) will be reviewed again for continued eligibility at the end of the academic year during the regular review process.

Refund and Repayment Policies
Students who register and then withdraw from their classes at the University will have their aid recalculated based on the number of days they attended class. If a student withdraws from all classes prior to the first class day, the student may be required to repay any and all financial aid received. Students should consult the Satisfactory Academic Progress Policy to determine if their withdrawal will affect future aid eligibility.

Scholarships
Texas A&M University-Corpus Christi offers a variety of academic scholarships for incoming freshmen, current undergraduate, and transfer students. Current undergraduate and transfer students must have a minimum GPA of 3.0 to apply (unless otherwise noted) and plan to be at least a full-time student (12 hours per semester) if awarded.

Lists of scholarships available to students can be found in the scholarship office. The deadline to apply for undergraduate university scholarships is February 15. Applications will be reviewed and rated on the basis of GPA, transcript, community involvement, essay, resume, and other criteria. More information is available at scholarships.tamucc.edu/current (https://scholarships.tamucc.edu/current.html).

The priority deadline for incoming freshmen for the next academic year is December 1. All applications received after this date will be awarded on a funds-available basis. Information on scholarships for incoming freshmen is available online at scholarships.tamucc.edu/freshmen (https://scholarships.tamucc.edu/freshmen.html).

Scholarships are open to all incoming freshman students and are not restricted by college major. Decisions will be based on academic standing, class rank, test scores, and enrollment in AP classes.

A non-resident U.S. citizen or international student who is a recipient of a competitive University scholarship may be eligible for the Texas resident tuition rate. The student must have competed with other students, including Texas residents, for the scholarship. For additional information on scholarships, visit the University website for Scholarship Programs at scholarships.tamucc.edu/ (http://scholarships.tamucc.edu/).

Emergency Loans
Short-term emergency loans are available to students who need assistance in covering tuition and fees and school-related expenses such
as books. Detailed information regarding eligibility requirements and the application process can be found in the Business Office.

Veterans Educational Benefits
Veterans Affairs Office
The mission of the Texas A&M University-Corpus Christi Veterans Affairs Office is to assist service members, veterans, and dependents in receiving entitled educational benefits and in achieving educational goals. The Veterans Affairs Office strives to assist active duty service members and veterans with the transition from military to academic life. For more information on educational programs and updates on the Post 9/11 Veterans Educational Assistance Act of 2008, please call (361) 825-2331 or visit the web site http://vets.tamucc.edu.

Enrollment Certification
Certifications for veterans’ educational benefits are submitted to the Department of Veterans Affairs, Muskogee, OK. Please visit the Veterans Affairs Office for information on eligibility requirements, applications and forms, and updates on the following benefits:

- Chapter 30 Montgomery GI Bill – Active Duty Educational Assistance Program
- Chapter 1607 Reserve Educational Assistance Program (REAP)
- Chapter 33 Post 9/11 Veterans Educational Assistance Act of 2008
- Chapter 1606 Montgomery GI Bill Selected Reserve
- Chapter 31 Vocational Rehabilitation and Employment Program
- Chapter 32 Post-Vietnam Era Veterans’ Educational Assistance Program (VEAP)
- Chapter 35 Survivors’ and Dependents’ Educational Assistance Program

The applicant must provide a Certificate of Eligibility (COE) from the Dept. of Veterans Affairs showing the benefit has been awarded. A Veterans Intent to Enroll Form is required each term for certification and provides the VA Certifying Official with authorization to submit an enrollment certification on behalf of the student. Students must notify the Veterans Affairs Office of any enrollment changes, to include: added or dropped courses, withdrawals, or change of major. A degree plan from the academic advisor is required for the veteran’s file. Texas A&M University-Corpus Christi does not participate in the VA Advance Payment Program.

Hazlewood Exemption
In accordance with the Texas Education Code, Section 54.203, Texas veterans and eligible dependents must apply for benefits under the Hazlewood Act or the Hazlewood Legacy Act each term. An exemption of tuition and fees, with the exception of the student services fee, is granted per term for Hazlewood eligible students, up to 150 cumulative credit hours. Students must submit the application, an original, certified, or notarized copy of the veteran’s discharge papers (VA Form DD-214 member 4 copy), and other qualifying documentation, and a letter from the Muskogee, Oklahoma VA Regional Processing Office stating that they have exhausted federal veterans’ educational benefits. The Hazlewood file must be completed, and the exemption requested by the census date per term. The number of credit hours a student is registered for on the census date of a given term is the number of Hazlewood credit hours reported for the term to the Texas Higher Education Coordinating Board.

Training Time
For information on enrollment status requirements for students receiving financial assistance, administered through the Office of Financial Assistance, please review that section of the catalog. The criteria for enrollment status of students receiving financial assistance and training time for Department of Veterans Affairs benefits may differ. Please contact the Veterans Affairs Office to determine training time criteria for the various summer terms.

Academic and Student Services
The University provides a variety of academic support services that complement the academic programs and help students reach their educational goals.

New Student Orientations
Islander Launch (new student orientation) provides first-year students with information regarding academic advising and registration. Academic Advisors assist students in selecting the appropriate courses for their first semester at Texas A&M-Corpus Christi. We offer in-person and virtual opportunities to gain information, become familiar with campus resources, and learn how to register for classes in an online platform. The Islander Launch experience is offered prior to fall and spring semesters.

Academic Advising Centers
Texas A&M University – Corpus Christi’s six advising centers are staffed by professional, full-time academic advisors. The Islander Advising Center (IAC) is designed to serve students entering Texas A&M University – Corpus Christi from orientation through 45 earned credit hours. The IAC provides services for undeclared/undecided students as well as students in pre-admission programs. Students with 46 or more earned credit hours are advised by professional, full-time academic advisors in one of the five college advising centers. All academic advising centers provide students with information on student education plans, course selection, degree requirements, and other academic resources. To locate your academic advisor, find out more about academic advising, please visit https://www.tamucc.edu/academics/planning/academic-advising/index.php (https://www.tamucc.edu/academics/planning/academic-advising/).

Office of Academic Testing
The Office of Academic Testing at Texas A&M University-Corpus Christi serves the student population and the Coastal Bend community with their testing needs. For information on TExES examinations, see the “College of Education and Human Development (p. 97)” section of the catalog. Please visit http://testing.tamucc.edu or call (361) 825-2334 for other services provided by this office.

Center for Academic Student Achievement (CASA)
The Center for Academic Student Achievement (CASA) is committed to providing academic support services to help students reach their educational goals and to succeed in the university environment. CASA programs are designed to improve the retention and graduation rates of University students. These academic support services include tutorials, Writing Center, Supplemental Instruction, mentorship, developmental education (TSD), and student retention assistance. Students are encouraged to contact the Center for Academic Student Achievement, located in the Glasscock Student Success Center (GSSC-CASA), at (361) 825-5933 or visit our website at http://casa.tamucc.edu for hours of operation, our programs’ details, and schedules of services.
CASA Services

The needs of students attending CASA are individually assessed and academic support services are recommended to aid students in reaching their academic goals. Services are available to all A&M-Corpus Christi students. In order to utilize academic support services such as tutoring and writing support, one must be enrolled at or an alumnus of A&M Corpus Christi.

First Islanders Scholars' Academy

CASA’s First Islanders Scholars’ Academy (FISA) is a program designed to assist first-generation students through peer and professional staff mentorship. Students will belong to a group of like-minded students and find engagement in campus resources and academic success workshops. The FISA mentoring team works one-on-one with students to track their academic progress and to build a supportive mentoring relationship to aid in navigating the University, assistance in overcoming challenges or barriers to success, and networking opportunities with peers and colleagues. To join FISA, a voluntary academic and social program, please contact Martha Gutiérrez at Martha.Gutierrez@tamucc.edu or at 361.825.2893.

CASA Peer Mentors

The CASA Peer Mentorship Program assists first-year students in collaboration with the First Year Program. CASA peer mentors are academically successful upper-division and graduate students who are trained to help first-year students make a smooth transition while fostering habits for academic success and integration. For additional information, please call us at 361.825.5933 or email casa@tamucc.edu.

Academic Collegiate Excellence (ACE)

Academic Collegiate Excellence is a program designed to assist students who are currently on scholastic probation through the use of metacognitive learning strategies workshops and one-on-one meetings with Scholastic Performance Specialists.

Scholastic Performance Specialists work closely with students to identify and enhance learning behaviors and strategies for academic success. In an effort to increase academic student success, the program generates an individualized academic recovery plan to assist students as they work towards good academic standing. For more information on the ACE Program, please contact us 361.825.5933 or at casa@tamucc.edu.

Starfish

Hosted by CASA, Starfish Early Alert and Connect is an academic early alert system for undergraduate students at Texas A&M University-Corpus Christi. The software is designed to support faculty course progress feedback for students and to help connect students with their "Success Network" comprised of faculty, advisors, mentors and other campus support units. For additional information, please contact Nicholas.Gentry@tamucc.edu or John.Fortiscue@tamucc.edu.

Supplemental Instruction (SI)

CASA provides Supplemental Instruction (SI) that is designed to increase student performance and retention. This program targets large entry-level courses and provides regularly scheduled out-of-class, peer facilitated sessions by a highly trained Supplemental Instructor Leaders. Schedules are available online at http://casa.tamucc.edu. For additional information, we invite you to call us at 361.825.5933 or by email http://casa.tamucc.edu.

Texas Success Initiative Advising (TSI)

Academic Success Coaches at CASA coordinate the Texas Success Initiative Program for TAMUCC. TSI requirements are detailed under the “Texas Success Initiative (TSI)” section of the “Admission (p. 11)” chapter. While Academic Success Coaches support all students, conditionally admitted students, and students who have not met college-readiness in one or more content areas of the TSI assessment are their primary focus. Success Coaches work with those students to enroll in the appropriate developmental education course(s) and track progress through completion of all TSI and admission requirements. For additional information, please call the Academic Success Coaches at 361.825.2977 or email casa@tamucc.edu.

Tutorials Program

CASA’s Tutorial Program, certified by the College Reading and Learning Association, provides tutorial services to students in most core courses facilitated by trained and faculty-recommended successful upper-division and graduate students. Disciplines include mathematics, science, statistics, business and accounting, among others. For schedules of tutorials, please visit http://casa.tamucc.edu. For additional information, please call us at 361.825.5933 or email casa@tamucc.edu.

The Writing Center

The CASA Writing Center supports the writing process of all University writers, from freshmen to graduate students, as well as to alumni, faculty, and staff. The Writing Center offers face-to-face and online writing consultations. We also provide faculty-requested writing workshops. Though the Writing Center does accept walk-in sessions based on consultant availability, it is strongly encouraged those seeking assistance schedule an appointment by visiting: http://casa.tamucc.edu.

Most sessions are 30 minutes in length for undergraduate writers. For additional information, please contact Kristen.Ruggles@tamucc.edu or call 361.825.3490.

Mary and Jeff Bell Library

For information on library resources and services, see “Mary and Jeff Bell Library” in the catalog section entitled “Campus Facilities (p. 8).”

Computing Resources

For information on computing resources, see “Campus Facilities (p. 8)” in the catalog section entitled “The University.”

Student Services

Student Engagement and Success (SEAS)

Student Engagement and Success aims to foster a healthy academic climate and professional atmosphere that promotes and encourages student leadership, learning, and growth. Services and programs are designed to meet the needs of students with varied backgrounds and interests. Music, arts, special events, and multicultural programs contribute to a positive experience on campus and promote an understanding of a diverse and changing global community.

Student Engagement and Success is made up of various departments, including Career Services, Housing, Recreational Sports, University Center, Student Activities, Student Conduct, Disability Services, University Counseling Center, and University Health Center. The Division collaborates with all departments on campus to assist students in the attainment of their personal and academic goals.
A major strength of A&M-Corpus Christi is that students participate in a variety of out-of-class activities. Activities begin with orientation and include a variety of campus organizations and sports clubs that provide a wide range of leadership experiences. Student services are designed to help students attain their desired degrees, learn healthy lifestyles, and attain employment or admission into graduate school. For additional information, see the Student Engagement and Success (http://studentaffairs.tamucc.edu/) website. The Office of Student Engagement and Success is located in the University Center, Suite 318, (361) 825-2612.

Career Services
The Career Services staff helps students explore, select, prepare for, and actively pursue satisfying employment and careers. The following services are available:

- Career counseling, computer-assisted assessment, and vocational guidance, which help students explore career options beginning in their first semester. Students may meet with a Career Counselor to explore interests and values, with a view toward choosing a career. For students who are experiencing difficulty choosing a major, this can be a useful process of self-exploration.
- Job search and graduate school advisement.
- Student employment services: assistance in finding on- or off-campus employment.
- Internship and co-op placement assistance for students at all levels.
- Volunteer opportunities listing.
- On-campus recruiting and Job Fairs throughout the year targeted at different majors.
- Electronic resume referral service.
- Career Resource Library.
- Career seminars, workshops, and Business Etiquette Dinner.
- Izzy’s Career Closet.
- Videotaped “mock” interviews with trained counselors and professionals.

Career Services is located on the third floor of the University Center in Suite 304. For information, call (361) 825-2628 or visit the website at http://career-services.tamucc.edu.

Chancellor’s Student Advisory Council (CSAC)
The purpose of the Chancellor’s Student Advisory Council of the Texas A&M University System is to provide representation for the students to the Chancellor and Texas A&M University System leadership, and to educate and stimulate student involvement in Student Engagement and Success. It is made up of two students from each system institution. Thus, the Chancellor's Student Advisory Council is the official student voice to the system leadership.

Islander Housing
On-campus housing is available through two communities. Miramar, the Island Campus, offers both residence hall and apartment room styles. Momentum Village is located on the Momentum Campus and offers apartments and townhomes. Living on campus will provide many rewarding experiences to supplement your academic studies.

Plus, we make it easy to use your financial aid to pay for housing. Most importantly, studies have shown that students who reside on campus are more likely to graduate on time and with higher GPAs. For more information, please visit our website at http://www.housing.tamucc.edu.

Transportation Services
All students and employees ride the Corpus Christi Regional Transportation Authority (RTA) buses free of charge by showing their Sanddollar ID card. Plan a trip anywhere RTA services through Google Maps by selecting the ‘public transit’ method of transportation (train icon). For bus route information, go to https://www.ccrrta.org/ or call 361.289.2600. For paratransit transportation services, please call 361.289.5881 or go to https://www.ccrrta.org/ and select Paratransit from the Rider menu. If you have questions or concerns regarding this service, you may contact the RTA at the number above or call the Office of Student Engagement and Success at 361.825.2612.

Student Conduct
Student Conduct & Community Standards Officers strive to protect the University’s educational community and to maintain social discipline through the administration of the Student Code of Conduct. Inappropriate behavior will be investigated and adjudicated in a manner consistent with the institution's educational and community development goals. Students may view a copy of the Student Code of Conduct at http://judicialaffairs.tamucc.edu.

Student Government Association (SGA)
Established in 1994, the Student Government Association is a student-run, campus wide organization that provides students with a voice in the decision-making process of the University. SGA members are the link between students and the administration of TAMU-CC. SGA strives to improve communication, enhance leadership abilities, hone critical thinking skills, and successfully build relationships with staff, faculty and peers.

The Student Government Association (SGA) is composed of the Executive Branch, Legislative Branch, and the Judicial Branch. The SGA President, Vice President, and Senators are elected in the spring semester for a term of one year. Elections for freshman senators are held in September. The Judicial Branch is appointed by the SGA President and approved by the Student Senate. For more information, call (361) 825-5745, or visit us on the website at: http://sga.tamucc.edu.

Recreational Sports
The Recreational Sports program provides facilities, equipment, and opportunities for participation in a wide variety of sports and recreational activities for the University community. These activities are designed to accommodate all individuals and activities ranging from beginner to expert and sport activities ranging from highly competitive and structured to informal and social. Program areas of interest include intramural sports, fitness and wellness, informal (open play) recreation, sport clubs, aquatics, outdoor adventure, and special events.

The Dr. Jack and Susie Dugan Wellness Center (DWC) includes a gymnasium, free weights, weight machines, cardiovascular exercise equipment (treadmills, elliptical trainers, steppers and bikes), multi-purpose group exercise rooms, and offices for the Recreational Sports Department and Intercollegiate Athletics Department. A 25-yard outdoor season pool is located adjacent to DWC. Multi-purpose playing fields and tennis courts are located on Momentum Campus and available for use.
As the largest student employer on campus, each semester Recreational Sports employs students to work as intramural supervisors and officials, lifeguards, facility assistants and supervisors, group exercise instructors, and personal trainers. Work study and non-work study positions are available. No experience is necessary. Training for all positions is conducted by the Recreational Sports Department. The Recreational Sports Department Office is in the Dugan Wellness Center Room 107. For more information, call (361) 825-2454 or go to recsports.tamucc.edu.

**Student Activities**

Dedicated to cultivating students of character through inclusive programming, Student Activities promotes leadership development, campus and community engagement and responsible citizenship that compliments the academic experience and instills Islander pride. Located in the Involvement Center on the 2nd floor of the UC, Student Activities is the place to get involved, with something for everyone! Interested in joining a student organization or Fraternity/Sorority, attending a leadership conference, seeing a movie, participating in a talent show, or serving your community? Stop by and learn about our programs and events or visit https://studentactivities.tamucc.edu/.

**Aloha Days: The Freshman Camp Experience**

Aloha Days provides incoming first-year students with an optional summer camp experience designed to aid in their successful transition to Texas A&M University-Corpus Christi. Student leaders serve as camp counselors who facilitate activities, discussions, games, and presentations. During Aloha Days, first-year students develop friendships with current students and university staff, learn about the benefits and opportunities for leadership involvement, understand the values of diversity, learn more about themselves, and of the pride in the growing campus and community. Through Aloha Days, our hope is that students will begin to find their “anchor” and feel more at home on the Island before classes begin. For more information call (361) 825-2707 or visit alohadays.tamucc.edu.

**Campus Activities Board (CAB)**

The Campus Activities Board (CAB) is a student led organization focused on providing programs and opportunities for students. You can catch a movie on the East Lawn, check out a comedy or talent show and much more! CAB members are dedicated to creating a safe and fun environment for our community to enjoy entertaining events and activities through extensive planning and organization. Additionally, CAB is devoted to providing opportunities for students to learn and develop leadership and social skills through meetings, retreats, socials and other activities. For information and upcoming events call (361) 825-2707 or search for CAB on I-Engage.

**Leadership @ TAMU-CC**

Leadership @ TAMU-CC offers students the opportunity to improve leadership skills to become more marketable and global leaders. Centered on the belief that leadership is an important part of being the best version of yourself, the program works on developing awareness and personal leadership that can benefit any student regardless of positions held. Leadership @ TAMU-CC offers a variety of programs including Leadership Hour, Islander Leadership Conference, Weekend Leadership, Workshop To-Go and Sigma Alpha Pi, the National Society for Leadership and Success (NSLS) Honor Society. For more information call (361) 825-2707 or visit I-Engage and search for Leadership.

**Fraternity & Sorority Life (FSL)**

Fraternities and sororities are value-driven student organizations based on brother/sisterhood, leadership, service and academic success. The FSL community strives to enhance the college experience and compliment the mission of the university through engagement, service, scholarship, diversity and leadership. In addition, the community strives to maintain a respectful and unified environment where members and their organizations can positively develop into responsible global citizens. For more information call (361) 825-2707 or visit http://greeklife.tamucc.edu.

**Student Volunteer Connection (SVC)**

The Student Volunteer Connection is a student organization that aims to get TAMU-CC students actively involved and committed to community service and service-learning. SVC makes community service opportunities more accessible to students by connecting students to off campus opportunities through the GivePulse platform and offering a variety of volunteer programs and events such as Islander Clean, National Hunger & Homelessness Awareness Week, and Green Week. Their Big Event is a one big day of service in which the campus community comes together to express their gratitude and do service for the surrounding Corpus Christi Community. Additionally, SVC coordinates the Alternative Breaks program providing opportunities for students to engage in hands-on service and experiential learning through travel outside of the Corpus Christi community. SVC is a certifying organization for students interested in earning the President’s Volunteer Service Award. For more information call (361) 825-2707, visit http://ssvc.tamucc.edu or find events on I-Engage. To explore Give Pulse click on the Service tab in I-Engage.

**University Council of Student Organizations (UCSO)**

The University Council of Student Organizations (UCSO) provides oversight, training and funding for the approximately 100 student groups that exist on campus. There are many types of organizations, including: academic, honor societies, special interest, political, faith-based, cultural, professional, and other interest groups. A current list of recognized student organizations is available at iengage.tamucc.edu. For more information call (361) 825-3239 or visit http://studentactivities.tamucc.edu/UCSO/Index.html.

**Waves of Welcome (WOW)**

Waves of Welcome (WOW) is designed to help students make the Island University feel like home by connecting to other students and student leaders, providing directions and information, and building campus spirit. By attending informationals, special events, student organization and community fairs, and other activities, students can learn more about the many student organizations, and campus and community resources available to help them succeed and get the most out of their college experience. The Waves of Welcome schedule is distributed at the beginning of the fall semester. For more information call (361) 825-2707 or visit http://wow.tamucc.edu.

**University Center**

The University Center encourages, supports and commits to providing leadership, development and involvement opportunities for the campus to inspire people to be their best self. We are dedicated to enhancing the student experience by fostering community in an inclusive environment where our campus can engage, learn, and laugh with one another. Our department provides and promotes involvement in quality programs, activities, and services for diverse populations as well as providing well
managed facilities which are safe, clean and enjoyable for the campus and surrounding community to use.

The University Center itself serves as the living room of the university, providing dining and lounge seating areas, Breakers game room with video games and billiards, and large flat-screen TV’s for the campus community to enjoy. Several small to large meeting and event spaces are available for use. The UC hosts thousands of events and meetings every year for students. A number of small to large meeting and event spaces are available for reservations. The UC is also one of the largest student employers on campus. For more information, call 825-5202, or visit our website at http://universitycenter.tamucc.edu (http://universitycenter.tamucc.edu/).

**Izzy’s Food Pantry**

Izzy’s Food Pantry strives to provide food assistance for currently enrolled Texas A&M-Corpus Christi students in need. Providing students with a convenient site to obtain food assistance when needed, helps ensure that students who are food insecure can meet their nutritional needs and minimize adverse impacts on their academic progress and success. The Food Pantry operates in partnership with the Coastal Bend Food Bank and is supported by individual donations and grants.

Izzy’s Food Pantry also provides temporary assistance in obtaining meals through Izzy’s Swipes, a short-term assistance program that allocates meals to students in need. For more information call (361) 825-FOOD (3663) or visit foodpantry.tamucc.edu (http://seas.tamucc.edu/FoodPantry/).

**University Center Programs (UCP)**

UCP hosts a variety of activities and entertainment to students, faculty, staff and university guests in and throughout the University Center as a way to engage students in a variety of ways. Activities and events include UCP Radio, Patio Jam, Late Night Breakfast, Study Center and other social and fun activities. For more information contact (361) 825-5202 or visit the UCP page on I-Engage.

**Engagement Initiatives**

The Office of Engagement Initiatives is dedicated to creating unique opportunities to help Islanders succeed through programming and educational outreach. The office facilitates alcohol and drug prevention education through I-TEAM and diversity and inclusion programming through ICA.

**Islanders Teaching, Engaging, And Motivating (I-TEAM)**

I-TEAM student leaders are dedicated to helping Islanders stay informed about substance use and all dimensions of wellness. I-TEAM’s trained peer educators want each Islander to succeed, this means practicing healthy behaviors and making wise choices. Through exciting events like Party House, Bond-Fire, late night alternative programming, and many more, I-TEAM teaches facts about substance use, models healthy behaviors, and helps Islanders learn to unwind and party safely! Find out more and get in touch at I-TEAM’s i-Engage page (https://tamucc.campuslabs.com/engage/organization/i-team/) or call 361.825.4284.

**Islander Cultural Alliance (ICA)**

A&M-Corpus Christi is a multicultural campus with students, faculty, and staff of diverse backgrounds and interests. It is also a place where differences are respected, and identities are affirmed. The Islander Cultural Alliance (ICA) is a student organization that organizes and promotes multicultural learning programs on campus. Some events include programming for Hispanic Heritage Month, Black History Month, Women’s History Month, LGBTQ+ celebrations, disability/ability awareness, and Asian heritage festivities. The program also offers training to build a campus of Inclusive Islanders. For more information visit ICA’s i-Engage (https://tamucc.campuslabs.com/engage/organization/islander-cultural-alliance/) page or call 361.825.3925.

**Disability Services (DS)**

Texas A&M University-Corpus Christi is committed to promoting equal opportunities for students with disabilities to access campus facilities, resources, and programs. Support services and reasonable academic adjustments are arranged for students with permanent or temporary disabilities through the Disability Services (DS) Office. The DS Office is in Corpus Christi Hall 116.

Students with permanent or temporary disabilities who qualify for support under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act of 1990 must self-identify and register with the Office of Disability Services. To qualify for services students must
1. be admitted to the University
2. present appropriate and current documentation of their disability from a qualified professional and
3. register with the Office of Disability Services each semester.

Advance planning by the student with the Office of Disability Services is necessary to ensure adequate time to arrange for appropriate accommodations. It is recommended that requests for services and/or academic adjustments be made as soon as possible. Requests for services requiring extensive preparation (e.g., interpreter services, adaptive and assistive equipment, textbooks in alternate format, etc.) may need up to 30 days to process. For additional information please call (361) 825-5816 or visit the Office of Disability Services website at http://disabilityservices.tamucc.edu.

**University Counseling Center (UCC)**

The University Counseling Center helps students resolve problems that can interfere with meeting the demands of college life and offers a variety of services for students who want to develop skills and resources to be personally and academically successful. UCC services are funded through the Student Services fee and are available to all currently enrolled TAMUCC students at no additional charge. Counseling Center records are kept strictly confidential and are not released without the student’s written permission except under certain legal conditions.

Services include brief individual counseling, academic skills counseling, psycho-educational workshops, limited psychiatry services, alcohol and other drug treatment and education, and consultation. The Counseling Center also offers a Relaxation Room which is a quiet, peaceful space for students to develop and practice relaxation skills that can enhance their academic productivity and their sense of well-being.

Students who are interested in counseling services, can call or visit the Counseling Center during walk-in hours for a brief consultation/assessment with the Counselor on Duty (COD). The role of the COD is to assist students to connect with the most appropriate services and resources. Common concerns addressed in counseling include stress, anxiety, depression, relationship issues, substance use, and identity issues. The Counseling Center is in the Driftwood Building. Walk in hours are Monday-Friday, 9:00am-11:30am and 1:00-4:00pm. Call (361) 825-2703 or visit the website http://counseling.tamucc.edu for more information. If a student is in crisis and needs to speak to a
counselor outside of regular business hours, the after-hours crisis line, (361)825-2703, is available.

University Health Center
The University Health Center, located in Sandpiper Hall, assists students in maintaining optimal health while attending A&M-Corpus Christi. Primary emphasis is on preventive health practices, health education, and the promotion of wellness. Primary health care is provided by registered nurses, family nurse practitioners, and a physician for the care of acute illnesses and minor injuries. Chronic health care needs are referred to local community providers and/or the student's primary care provider. The University Health Center provides a variety of health services such as:

- “Ask-A-Nurse-Line” at 361-825-2601
- Women's Health Clinic - Gynecological services
- Men's Health Clinic
- Administration of allergy shots - Student provides serum from allergist.
- Laboratory testing
- Preventive health care and medical resource information - Referrals for community resources
- Blood pressure screening and monitoring
- Contraception, sexually transmitted diseases (STD), HIV testing, and counseling
- Physicals, vision, and hearing screening
- Substance abuse prevention, assessment, and referral
- Immunizations and tuberculin skin testing
- Educational consultations: nutrition, lifestyle, weight management, smoking cessation, and substance abuse
- Insurance and claim assistance.

Health Insurance
In collaboration with the Texas A&M University System, a private insurance plan is available at special rates to students attending A&M-Corpus Christi. All non-insured students are strongly encouraged to consider the benefits of enrolling in a health insurance program. Information brochures regarding this health plan are available in the University Health Center or at https://tamucc.myahpcare.com (https://tamucc.myahpcare.com)/.

Campus Security Report
Click here (https://police.tamucc.edu/cleryact/campusSecurityAct.html) to view the university crime log.

Intercollegiate Athletics
Texas A&M University-Corpus Christi Athletics has grown into a respected NCAA Division I program offering 16 men’s and women’s sports dedicated to achieving competitive success, providing an exceptional academic and athletic experience for student-athletes, and prioritizing community service and engagement. Men's sports include basketball, baseball, tennis, cross country, and indoor and outdoor track and field. Women's sports include basketball, tennis, golf, softball, volleyball, beach volleyball, soccer, cross country, and indoor and outdoor track and field. Athletics teams at A&M-Corpus Christi are known as the "Islanders," and the official school colors are blue, green, and silver.

Texas A&M University-Corpus Christi Athletics’ mission is to bring distinction to the university by winning conference championships and competing successfully on the national stage, contribute to a vibrant campus culture, and develop successful student-athlete graduates who will excel as leaders in their communities.

Having recently completed our 20th year of intercollegiate athletic competition and with a renewed commitment to success by university leadership, TAMU-CC is poised to position itself as a leader among the 13 institutions of the highly competitive Division I Southland Conference. Each year, the Southland Conference tournament champion in each sport receives an automatic bid to the NCAA Division I Championship tournament.

For more information on Islanders Athletics and to join the excitement, please call 361-825-3415 or visit www.goislanders.com (http://www.goislanders.com).

Office of International Education (OIE)
The Office of International Education (OIE) provides immigration compliance expertise and support programs to TAMU-CC international students, scholars, faculty, staff, as well as departments and schools/colleges. OIE offers a variety of services and programs, including:

1. Immigration advising and services that ensure students, scholars, and institutional compliance with federal rules and regulations and guides them through all the requirements for foreign nationals studying and working in the U.S., such as enrollment requirements, travel, status extension, OPT, CPT, dependent employment authorization, change of status, reinstatement, maintaining status, to name a few.
2. Assistance for TAMU-CC departments and schools/colleges in their efforts to hire international students, scholars, and faculty.
3. Intercultural and social events and activities that welcome and help international students and scholars transition and adjust to life in the United States and Texas A&M University-Corpus Christi. These include the international student and scholar orientation, workshops, International Education Week, Parade of Nations, field trips, photo contests, coffee/tea hours, mixers, fashion shows, Eyes on the World, open house, as well as many others.

For more information, contact the Office of International Education at (361)-825-3346 or Email at international@tamucc.edu; visit the office in UC 226, or visit the website at http://oie.tamucc.edu/.

Study Abroad
The Office of International Education (OIE) is committed to providing access to international education opportunities for all students and dedicated to creating an inclusive community and establishing collaborative relationships across cultures. OIE promotes international learning environments that embrace diversity through the following study abroad programs:

Faculty-led Programs
These programs are credit-bearing, international study-travel courses. They are led by one or more University professors and usually last between one to 15 weeks. Students travel as a group to one or more international locations, where there is a mix of lectures, exercises, assignments, excursions, cultural encounters, and free time. There are certain programs that are open only to students in a particular college, while others are open to all A&M System students.
Reciprocal Exchange Programs
A reciprocal exchange involves an agreement between two universities to exchange students. Tuition and fees are paid at the home university while studying at the host university. When a student participates in a reciprocal exchange, the student remains enrolled at the home university, allowing students to receive credit. Proficiency in the language of the host country is required; however, some programs are available in English-speaking countries.

Independent Programs
Students have the option to apply directly to an international university, to an institute or organization, or to a sponsoring U.S. University. Graduate students may conduct research abroad coordinated by a TAMU-CC faculty member.

Third-Party Study Abroad Programs
Students can study abroad through the third-party study abroad providers. These providers work together with the OIE to take care of the whole study abroad process from the beginning of the application to transferring the credits back to the home institution. Most of the study abroad providers have onsite staff to advise and support students.

Funding for Study Abroad Programs
Students who receive federal financial aid for on-campus study may use their aid for study abroad. Financial Aid counselors work with each individual student to assess their eligibility and give students accurate information. The University also offers the International Education Scholarship to all students meeting the general requirements. There are prestigious national grants and scholarships specifically for study abroad, including Boren Awards for International Study, Benjamin A. Gilman International Scholarship, Gilman International Scholarship, and Fulbright Scholarship.

Research Engagement
The Office of Research Engagement (ORE) works to develop and support a community of practice within Texas A&M University-Corpus Christi that’s focused on being impactful by leaving a legacy in the community.

Undergraduate Programs
This section focuses on the general requirements for the baccalaureate degree and on academic policies and regulations that apply specifically to undergraduate students. For information on core curriculum requirements, see “Core Curriculum Program (p. 556)” in the catalog.

Bachelor’s Degrees
The University offers the following undergraduate degrees: Bachelor of Applied Arts and Sciences, Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Bachelor of Music, Bachelor of Business Administration, Bachelor of Science in Health Sciences, and Bachelor of Science in Nursing.

Degree Requirements
University Minimum Requirements
General University requirements for baccalaureate degrees are:

Total Hours
A minimum of 120 semester hours of credit must be completed successfully. Students must satisfactorily complete all degree requirements specified by the academic college in which the degree is offered. Some academic programs require more hours and a longer length of time for degree completion. Please see each academic college section for specific information on program hours and length.

Upper-division Hours
A minimum of 45 semester hours of upper-division credit (courses numbered in the 3000 and 4000 series) is required.

Grade Point Average
A minimum grade point average of 2.0 (C) on a 4 point scale in all work taken and a minimum grade point average of 2.0 in the major field of study is required.
study at the University are required. Specific academic programs may require a higher grade point average in the major.

Residence Requirement
A minimum of 30 hours of upper-division course work required for graduation must be successfully completed in residence at Texas A&M University-Corpus Christi to obtain a baccalaureate degree. A minimum of 12 hours of these 30 hours must be in the major. Hours earned through credit by examination may not be used to fulfill the residence requirement. Hours earned through credit by examination at another institution will likewise not affect the residence requirement calculation.

General Education Requirement
To fulfill the general education requirement, a student must successfully complete the University core curriculum (or the equivalent as described below) and meet the foreign language requirements. In addition, all students who enter the University as full-time, first-year students must complete the First-Year Seminar requirement.

Core Curriculum Program
The 42-hour Core Curriculum Program, described in the “Core Curriculum Program (p. 556)” section, includes courses that satisfy the state statutory requirements for core curricula and the state statutory requirements in history and in government or political science. (To receive a bachelor's degree, a student must have successfully completed 6 semester hours in government or political science, including consideration of the U.S. Constitution and state constitutions, with special emphasis on that of Texas. Additionally, the student must have credit for 6 semester hours in American history, of which up to 3 hours may be in Texas history.) Undergraduate transfer students have several means of fulfilling the core curriculum requirement.

1. A student may satisfy specific core curriculum requirements by taking the approved core curriculum transfer courses that are listed in Appendix B (p. 685). Courses equivalent to A&M-Corpus Christi's Core Curriculum Program courses are identified by their common course numbers.

2. If a student successfully completes a core curriculum of 42 or more semester credit hours at another regionally accredited public institution of higher education in Texas, and that core curriculum meets the specified “Foundational Component Area” requirements below, that block of courses may be transferred to the University and satisfy the core curriculum here. The student will not be required to take any additional core curriculum courses at this institution. The State of Texas has specified the following Foundational Component Area requirements:
   - 6 Credit Hours Communication
   - 3 Credit Hours Mathematics
   - 6 Credit Hours Life and Physical Sciences
   - 3 Credit Hours Language, Philosophy, and Culture
   - 3 Credit Hours Creative Arts
   - 6 Credit Hours American History
   - 6 Credit Hours Political Science
   - 3 Credit Hours Social and Behavioral Science
   - 6 Credit Hours Component Area Option

3. If a student transfers from another regionally accredited public institution in Texas without having completed a 42 or more semester credit hour core curriculum, A&M-Corpus Christi will accept approved core curriculum courses from the transferring schools' core curricula as fulfillment of the equivalent requirement here.

4. A student who transfers from a regionally accredited private or out-of-state institution will receive academic credit for each of the acceptable courses that the student has successfully completed in the core curriculum of the sending institution as long as these courses meet the state of Texas criteria for core curricula. Following receipt of credit for these courses, the Office of Admissions will determine the equivalency of those courses to the courses in A&M-Corpus Christi’s core curriculum. Core curricula completed at regionally accredited private or out-of-state institutions will be evaluated on a case by case basis.

For further clarification see “Transfer Credit Policies” in the “General Academic Policies and Regulations (p. 20)” section of the catalog.

First-Year Seminar Requirement
All students who enter the University as full-time first-year students are required to register for First-Year Seminar, UNIV 1101 First-Year Seminar I (1 sch) and UNIV 1102 First-Year Seminar II (1 sch), as part of a learning community during their first two semesters. (See the “First-Year Learning Communities Program” section of the catalog.) Those who fail to complete this requirement during the first year will be required to fulfill the requirement prior to graduation.

Foreign Language Requirement
At least two high school credits in one foreign language or American Sign Language OR two semesters of study with passing grades in a single foreign language or American Sign Language at the college level are required for graduation from Texas A&M University-Corpus Christi. This requirement may be met by earning a CLEP, AP, or ACTFL score equivalent to one year of college-level foreign language study. If students decide to meet this requirement by taking two semesters at the University, an assessment test must be taken prior to registering in order to be placed in the appropriate language course. Information regarding the assessment tests and the foreign language courses that satisfy the university Foreign Language Requirement can be obtained from the College of Liberal Arts “Baccalaureate Degree Requirements (p. 127)” section of the university undergraduate catalog.

International students who have successfully passed the Test of English as a Foreign Language (TOEFL) with a score of 550 or higher, scored a 6.5 or higher on the International English Language Testing System (IELTS), or have successfully completed the English as a Second Language International (ESLI) course of study may elect to choose English as their second language to meet the above requirement. Additionally, international and naturalized students who have provided proof of completion of high school in a foreign language (their native language) and who have successfully completed the English Composition and Oral Communication components of the University Core Curriculum Program may choose English as their second language to meet this requirement. English is considered to be the first language for all other students.

I-Know Program
The goal of the I-Know digital information literacy program is to prepare students to find, evaluate, create, and communicate knowledge using digital technologies so that they can successfully and responsibly navigate the increasingly complex modern information landscape as global citizens. The I-Know program is designed to scaffold digital information literacy concepts and values throughout the academic careers of every undergraduate students at TAMU-CC. The program is implemented within existing courses, starting with the First-Year Seminar
course, progressing to a designated pre-requisite course within each major, and culminating in a designated capstone or research course within each major. Each step of the program will build upon itself working through three levels of learning objectives:

1. Identify and pursue effective digital approaches for accessing information (such as keyword searching and citation following) as well as assess the quantity, quality, and relevance of search results. (First-Year Seminar)
2. Evaluate a source’s credibility and suitability in the context of their information needs. (designated pre-requisite courses)
3. Create effective research questions based on curiosity and gaps in the information or data available. (designated capstone/research courses)
4. Use appropriate technology (such as shared documents and digital presentation software) for creating knowledge, collaborating with peers, and contributing to scholarly conversations. (designated capstone/research courses)

College Degree Requirements

In addition to the University requirements, a student must meet the specific requirements as determined by the college in which the degree will be awarded. Such requirements are outlined in the college sections of the catalog.

Second Bachelor’s Degree

Students wishing to earn a second bachelor’s degree from Texas A&M University—Corpus Christi must complete a minimum of 144 semester hours of credit, or 24 hours more than those counted toward the bachelor’s degree that requires the higher number of credit hours. All university, college, and major requirements must be met for each degree (see the information on degree requirements in this chapter and in the sections for the relevant college and major). Students must complete all degree requirements under a particular catalog (see “Graduation Under a Particular Catalog” in the “Academic Policies (p. 20)” section of the catalog).

As for any student intending to have a degree conferred, students seeking multiple degrees who plan to participate in a graduation exercise and/or receive a diploma must notify the Office of the University Registrar by the deadline date indicated in the Class Schedule for the semester in which they plan to have the degree or degrees awarded.

For students who have already completed a first bachelor’s degree at an accredited college or university, with the approval of the Provost’s Office, the core curriculum requirements for that degree may be accepted in lieu of the Texas A&M-Corpus Christi core curriculum. However, requirements associated with particular degrees, e.g., completion of the modern language requirement for a Bachelor of Arts degree, or Legislative requirements, e.g., history and government course requirements, must be included in an approved program for a second bachelor’s degree.

A student receiving a subsequent bachelor’s (post baccalaureate) degree must complete 30 hours in residence above and beyond the minimum number of hours required to receive the first bachelor’s degree.

Academic Major

A minimum of 24 semester hours in a defined course of study must be completed for a major. Specific majors may require completion of additional hours. See the college sections of the catalog for the specific requirements of particular majors.

Double Major

Colleges may provide the opportunity for a student to earn a double major while working toward his or her first undergraduate degree. Both majors must lead to the same baccalaureate degree (e.g., BA, BS, or BBA). A student who completes the requirements for a degree with a double major will be awarded ONE degree (with both majors indicated) and will receive ONE diploma. Because only one degree is granted for the double major, students must have completed the requirements for both majors before the degree can be awarded. Students wishing to pursue a double major must satisfy the following conditions:

- Meet all university and college requirements for each major,
- Successfully complete departmental requirements in each major (if the majors are in the same college) or successfully meet the major field of study requirements for each program as determined by each college (if the majors are in different colleges).

Academic Minor

To earn an academic minor, a student must meet the requirements mandated by the college offering the minor. At least 18 semester hours will be required in the area of the minor (excluding prerequisites); the maximum number of hours will be limited to 23. At least 6 hours of upper-level courses will be included. At least 9 semester credit hours in the area of the minor must be completed in residence at Texas A&M University-Corpus Christi. The student must complete all prerequisites for required courses and must maintain a grade point average of at least 2.00 on a 4-point scale. Colleges may set higher GPA requirements.

The following rules apply regarding graduation with a minor:

1. A student may count the same course for both major and minor requirements.
2. After applying for graduation, if a student fails to complete the requirements for the minor but meets the requirements for graduation, the student will be graduated without the minor.
3. A student may graduate with more than one minor if the student meets all the requirements.

A student who holds a bachelor’s degree from the University and who wishes to complete requirements for a minor may do so by completing all course work in the minor in addition to the requirements already completed for the major. Degrees may not be awarded until all academic requirements for the minor have been completed. All requirements for the minor must be completed in residence at Texas A&M University-Corpus Christi. The student must maintain a grade point average of at least 2.00 on a 4-point scale. Colleges may set higher GPA requirements.

Addition of a Major

A student who holds a bachelor’s degree from the University and who wishes to complete requirements for an additional major within the same degree may do so by completing all course work in the major field with
a minimum GPA of 2.00 on a 4-point scale, and by fulfilling any other requirements mandated by the college offering the major.

A notation indicating that all requirements for each major have been completed will be added to the student's transcript. The transcript will not state that a major has been awarded.

**Academic Policies and Regulations**

**Recency of Credit**

No restriction on recency of credit is made for undergraduate work. Lower-division and transfer hours applied toward the baccalaureate degree should provide those competencies necessary for entry into the upper-division level.

**Correspondence and Extension Credit**

No more than 15 semester hours of extension-center and correspondence study credit may be applied toward a bachelor’s degree. Not more than 6 semester hours of this 15 may be in correspondence study. No more than 6 semester hours of upper-division extension and correspondence credit may be applied toward a degree. All work transferred is subject to approval, as suitable for the student's degree plan, by the student's college dean or designee.

**Placement Process**

New undergraduates and transfer students are placed into mathematics classes on the basis of their scores on standardized tests (SAT, ACT, STAAR, etc), their high school record, or their previous college level mathematics credits. Consult the placement link on http://math.tamucc.edu (http://math.tamucc.edu/) for details. Students not designated as College Ready in mathematics, must take the TSI Assessment. Students who are College Ready in mathematics, but don't have test scores or math grades in their records, or those hoping for a higher mathematics placement may take a challenge exam offered regularly by the Department of Mathematics and Statistics. Call 825-3754 for details and to schedule taking the exam.

For brief information on the foreign language placement test, see “Foreign Language Requirement” earlier in this chapter.

**Maximum Course Load**

An undergraduate student may not register for more than 18 hours of course work in a regular semester, or more than 6 hours of course work in a single session of summer school, without the approval of the appropriate administrator:

1. For a student with 30 or more semester credit hours and a declared major, the request must be approved by the dean of the college in which the student is majoring.
2. For a student with fewer than 30 semester credit hours, or for a student with 30-59 semester hours but without a declared major, the request must be approved by the Department of Undergraduate Studies. Also, a student who is required to pass the THEA or approved alternative examination, and who has not yet done so, must have the approval of the Department of Undergraduate Studies to register for more than the maximum course load.

**Repetition of a Course**

Undergraduate students may repeat courses at the University under the following circumstances:

1. Courses specifically designated as repeatable for credit in the Undergraduate Catalog (such as variable topic courses) are calculated in the grade point average in the same manner as separate courses.
2. Undergraduate students may also repeat any undergraduate course at the University in order to replace a grade. Only the highest grade will count to calculate the Texas A&M University-Corpus Christi grade point average. This procedure will be used in the calculation of GPA from this point forward for all students. A notation will be placed on the transcript after the course to indicate that it has been repeated. In the case of repeats, grades are included in computing the A&M-Corpus Christi hours attempted and all attempts and grades will appear on the official transcript. Repeated course grades are not removed from the transcript. The repeated grade and grade points will be excluded from the cumulative grade point average only. Except as noted above in #1, a student may not receive credit for any given course more than once. The Office of the University Registrar conducts audits of student records as needed and prior to graduation. When repeating a course more than once, the student should seek advice from his or her faculty mentor, or academic advisor, as appropriate, prior to registering for the course. Students may be charged an additional fee for each course taken for the third or more times. (See “Tuition and Fees” for details.)
3. Once a student has been awarded a degree at the University, the student may not repeat a course for the purpose of changing the grade on the official transcript of any course taken as part of that degree.

A course taken at another institution will not replace a grade received at TAMUCC, this includes the grade of “F”. The transferred work will not affect the grade point average (GPA) on the student's transcript.

**Scholastic Probation, Suspension, Dismissal**

For undergraduate students, a minimum GPA of 2.0 (C) on a 4.0 scale in all work taken and a minimum grade point average of 2.0 in your major field of study are required. Specific academic programs may require a higher grade point average in the major.

**Scholastic Probation 1 and Removal from Probation**

Undergraduate students whose cumulative Texas A&M-Corpus Christi (TAMU-CC) grade point average (GPA) falls below 2.0 after being in good standing are placed on Scholastic Probation 1. A student on Scholastic Probation 1 may enroll in no more than 16 semester hours of coursework in a long semester and must participate in the Academic Collegiate Excellence Program through the Center for Academic Student Achievement.

Students are removed from Scholastic Probation 1 after completing a semester at TAMU-CC during which a TAMU-CC cumulative grade point average of 2.0 or greater is achieved. Students whose TAMU-CC cumulative GPA is below 2.0 at the end of their semester on Scholastic Probation 1 will be placed on Scholastic Probation 2 as continued probation.

**Scholastic Probation 2 and Removal from Probation 2 for Undergraduates**

Undergraduate students whose semester GPA and/or TAMU-CC cumulative GPA is below a 2.0 while on Scholastic Probation 1 is placed on Scholastic Probation 2. Students are removed from Scholastic Probation 2 after completing a semester at TAMU-CC during which a TAMU-CC cumulative GPA of 2.0 or greater is achieved.
Students who earn a 2.0 semester GPA, but whose TAMU-CC cumulative GPA is not above a 2.0, will be allowed to continue Scholastic Probation 2 in the subsequent semester. Students on Scholastic Probation 2 may enroll in no more than 16 semester hours of coursework in a long semester and must participate in the Academic Collegiate Excellence Program through the Center for Academic Student Achievement.

**Academic Suspension 1 and 2**

Undergraduate students on Scholastic Probation 2 who earn less than a 2.0 semester GPA and TAMU-CC cumulative GPA will be placed on Academic Suspension 1 and suspended for one long semester. Students on Academic Suspension 1 who do not attain a 2.0 TAMU-CC semester and TAMU-CC cumulative GPA are placed on Academic Suspension 2. Students suspended for the second time will be placed on Academic Suspension 2 and suspended for two long semesters and any intervening summer semesters. Students who experience extenuating circumstances may appeal using the academic reinstatement appeal procedures and can be reinstated by the Scholastic Standing Appeals and Reinstatement Committee. If no appeal is granted, enrollment for the subsequent semester will be administratively dropped. For questions regarding the appeals and reinstatement process and procedures, please visit: [http://casa.tamucc.edu/appeal.html](http://casa.tamucc.edu/appeal.html).

After a first or second suspension, students who re-enroll will be placed on Scholastic Probation 2 after sitting out the appropriate length of time, as denoted by the suspension status. Students must achieve a minimum semester GPA of 2.0 for that and all subsequent semesters until a minimum TAMU-CC cumulative GPA of 2.0 is attained. Students will remain on Scholastic Probation 2 until a cumulative TAMU-CC 2.0 GPA is attained.

**Academic Dismissal**

A third suspension results in dismissal from the University. In most cases, a student who is dismissed is not re-admitted to TAMU-CC. Students may petition for a review of their dismissal case after a period of four long semesters and intervening summer semesters. Re-admission is permitted only in exceptional circumstances. Students may appeal using the academic reinstatement appeal procedures and must be authorized by the dean of the college to which admission is sought. If students do not attain the required GPA (as described above) after such re-admittance, the student is dismissed and may not petition for re-admission for a period of a minimum of five calendar years.

Note: Any student who has not been enrolled at TAMU-CC for one academic year, must re-apply for re-admission to the University. Please visit the Office of Admission for more information (http://admissions.tamucc.edu/former/index.html (http://admissions.tamucc.edu/former/)).

**Academic Progress of Students on “Probationary Admission” Status**

If a first-time, first-year student is admitted on “Probationary Admission” status, certain conditions will apply. While on probationary admission status, the student must remain a part-time student, taking no more than 2 courses each semester. The student’s progress will be monitored at the end of each term, with a GPA of 2.0 or better required for continued enrollment each semester while on probationary status. In addition, the student may not earn a grade of D or F in any remedial course attempted while on probationary status.

The courses the student will attempt while on probationary status will be determined by A&M-Corpus Christi placement results, THEA scores (or scores on an accepted alternative examination), and the recommendation of the assigned academic advisor. All course work while a student is on probationary status will be chosen from remedial offerings and the core curriculum. After completing 12 semester credit hours of non-remedial coursework with a GPA of 2.0 or better, and having earned no grade of D or F in any remedial course attempted, the student will become a regularly admitted student, with all the rights and responsibilities of that status.

**Graduation with Honors**

To be eligible to graduate with honors, a student must have completed at least 45 undergraduate semester hours at Texas A&M University-Corpus Christi. If students have not yet completed 45 undergraduate semester hours at Texas A&M University-Corpus Christi they must be enrolled in enough hours to fulfill the 45-hour requirement by the end of the term. The cumulative A&M-Corpus Christi grade point average is used to determine honors status. The cumulative grade point average is calculated on all courses taken at A&M-Corpus Christi, excluding courses taken pass/no pass or credit/no credit. A student may graduate summa cum laude with a grade point average of 3.9 or above. A student may graduate magna cum laude with a grade point average of 3.70 through 3.899. A student may graduate cum laude with a grade point average of 3.5 through 3.699. To be recognized at one of these levels at the Commencement Ceremony, students must have earned the appropriate grade point average and completed 45 undergraduate semester hours at Texas A&M University-Corpus Christi by the end of the semester immediately preceding the one in which they will graduate. This honor designation will be used in the commencement ceremony and will be recalculated once all grades are received and processed.

**The Islander Impact Initiative**

The Islander Impact Initiative is an effort by the University to expose students to a minimum number of high impact practices (two for transfer students and four for first-time-in-college students) during their career at Texas A&M University-Corpus Christi. The American Association of Colleges & Universities (AAC&U) has identified a set of “effective educational practices” that research has found have a positive effect on students. These practices have been termed “high impact practices” and include: first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, undergraduate research, collaborative assignments and projects, diversity and global learning, service learning and community-based learning, internships, and capstone courses and projects (AAC&U, 2008). The initiative will ensure that students are provided with a challenging, learning-centered environment that promotes innovation, creativity, and discovery.

**Dean’s List**

All undergraduate degree-seeking students registered for a minimum of 12 semester hours at the University (excluding hours where standard letter grades are not used) who complete all work registered for and who have a 3.65 grade point average or above for a regular semester will be placed on the Dean’s List.

**Graduate Study by Undergraduates**

1. **Reservation of Work for Graduate Credit**
   A senior student in the last term of undergraduate work may enroll in graduate work and reserve the course work for graduate credit provided that
Catalog Subject to Change
The catalog was prepared well in advance of its effective date. While every effort has been made to provide complete and accurate information regarding undergraduate programs, changes may occur at any time, without notice, in academic requirements or policies.

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<td>Professional School Counseling, MS [<a href="http://catalog.tamucc.edu/graduate/education-human-development/masters/professional-school-counseling-ms/">http://catalog.tamucc.edu/graduate/education-human-development/masters/professional-school-counseling-ms/</a>]</td>
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<td>Programs Leading to Post-Baccalaureate Teaching Certification [<a href="http://catalog.tamucc.edu/graduate/education-human-development/certificates/programs-leading-post-baccalaureate-teaching-certification/">http://catalog.tamucc.edu/graduate/education-human-development/certificates/programs-leading-post-baccalaureate-teaching-certification/</a>]</td>
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<td>Supplemental Graduate Certificates [<a href="http://catalog.tamucc.edu/graduate/education-human-development/certificates/supplemental-graduate-certificates/">http://catalog.tamucc.edu/graduate/education-human-development/certificates/supplemental-graduate-certificates/</a>]</td>
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<td>Family Nurse Practitioner, MSN (http://</td>
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<tr>
<td>msn/)</td>
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<tr>
<td>Fast Track Environmental Science, BS and Environmental Science, MS (p. 498)</td>
<td>Fast Track Programs</td>
<td>College of Science and Engineering</td>
</tr>
<tr>
<td>Fast Track Geology, BS and Environmental Science, MS (p. 502)</td>
<td>Fast Track Programs</td>
<td>College of Science and Engineering</td>
</tr>
<tr>
<td>Fast Track Mathematics, BS and Mathematics, MS (p. 507)</td>
<td>Fast Track Programs</td>
<td>College of Science and Engineering</td>
</tr>
<tr>
<td>Fisheries and Mariculture, MS (<a href="http://catalog.tamucc.edu/graduate/science-engineering/masters/fisheries-mariculture-ms/">http://catalog.tamucc.edu/graduate/science-engineering/masters/fisheries-mariculture-ms/</a>)</td>
<td>Master Degree Programs</td>
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<tr>
<td>Geographic Information Science, BS (p. 438)</td>
<td>Bachelor Degree Programs</td>
<td>College of Science and Engineering</td>
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<tr>
<td>Geographic Information Science, Minor (p. 550)</td>
<td>Minors</td>
<td>College of Science and Engineering</td>
</tr>
<tr>
<td>Geographic Information Systems, Post-Baccalaureate Certificate (p. 482)</td>
<td>Certificate Programs</td>
<td>College of Science and Engineering</td>
</tr>
<tr>
<td>Geography, Minor (p. 552)</td>
<td>Minors</td>
<td>College of Science and Engineering</td>
</tr>
<tr>
<td>Geology, BS (p. 407)</td>
<td>Bachelor Degree Programs</td>
<td>College of Science and Engineering</td>
</tr>
<tr>
<td>Geology, Minor (p. 537)</td>
<td>Minors</td>
<td>College of Science and Engineering</td>
</tr>
<tr>
<td>Geomatics, Post-Baccalaureate Certificate (p. 485)</td>
<td>Certificate Programs</td>
<td>College of Science and Engineering</td>
</tr>
</tbody>
</table>
Geospatial Computer Science, PhD [http://catalog.tamucc.edu/graduate/science-engineering/doctoral-encs/geospatial-computer-science-phd/]

Geospatial Systems Engineering, MS [http://catalog.tamucc.edu/graduate/science-engineering/masters-encs/geospatial-systems-engineering-ms/]

Industrial Engineering, BS (p. 442)

Marine Biology, MS [http://catalog.tamucc.edu/graduate/science-engineering/masters/marine-biology-ms/]

Marine Biology, PhD [http://catalog.tamucc.edu/graduate/science-engineering/doctoral/marine-biology-phd/]

Mathematics, BS (p. 413)

Mathematics, BS - Grades 7-12 Mathematics Education Concentration (p. 471)

Mathematics, Grades 7-12, Teacher Certification Without a Mathematics Major (p. 476)

Mathematics, Minor (p. 540)

Mathematics, MS [http://catalog.tamucc.edu/graduate/science-engineering/masters/mathematics-ms/]

Mechanical Engineering Technology, BS (p. 447)

Mechanical Engineering Technology, Minor (p. 554)

Mechanical Engineering, BS (p. 451)

Physics, BS (p. 419)

Physics, Minor (p. 544)

Science, Mathematics and Technology Education, Teacher Certificate (p. 481)

Unmanned Aircraft Systems Applications, Certificate (p. 487)

<table>
<thead>
<tr>
<th>Doctoral Degree Programs</th>
<th>College of Science and Engineering</th>
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<tr>
<td>Master Degree Programs</td>
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<tr>
<td>Bachelor Degree Programs</td>
<td>College of Science and Engineering</td>
</tr>
<tr>
<td>Certificate Programs</td>
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</tr>
<tr>
<td>Minors</td>
<td>College of Science and Engineering</td>
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<tr>
<td>Minor Degree Programs</td>
<td>College of Science and Engineering</td>
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<tr>
<td>Certificate Programs</td>
<td>College of Science and Engineering</td>
</tr>
<tr>
<td>College of Science and Engineering</td>
<td></td>
</tr>
</tbody>
</table>

**College of Business**

The accounting and business undergraduate and master's degree programs are accredited by the AACSB International – The Association to Advance Collegiate Schools of Business. The Bachelor of Business Administration degree program is offered on TAMU-CC's main Island Campus, online and at the Texas A&M University System RELLIS Campus in Bryan, Texas. The Master of Business Administration program is offered as an evening program on the Island Campus and online. The Master of Accountancy is offered online only.

**Mission**

The College of Business supports the mission of the University by focusing on the higher education needs of business students in the region. Quality programs are designed to help students advance their education in business, further their careers, pursue advanced studies, and become more productive citizens within a changing global environment. Undergraduate programs offer selected specializations built on a foundation of general education and a broad business core. The Master of Business Administration program provides more advanced general management education with selected concentrations. The college extends access and flexibility through online delivery. The Master of Accountancy program offers advanced accounting studies. The College promotes student learning and engagement and ethical behavior.

Student learning is the highest priority of the College. To that end, the College emphasizes intellectual contributions of applied scholarship and instructional development. The College supports faculty development, community service, and involvement in professional organizations resulting in service to key stakeholders. The College supports regional economic development and solicits input from its primary stakeholders through advisory councils.

**Organization**

The College's formal administrative units include three academic departments, the Undergraduate Student Advisory Council, the Graduate Student Advisory Council, the Business Advisory Council, the Accounting Advisory Council, and the Center for Economic Education. The College also houses the international headquarters of the Society for Advancement of Management and sponsors student chapters of Beta Gamma Sigma, Delta Sigma Pi, Human Resources Management, Management Information Systems Club, Society for Advancement of Management, Student Accounting Society, Student Finance Association, and Student Economics Association.
Permanent faculty in each of the academic departments (Accounting, Business Law & Finance, Decision Sciences & Economics, and Management & Marketing) are the principal architects of the academic programs (majors and minors) in their respective disciplines. Content of undergraduate and graduate programs is coordinated through the Curricula Management Committee.

The Center for Economic Education is one of eleven Centers that comprise the Texas Council on Economic Education, which is affiliated with the National Council on Economic Education. It is located in the College and a member of the economics faculty serves as its Director. Its mission is to support the economic education needs of teachers of economics topics in South Texas public and private schools.

**Programs**

The College offers a Bachelor of Business Administration Degree with majors in Accounting; Business Economics; Finance; General Business; Management; Management Information Systems; and Marketing. A minor in Business is available to nonbusiness majors desiring to supplement their degree with a business background. Other minors include: Accounting, Economics, Entrepreneurship, Human Resource Management, International Business, Management, Management Information Systems, Marketing, and Personal Financial Planning. (Please consult the Graduate Catalog for information concerning the Master of Business Administration, and the Master of Accountancy.)

**Entry into Business Major**

Students can choose a major in the College of Business when they are admitted to the University. Students changing to a major in the College of Business at a later point in their academic career must meet the following requirements:

- A minimum of an overall 2.0 cumulative GPA
- An official meeting with a College of Business Academic Advisor to develop a degree plan.

**Community/Junior College Transfers**

Community and junior college students who plan to transfer to the College of Business are advised to pursue the business foundation curriculum outlined below. The appropriate course equivalency guide should be consulted to resolve questions of course transferability. All business courses normally offered by the College of Business at the junior or senior level must be completed by the student at that level. Courses acceptable for transfer by Texas A&M University-Corpus Christi will be accepted at the level at which the courses were taken, and at least 50% of the business hours required must be taken at Texas A&M University-Corpus Christi. Generally, courses from a community/junior college cannot be used to satisfy upper level requirements. Lower level transfer courses in Business Law and/or Statistics may be accepted with approval from the appropriate department chair. All business courses transferred require a grade of “C” or better and require prior approval by a College of Business academic advisor.

1 Contact an academic advisor in the College of Business for specific information.

**Grade Point Average for Graduation**

In addition to meeting the various course requirements for a specified major in the College of Business, students must also achieve the following minimum grade point averages:

1. 2.00 for all credit course work completed at Texas A&M University-Corpus Christi,
2. 2.00 in all business courses, and
3. 2.00 in courses in their designated major.

Effective fall 2012, no more than two Ds earned after fall 2007 are accepted toward graduation by business majors in business core classes, courses taken in their business major, and business elective courses. (See “Scholastic Probation, Suspension, Dismissal” in the section entitled “General Academic Policies and Regulations.”)

**Upper-Level Course Requirements**

All business students are required to complete at least 45 hours of upper-level (junior and senior level) courses; at least 45 of these hours must be business and/or economics courses.

**Student Code of Ethics**

The College of Business requires its students to abide by the COB Student Code of Ethics (available online at www.cob.tamucc.edu (http://www.cob.tamucc.edu)). Its provisions and stipulations apply to all students taking courses offered by the college, regardless of whether they are pursuing a degree awarded by the COB. BUSI 0011 Cob Student Code of Ethics and Plagiarism (0 sch), a noncredit Blackboard course, is a prerequisite for all 3000 level business core courses.

**Assurance of Learning/Student Learning Outcomes**

To continue to improve the undergraduate curriculum and the quality of the academic programs the COB, guided by AACSB accreditation standards, has implemented a comprehensive assurance of learning system. Under this assessment program the COB has developed four learning goals with corresponding objectives for Bachelor of Business Administration (BBA) graduates and has identified a number of instruments to measure the extent to which they are being met.

**Learning Goals:**

- To be effective communicators
- To be competent in business practices
- To be good decision makers
- To be good citizens

**Undergraduate Courses**

The College of Business offers undergraduate courses in the following fields:

- Accounting (ACCT)
- Business Administration (BUSI)
- Business Law (BLAW)
- Business Economics (ECON)
- Finance (FINA)
- Management (MGMT)
- Management Information Systems (MISY)
- Marketing (MKTG)
- Operations Management (OPSY)
- Operations Research/Management Science (ORMS)
Programs

- Bachelor Degree Programs (p. 59)
  - Accounting, BBA (p. 59)
  - Business Economics, BBA (http://catalog.tamucc.edu/undergraduate/business/bachelors/business-economics-bba/)
  - Finance, BBA (p. 64)
  - General Business, BBA (p. 68)
  - Management Information Systems, BBA (p. 71)
  - Management, BBA (p. 74)
  - Marketing, BBA (p. 78)
- Certificate Programs (p. 82)
  - Entrepreneurship & Innovation, Certificate (p. 82)
  - International Business, Certificate (p. 84)
- Minors (p. 85)
  - Accounting, Minor (p. 85)
  - Business Administration, Minor (p. 86)
  - Economics, Minor (p. 87)
  - Entrepreneurship, Minor (p. 89)
  - Finance, Minor (p. 89)
  - Human Resource Management, Minor (p. 91)
  - International Business, Minor (p. 92)
  - Management Information Systems, Minor (p. 93)
  - Management, Minor (p. 95)
  - Marketing, Minor (p. 96)

Bachelor Degree Programs

- Accounting, BBA (p. 59)
- Business Economics, BBA (http://catalog.tamucc.edu/undergraduate/business/bachelors/business-economics-bba/)
- Finance, BBA (p. 64)
- General Business, BBA (p. 68)
- Management Information Systems, BBA (p. 71)
- Management, BBA (p. 74)
- Marketing, BBA (p. 78)

Accounting, BBA

Program Description

The accounting major is designed to provide entry-level knowledge, skills, and concepts for careers in accounting. These careers are generally divided into four broad areas, corresponding to particular employment environments: management accounting, government accounting, accounting education, and public accounting. The career can include such activities as auditing, budgeting, data processing, controlling costs, providing tax advice, meeting tax requirements, and designing and analyzing financial systems.

Professional Certification

Practicing accountants generally acquire one or more certifications available to members of the profession. The most common certification is the Certified Public Accountant (CPA), conferred by the State Board of Public Accountancy of the state in which the individual maintains his or her license. Other certifications include the Certified Management Accountant (CMA), the Certified Internal Auditor (CIA), Certified Fraud Examiner (CFE), and others.

The Texas State Board of Public Accountancy has set the minimum educational requirements for taking the CPA examination at 150 semester hours. Students aspiring to an accounting career should give serious consideration to pursuing advanced studies at the graduate level to enhance their potential for a successful accounting career. Accounting students should be aware that requirements to sit for the CPA examination in Texas may change at any time. CPA requirements are determined by the Texas State Board of Public Accountancy (TSBPA). Students should frequently visit the TSBPA website at http://www.tsbpa.state.tx.us/ and check with their advisor on a regular basis to ensure that the courses they are taking will qualify them to sit for the CPA exam.

For students who have received their undergraduate degrees, the Department of Accounting, Business Law, and Finance offers an avenue to pursue graduate studies to meet the State qualifications for professional certification through the Master of Accountancy (MAcc). This option is described in the College of Business section of the Graduate Catalog. Students are encouraged to contact the Director of Master’s Programs in the College of Business for more information and answers to specific questions.

BBA Student Learning Goals and Objectives

- G1. To Be Effective Communicators
  - O1. Students will demonstrate the ability to identify the appropriate message purpose, select appropriate organization, provide sufficient supporting details, and use effective mechanics.
  - O2. Students will demonstrate the ability to prepare (content, presentation and media) and deliver (verbally and nonverbally) a professional presentation.
- G2. To Be Competent in Business Practices
  - O1. Students will demonstrate knowledge of key business theories and concepts and will apply these business theories and concepts correctly.
  - O2. Students demonstrate the ability to incorporate theories, concepts, and practices across multiple disciplines to produce practical answers.
  - O3. Students will effectively analyze data.
- G3. To Be Good Decision Makers
  - O1. Students will demonstrate the ability to identify valid, reliable and important information applicable to the issue being studied.
  - O2. Students will demonstrate the ability to analyze multiple responses to issues.
  - O3. Students will demonstrate the ability to determine and support an appropriate decision.
- G4. To Be Good Citizens
  - O1. Students will demonstrate the ability to identify ethical concepts.

In addition, all Accounting Majors will demonstrate knowledge of key Accounting theories and concepts, and will apply these Accounting theories and concepts correctly.
Accounting Major

Student Learning Outcome: Students will demonstrate an understanding of the principles and practices common to the major areas of accounting.

Complete the Business Foundation Curriculum in the freshman and sophomore years.

**General Requirements for BBA Degree**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Business Core</td>
<td>45</td>
</tr>
<tr>
<td>Accounting Major Requirements</td>
<td>24</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>120-122</strong></td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

**Program Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Full-time, First-year Students</strong></td>
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</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Core Curriculum Program</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>University Core Curriculum</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Business majors are required to complete as part of their University Core Curriculum Program:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECON 2301 Macroeconomics Principles *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MATH 1324 Mathematics for Business and Social Sciences 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Business Core</strong></td>
<td></td>
</tr>
<tr>
<td>BUSI 0011</td>
<td>Cob Student Code of Ethics and Plagiarism * 2</td>
<td>0</td>
</tr>
<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 2302</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BLAW 3310</td>
<td>Legal Environment of Business *</td>
<td>3</td>
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<tr>
<td>BUSI 0088</td>
<td>Graduation Requirements Review</td>
<td>0</td>
</tr>
<tr>
<td>ECON 2302</td>
<td>Microeconomics Principles *</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3310</td>
<td>Financial Management *</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences 1</td>
<td>3</td>
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<tr>
<td>MGMT 3310</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 3315</td>
<td>Business Communications 3 *</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 4388</td>
<td>Business Strategy *</td>
<td>3</td>
</tr>
<tr>
<td>MISY 2305</td>
<td>Computer Applications in Business *</td>
<td>3</td>
</tr>
<tr>
<td>MISY 3310</td>
<td>Management Information Systems Concepts **</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 3310</td>
<td>Principles of Marketing *</td>
<td>3</td>
</tr>
<tr>
<td>OPSY 4314</td>
<td>Operations Management *</td>
<td>3</td>
</tr>
<tr>
<td>ORMS 3310</td>
<td>Data Analysis and Statistics *</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>International Business Course</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following depending on the major:</td>
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</table>

**Accounting Major Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 3315</td>
<td>Multinational Entities: Accounting and Consolidations (for Accounting Major) 4,*</td>
<td></td>
</tr>
<tr>
<td>ECON 3315</td>
<td>International Economic Issues (for Business Economics Major)</td>
<td></td>
</tr>
<tr>
<td>FINA 4315</td>
<td>International Finance (for Finance Major)</td>
<td></td>
</tr>
<tr>
<td>MGMT 3315</td>
<td>Multinational Management (for Management Major)</td>
<td></td>
</tr>
<tr>
<td>BUSI 4310</td>
<td>International Business (for all other Majors)</td>
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</table>

**Accounting Electives**

Select 6 hours from the following: 6

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ACCT 3315</td>
<td>Multinational Entities: Accounting and Consolidations 4,*</td>
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</tr>
<tr>
<td>ACCT 3316</td>
<td>Governmental and Not-for-Profit Accounting</td>
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</tr>
<tr>
<td>ACCT 3317</td>
<td>Oil, Gas, &amp; Energy Accounting</td>
<td></td>
</tr>
<tr>
<td>ACCT 3322</td>
<td>Federal Income Tax I *</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3340</td>
<td>Fraud Examination *</td>
<td></td>
</tr>
<tr>
<td>ACCT 4314</td>
<td>Advanced Accounting Problems *</td>
<td></td>
</tr>
<tr>
<td>ACCT 4345</td>
<td>Ethics for Texas CPA Candidates and Business Executives 5</td>
<td></td>
</tr>
<tr>
<td>ACCT 4390</td>
<td>Current Topics in Accounting *</td>
<td></td>
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<tr>
<td>ACCT 4396</td>
<td>Directed Individual Study</td>
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</tr>
<tr>
<td>ACCT 4398</td>
<td>Accounting Internship</td>
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**Electives**

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Upper-level Business Elective</td>
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</tr>
<tr>
<td></td>
<td>Business Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Non-Business Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>122</strong></td>
</tr>
</tbody>
</table>

1. Higher level mathematics course may be accepted as a substitute with approval
2. All Business Majors and Minors must complete BUSI 0011 Cob Student Code of Ethics and Plagiarism (0 sch) before or during their first semester enrolled in upper-division Business courses
3. MGMT 3315 Business Communications (3 sch), see Business Core, fulfills TSBPA’s communications education requirement. TSBPA requires 24 semester credit hours in business, 30 semester credit hours in upper level accounting courses, and 150 total semester hours. Students completing the Accounting BBA will have satisfied the business requirement but may need additional course work to meet the accounting education and total semester hour requirements. As of August, 1999, the Texas State Board of Public Accountancy will accept only 15 hours of online accounting courses toward the hours you need to sit for the CPA exam.
4. ACCT 3315 Multinational Entities: Accounting and Consolidations (3 sch) may be taken as the International Business Course or as an Accounting Elective but not both.
BBA Accounting Online Completion

The accounting major is designed to provide entry-level knowledge, skills, and concepts for careers in accounting. These careers are generally divided into four broad areas, corresponding to particular employment environments: management accounting, government accounting, accounting education, and public accounting. The career can include such activities as auditing, budgeting, data processing, controlling costs, providing tax advice, meeting tax requirements, and designing and analyzing financial systems. An Online Completion format provides 60 hours of online courses. The course schedule for the Online BBA Accounting option will differ from on-campus course offerings and may not include all course options available to on-campus students.

Professional Certification

Practicing accountants generally acquire one or more certifications available to members of the profession. The most common certification is the Certified Public Accountant (CPA), conferred by the State Board of Public Accountancy of the state in which the individual maintains his or her license. Other certifications include the Certified Management Accountant (CMA), the Certified Internal Auditor (CIA), Certified Fraud Examiner (CFE), and others.

The Texas State Board of Public Accountancy has set the minimum educational requirements for taking the CPA examination at 150 semester hours. Students aspiring to an accounting career should give serious consideration to pursuing advanced studies at the graduate level to enhance their potential for a successful accounting career. Accounting students should be aware that requirements to sit for the CPA examination in Texas may change at any time. CPA requirements are determined by the Texas State Board of Public Accountancy (TSBPA). Students should frequently visit the TSBPA website at http://www.tsbpa.state.tx.us/ and check with their advisor on a regular basis to ensure that the courses they are taking will qualify them to sit for the CPA exam.

For students who have received their undergraduate degrees, the Department of Accounting, Business Law, and Finance offers an avenue to pursue graduate studies to meet the State qualifications for professional certification through the Master of Accountancy (MAcc). This option is described in the College of Business section of the Graduate Catalog. Students are encouraged to contact the Director of Master's Programs in the College of Business for more information and answers to specific questions.

BBA Student Learning Goals and Objectives

- G1. To Be Effective Communicators
  - 01. Students will demonstrate the ability to identify the appropriate message purpose, select appropriate organization, provide sufficient supporting details, and use effective mechanics.

- G2. To Be Competent in Business Practices
  - 01. Students will demonstrate knowledge of key business theories and concepts and will apply these business theories and concepts correctly.
  - 02. Students demonstrate the ability to incorporate theories, concepts, and practices across multiple disciplines to produce practical answers.
  - 03. Students will effectively analyze data.

- G3. To Be Good Decision Makers
  - 01. Students will demonstrate the ability to identify valid, reliable and important information applicable to the issue being studied.
  - 02. Students will demonstrate the ability to analyze multiple responses to issues.
  - 03. Students will demonstrate the ability to determine and support an appropriate decision.

- G4. To Be Good Citizens
  - 01. Students will demonstrate the ability identify ethical concepts.

In addition, all Accounting Majors will demonstrate knowledge of key Accounting theories and concepts, and will apply these Accounting theories and concepts correctly.

Entry Requirements

Applicants who have completed 42 hours with a GPA of 2.0 or higher may be accepted into the Online Accounting BBA Completion Program. Students may transition into the upper division course sequence as they complete the University Core Curriculum and 60 hours including the following courses or their equivalents:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 2302</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2302</td>
<td>Microeconomics Principles *</td>
<td>3</td>
</tr>
<tr>
<td>MISY 2305</td>
<td>Computer Applications in Business *</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences (Higher level mathematics course may be accepted as substitute with approval)</td>
<td>3</td>
</tr>
</tbody>
</table>

Non-Business elective 3

All Business majors are required to complete the following courses as part of their University Core Curriculum Program:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ECON 2301</td>
<td>Macroeconomics Principles *</td>
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<tr>
<td>MATH 1324</td>
<td>Mathematics for Business and Social Sciences (Higher level mathematics course may be accepted as a substitute with approval)</td>
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</table>

General Requirements for BBA Online Completion

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Business Core</td>
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<tr>
<td>Accounting Major Requirements</td>
<td>18</td>
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<tr>
<td>Accounting Electives</td>
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Program Requirements

(all available Online)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td><strong>Business Core</strong></td>
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<tr>
<td>BUSI 0011</td>
<td>Cob Student Code of Ethics and Plagiarism (^1),*</td>
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</tr>
<tr>
<td>BLAW 3310</td>
<td>Legal Environment of Business (^2)</td>
<td>3</td>
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<tr>
<td>BUSI 0088</td>
<td>Graduation Requirements Review</td>
<td>0</td>
</tr>
<tr>
<td>FINA 3310</td>
<td>Financial Management (^3)</td>
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<tr>
<td>MGMT 3310</td>
<td>Principles of Management (^4)</td>
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<tr>
<td>MGMT 3315</td>
<td>Business Communications (^2)</td>
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<tr>
<td>MGMT 4388</td>
<td>Business Strategy (^2)</td>
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</tr>
<tr>
<td>MGMT 3315</td>
<td>Management Information Systems Concepts (^2)</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 3310</td>
<td>Principles of Marketing (^2)</td>
<td>3</td>
</tr>
<tr>
<td>OPSY 4314</td>
<td>Operations Management (^2)</td>
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<tr>
<td>ORMS 3310</td>
<td>Data Analysis and Statistics (^5)</td>
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<tr>
<td>MGMT 4315</td>
<td>Multinational Management (^2)</td>
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<tr>
<td><strong>Accounting Major Requirements</strong></td>
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</tr>
<tr>
<td>ACCT 3311</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3312</td>
<td>Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3314</td>
<td>Cost Accounting (^2)</td>
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<tr>
<td>ACCT 3321</td>
<td>Federal Income Tax I (^3),*</td>
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<tr>
<td>ACCT 4355</td>
<td>Accounting Information Systems (^2)</td>
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<tr>
<td>ACCT 4311</td>
<td>Auditing Principles and Procedures (^2)</td>
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<tr>
<td><strong>Accounting Electives</strong></td>
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<td>ACCT 3340</td>
<td>Fraud Examination (^2)</td>
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<td>MGMT 3370</td>
<td>Entrepreneurship, Creativity, &amp; Innovation (^6)</td>
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<tr>
<td>MKTG 4360</td>
<td>Social Media Marketing (^2)</td>
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<tr>
<td><strong>Total Hours</strong></td>
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</table>

1 All Business Majors and Minors must complete BUSI 0011 Cob Student Code of Ethics and Plagiarism (0 sch) before or during their first semester enrolled in upper-division Business courses.

2 MGMT 3315 Business Communications (3 sch), see Business Core, fulfills TSBPA’s communications education requirement.

3 TSBPA requires 24 semester credit hours in business, 30 semester credit hours in upper level accounting courses, and 150 total semester hours. Students completing the Accounting BBA will have satisfied the business requirement but may need additional course work to meet the accounting education and total semester hour requirements. As of August, 1999, the Texas State Board of Public Accountancy will accept only 15 hours of online accounting courses toward the hours you need to sit for the CPA exam.

3 ACCT 3321 Federal Income Tax I (3 sch) and ACCT 4311 Auditing Principles and Procedures (3 sch) together fulfill the Texas State Board of Public Accounting’s (TSBPA) research education requirement.

* Online offering

Pathway to the Master of Accountancy

Students who have been admitted into Master of Accountancy program and have fifteen or less student credit hours to complete the Bachelor of Business Administration degree in Accounting may enroll in graduate accounting coursework with the approval of the Director of Masters Programs.

Alternatives for Students Planning to take the CPA Examination - The 150-Hour Requirement for CPA Examination

1. Complete a BBA degree, majoring in Accounting, and complete the Master of Accountancy (MACc).
2. Complete a BBA degree, majoring in Accounting, and complete a Master of Business Administration (MBA). A minimum of 30 semester hours in accounting coursework is required.
3. Complete a BBA degree, majoring in Accounting, take 6 or 9 semester hours of additional accounting courses as part of the business electives, and additional coursework to satisfy the 150 total semester credits requirement.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td><strong>Communication Education Requirement</strong></td>
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<tr>
<td>MGMT 3315</td>
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<tr>
<td>ACCT 5341</td>
<td>Advanced Auditing and Assurance Services</td>
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<tr>
<td>ACCT 5381</td>
<td>Accounting Theory</td>
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<tr>
<td><strong>Research Education Requirement</strong></td>
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<td>Select one of the following:</td>
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<tr>
<td>ACCT 3321</td>
<td>Federal Income Tax I &amp; ACCT 4311 and Auditing Principles and Procedures</td>
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<td>ACCT 5371</td>
<td>Professional Accounting Research</td>
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<td><strong>Ethics Education Requirement</strong></td>
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<tr>
<td>ACCT 4345</td>
<td>Ethics for Texas CPA Candidates and Business Executives</td>
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</tr>
<tr>
<td>ACCT 5345</td>
<td>Ethics for Texas CPA Candidates and Business Executives</td>
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</table>

See the College of Business section of the Graduate Catalog for details on these programs. (An advanced degree is not currently required to meet the 150-hour standard for becoming a candidate for the CPA.
examination.) See the Texas State Board of Public Accountancy website for more information: https://www.tsbpa.state.tx.us.

Note:

Course prerequisites are strictly enforced.

Course Sequencing

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BUSI 0011</td>
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<td>Creative Arts Core Requirement</td>
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<td>ECON 2301</td>
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<td>ENGL 1302</td>
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<tr>
<td>HIST 1301</td>
<td>3</td>
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<tr>
<td>Life &amp; Physical Science Core Requirement</td>
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<tr>
<td>UNIV 1101</td>
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<td>Hours</td>
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First Year

Fall

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>BUSI 0011</td>
<td>Cob Student Code of Ethics and Plagiarism</td>
<td>0</td>
</tr>
<tr>
<td>Creative Arts Core Requirement</td>
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<td></td>
</tr>
<tr>
<td>ECON 2301</td>
<td>Macroeconomics Principles</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1302</td>
<td>Writing and Rhetoric</td>
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<tr>
<td>HIST 1301</td>
<td>U.S. History to 1865</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Science Core Requirement</td>
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<td>First-Year Seminar I</td>
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<td>Hours</td>
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Spring

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<tbody>
<tr>
<td>COMM 1311</td>
<td>Foundation of Communication</td>
<td>3</td>
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<tr>
<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2302</td>
<td>Microeconomics Principles</td>
<td>3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture Core Requirement</td>
<td>3</td>
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<td>MATH 1324</td>
<td>Mathematics for Business and Social Sciences</td>
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<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>Hours</td>
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Second Year

Fall

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<thead>
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<tr>
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<tr>
<td>Business Elective</td>
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<tr>
<td>Component Area Option Core Requirement</td>
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<tr>
<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences</td>
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<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
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Spring

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<thead>
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<th>Hours</th>
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<tbody>
<tr>
<td>ACCT 2302</td>
<td>Managerial Accounting</td>
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<td>Component Area Option Core Requirement</td>
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<tr>
<td>Life &amp; Physical Science Core Requirement</td>
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<tr>
<td>MISM 3105</td>
<td>Computer Applications in Business</td>
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<td>POLS 2306</td>
<td>State and Local Government</td>
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Third Year

Fall

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<td>ACCT 3314</td>
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<tr>
<td>ACCT 3311</td>
<td>Intermediate Accounting I</td>
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<tr>
<td>ORMS 3310</td>
<td>Data Analysis and Statistics</td>
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<td>MKTG 3310</td>
<td>Principles of Marketing</td>
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Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MGMT 3310</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Courses

ACCT 2301 Financial Accounting
3 Semester Credit Hours (3 Lecture Hours)

TCNS: ACCT 2301

ACCT 2302 Managerial Accounting
3 Semester Credit Hours (3 Lecture Hours)
The use of accounting information as an aid to management decision making, including performance measurement and budgets.

Prerequisite: ACCT 2301.

TCNS: ACCT 2302

ACCT 3311 Intermediate Accounting I
3 Semester Credit Hours (3 Lecture Hours)
An intensive study of the balance sheet accounts and the related income statement accounts. It exposes the student to the various Accounting Principles Board opinions and Financial Accounting Standards Board statements, and International Financial Reporting standards, as these publications affect the various accounts and transactions. It covers the various working capital accounts and operational assets.

Prerequisite: (ACCT 2301 and 2302).

ACCT 3312 Intermediate Accounting II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of Intermediate Accounting I involving current and non-current liabilities and owner equity accounts, the Statement of Cash Flows, deferred income tax, financial statement analysis and several special problem areas.

Prerequisite: (ACCT 3311).
ACCT 3314 Cost Accounting
3 Semester Credit Hours (3 Lecture Hours)
A study of procedures and concepts in allocating the costs of firm inputs to outputs, determination and use of standard costs in the control function, profit planning and control techniques used in management decision-making.
Prerequisite: (ACCT 2301 and 2302).

ACCT 3315 Multinational Entities: Accounting and Consolidations
3 Semester Credit Hours (3 Lecture Hours)
A study of the similarities and differences between U.S. and other countries’ accounting and reporting procedures. Basic consolidation of international segments will be covered. Use of spreadsheets and web technology required.
Prerequisite: (ACCT 2302).

ACCT 3316 Governmental and Not-for-Profit Accounting
3 Semester Credit Hours (3 Lecture Hours)
A study of fund accounting used in governmental entities and non-profit organizations. Emphasis on budgetary and fund accounts.
Prerequisite: (ACCT 2301 and 2302).

ACCT 3317 Oil, Gas, & Energy Accounting
3 Semester Credit Hours (3 Lecture Hours)
This course covers the basic principles of oil and gas accounting. Course topics include upstream oil and gas operations, successful efforts accounting, full cost pool accounting, accounting for production, exploration and construction, joint interest accounting, international operations, oil and taxation and analysis of oil and gas financial statements.
Prerequisite: (ACCT 3311).

ACCT 3321 Federal Income Tax I
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes the role of taxation in the business decision-making process. The course introduces the tools to conduct basic tax research and planning.
Prerequisite: (ACCT 2301 and 2302).

ACCT 3322 Federal Income Tax II
3 Semester Credit Hours (3 Lecture Hours)
Examines additional, more complex topics in business decision-making, tax research, and tax planning.
Prerequisite: (ACCT 3321).

ACCT 3340 Fraud Examination
3 Semester Credit Hours (3 Lecture Hours)
This course covers the basic principles of fraud examination. Course topics include the behavioral aspects of fraud and common fraud schemes including skimming, larceny, check tampering, register disbursement schemes, billing schemes, payroll and expense reimbursement, non-cash misappropriations, corruption and bribery, and fraudulent financial statements.
Prerequisite: (ACCT 2301 and 2302).

ACCT 4311 Auditing Principles and Procedures
3 Semester Credit Hours (3 Lecture Hours)
Auditing principles and techniques underlying the audit process; procedures used in conducting external audits, reviews and compilations.
Prerequisite: (ACCT 3312).

ACCT 4314 Advanced Accounting Problems
3 Semester Credit Hours (3 Lecture Hours)
A study of advanced accounting topics, including leases, pensions, consolidations, asset retirement obligations, accounting for not-for-profit organizations and government entities and other special problem areas.
Prerequisite: (ACCT 3312).

ACCT 4345 Ethics for Texas CPA Candidates and Business Executives
3 Semester Credit Hours (3 Lecture Hours)
This course will cover ethical theory, ethical reasoning, integrity, objectivity, independence and other core values and regulatory requirements associated with the practice of professional accounting and decision making of other executives, with an emphasis on corporate governance in the post-Sarbanes-Oxley regulatory environment. This course satisfies the ethics requirement of the Texas State Board of Public Accountancy (TSBPA); however, it does not count for advanced accounting hours required to sit for the CPA exam. Students who receive credit for ACCT 4345 cannot also receive credit for ACCT 5345.

ACCT 4355 Accounting Information Systems
3 Semester Credit Hours (3 Lecture Hours)
A study of the role of accounting information systems and related subsystems in both for profit and not-for-profit entities. The relationship of accounting information systems to other systems, including management information systems, is addressed. Concepts are reinforced by the completion of computer-based projects.
Prerequisite: (ACCT 2301, 2302 and MISY 2305).

ACCT 4390 Current Topics in Accounting
3 Semester Credit Hours (3 Lecture Hours)
Selected topics for special study related to accounting functions, processes or issues. May be repeated for credit when topics vary.

ACCT 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
Individual supervised study and completion of a final report.

ACCT 4398 Accounting Internship
3 Semester Credit Hours (3 Lecture Hours)
Supervised full-time or part-time, off-campus training in public accounting, industry, or government. Oral and written reports required.

Finance, BBA
Program Description
The courses required for a finance major are designed to help students prepare for careers in Corporate Financial Management, Investment Planning, Brokerage, Insurance, Commercial Banking, Real Estate and other similar fields. Core courses in finance provide students with a background in security analysis and investments, portfolio management, and financial planning and analysis. The curriculum also covers monetary policy, banking, financial markets, financial reporting, statement analysis, and risk management. Students may select finance electives in their area of interest such as insurance, real estate, accounting, or expand their knowledge in investments or financial analysis.

Complete the Business Foundation Curriculum in the freshman and sophomore years.
BBA Student Learning Goals and Objectives

- **G1.** To Be Effective Communicators
  - O1. Students will demonstrate the ability to identify the appropriate message purpose, select appropriate organization, provide sufficient supporting details, and use effective mechanics.
  - O2. Students will demonstrate the ability to prepare (content, presentation and media) and deliver (verbally and nonverbally) a professional presentation.

- **G2.** To Be Competent in Business Practices
  - O1. Students will demonstrate knowledge of key business theories and concepts and will apply these business theories and concepts correctly.
  - O2. Students demonstrate the ability to incorporate theories, concepts, and practices across multiple disciplines to produce practical answers.
  - O3. Students will effectively analyze data.

- **G3.** To Be Good Decision Makers
  - O1. Students will demonstrate the ability to identify valid, reliable and important information applicable to the issue being studied.
  - O2. Students will demonstrate the ability to analyze multiple responses to issues.
  - O3. Students will demonstrate the ability to determine and support an appropriate decision.

- **G4.** To Be Good Citizens
  - O1. Students will demonstrate the ability to identify ethical concepts.

In addition, all Finance Majors will demonstrate knowledge of key Finance theories and concepts, and will apply these Finance theories and concepts correctly.

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)¹</td>
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<tr>
<td>Business Core</td>
<td>45</td>
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<tr>
<td>Finance Major Requirements</td>
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<tr>
<td>Electives</td>
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<td><strong>Total Credit Hours</strong></td>
<td><strong>120-122</strong></td>
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¹ Full-time, first time in college students are required to take the first-year seminars.
- UNIV 1101 First-Year Seminar I (1 sch)
- UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td><strong>UNIV 1101</strong></td>
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<tr>
<td><strong>UNIV 1102</strong></td>
<td><strong>First-Year Seminar II</strong></td>
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Business majors are required to complete the following courses as part of their University Core Curriculum Program:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ECON 2301</td>
<td>Microeconomics Principles ^</td>
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</tr>
<tr>
<td>MATH 1324</td>
<td>Mathematics for Business and Social Sciences</td>
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**Business Core**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BUSI 0088</td>
<td>Graduation Requirements Review</td>
<td>0</td>
</tr>
<tr>
<td>BLAW 3310</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3310</td>
<td>Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences</td>
<td>3</td>
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<td>FINA 4330</td>
<td>Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4390</td>
<td>Internship in Finance</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4332</td>
<td>Finances and Principles</td>
<td>3</td>
</tr>
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<td>FINA 4396</td>
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<tr>
<td>FINA 4398</td>
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**International Business Course**

Select one of the following depending on major:

<table>
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<tr>
<td>ACCT 3315</td>
<td>Multinational Entities: Accounting and Consolidations (for Accounting Major)</td>
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</tr>
<tr>
<td>ECON 3315</td>
<td>International Economic Issues (for Business Economics Major)</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4315</td>
<td>International Finance (for Finance Major)</td>
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<tr>
<td>MGMT 4315</td>
<td>Multinational Management (for Management Major)</td>
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</tr>
<tr>
<td>BUSI 4310</td>
<td>International Business (for all other Majors)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Finance Major Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINA 3320</td>
<td>Intermediate Corporate Finance</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3331</td>
<td>Investments</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4310</td>
<td>Advanced Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4332</td>
<td>Security Analysis and Portfolio Management</td>
<td>3</td>
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</tbody>
</table>

**Finance Electives**

Select 12 hours from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINA 3312</td>
<td>Financial Markets and Institutions</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3335</td>
<td>Financial Modeling</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3350</td>
<td>Cash Management</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3351</td>
<td>Insurance Principles</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3354</td>
<td>Real Estate Principles</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3355</td>
<td>Employee Benefits and Retirement Planning</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4321</td>
<td>Financial Institutions Management</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4330</td>
<td>Introduction to Derivative Securities</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4334</td>
<td>Financial Statement Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4390</td>
<td>Current Topics in Finance</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4396</td>
<td>Directed Individual Study</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4398</td>
<td>Internship in Finance</td>
<td>3</td>
</tr>
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</table>

Select one upper-level Finance Elective or one of the following:

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ACCT 3311</td>
<td>Intermediate Accounting I ^</td>
<td>3</td>
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<tr>
<td>Course</td>
<td>Title</td>
<td>Hours</td>
</tr>
<tr>
<td>------------</td>
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</tr>
<tr>
<td>First Year</td>
<td></td>
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<tr>
<td>Fall</td>
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</tr>
<tr>
<td>BUSI 0011</td>
<td>Cob Student Code of Ethics and Plagiarism</td>
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<tr>
<td>Creative Arts Core Requirement</td>
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<tr>
<td>ECON 2301</td>
<td>Macroeconomics Principles</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1302</td>
<td>Writing and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1301</td>
<td>U.S. History to 1865</td>
<td>3</td>
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<tr>
<td>Life &amp; Physical Science Core Requirement</td>
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</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>Spring</td>
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<tr>
<td>COMM 1311</td>
<td>Foundation of Communication</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2302</td>
<td>Microeconomics Principles</td>
<td>3</td>
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<tr>
<td>Language, Philosophy, &amp; Culture Core Requirement</td>
<td>3</td>
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<tr>
<td>MATH 1324</td>
<td>Mathematics for Business and Social Sciences</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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<td></td>
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<td>Second Year</td>
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<tr>
<td>Fall</td>
<td></td>
<td></td>
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<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
<td>3</td>
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<tr>
<td>Business Elective</td>
<td>3</td>
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<td>Component Area Option Core Requirement</td>
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<tr>
<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences</td>
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<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td></td>
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<tr>
<td>FINA 3301</td>
<td>Financial Management</td>
<td>3</td>
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<tr>
<td>FINA 3331</td>
<td>Investments</td>
<td>3</td>
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<tr>
<td>MISC 3310</td>
<td>Management Information Systems Concepts</td>
<td>3</td>
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<td>BLAW 3310</td>
<td>Legal Environment of Business</td>
<td>3</td>
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<td>MKTG 3310</td>
<td>Principles of Marketing</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Third Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FINA 4310</td>
<td>Advanced Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>OPSY 4314</td>
<td>Operations Management</td>
<td>3</td>
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<tr>
<td>International Business Course</td>
<td>3</td>
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<tr>
<td>Upper-level Designated Elective</td>
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<tr>
<td>FINA Elective</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td></td>
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<tr>
<td>MGMT 4388</td>
<td>Business Strategy</td>
<td>3</td>
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<tr>
<td>FINA 4332</td>
<td>Security Analysis and Portfolio Management</td>
<td>3</td>
</tr>
<tr>
<td>Non-Business Elective</td>
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<tr>
<td>Upper-level Business Elective</td>
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<tr>
<td>FINA Elective</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>15</td>
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<tr>
<td>Fourth Year</td>
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<td>Fall</td>
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</tr>
<tr>
<td>Courses</td>
<td>FINA 1307 Personal Finance</td>
<td></td>
</tr>
<tr>
<td>3 Semester Credit Hours (3 Lecture Hours)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covers the foundations of financial planning, managing basic assets, managing credit, managing insurance needs, managing investments, and retirement and estate planning. This course is designed for nonbusiness as well as business majors to give them a basic understanding of the aspects of personal financial planning.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCCNS: BUSI 1307</td>
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<td></td>
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</tbody>
</table>
FINA 3310  Financial Management  
3 Semester Credit Hours (3 Lecture Hours)  
A survey of financial management issues emphasizing planning and decision making. Specific topics covered include discounted cash flow analysis, stock and bond valuation, financial intermediation, organizing, raising and managing capital, capital investment, risk analysis, and financial statement analysis.  
Prerequisite: (ACCT 2301, 2302, MATH 1325, BUSI 0011, ECON 2301 and 2302).  

FINA 3312  Financial Markets and Institutions  
3 Semester Credit Hours (3 Lecture Hours)  
Course coverage includes an analysis of financial markets and institutions; regulation, money market operations, global impact of central banking principles and monetary policy, and determinants of interest rates with financial asset pricing.  
Prerequisite: (ECON 2301 and 2302).  

FINA 3320  Intermediate Corporate Finance  
3 Semester Credit Hours (3 Lecture Hours)  
An in-depth study of financial planning and management with emphasis on capital structure and cost of capital, capital budgeting, and other topics in corporate financial management. The course serves as a framework for understanding a broad range of corporate financial decisions.  
Prerequisite: (FINA 3310).  

FINA 3331  Investments  
3 Semester Credit Hours (3 Lecture Hours)  
Framework of financial markets, valuation of the firm, security analysis, investment equity versus debt, efficiency of market evaluation, diversification efforts, investment goals, and portfolio selection.  
Prerequisite: (ACCT 2301 and MATH 1325).  

FINA 3335  Financial Modeling  
3 Semester Credit Hours (3 Lecture Hours)  
This course will cover the use of spreadsheet analysis in financial applications and introduce students to spreadsheet tools and functions to conduct business and personal financial analysis, valuation of bonds and stocks, and financial forecasting.  

FINA 3350  Cash Management  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of the principles and methods of cash and liquidity management with particular attention to funds transfer procedures and requirements. Specific topics include the role of cash management in corporate financial management, a review of relevant accounting concepts, the structure of the financial environment, the system of disbursements and collections, accounts receivable management, accounts payable management, information technology and electronic commerce, cash flow forecasting, short-term investing and borrowing, financial risk management, international treasury management, and management of relationships.  
Prerequisite: (FINA 3310).  

FINA 3351  Insurance Principles  
3 Semester Credit Hours (3 Lecture Hours)  
Fundamentals of risk management as practiced in the commercial life, health, property, and casualty insurance industries.  

FINA 3354  Real Estate Principles  
3 Semester Credit Hours (3 Lecture Hours)  
Fundamental real estate covering the basic principles of real estate, providing the background necessary for advanced study in specialized real estate courses.  

FINA 3355  Employee Benefits and Retirement Planning  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines the financial aspects of retirement planning as well as employee benefit planning including group insurance plans and the characteristics of the various types of employee benefit plans: life insurance, medical expense, disability, and retirement income.  

FINA 4310  Advanced Financial Management  
3 Semester Credit Hours (3 Lecture Hours)  
Application of financial management tools, examination and interpretation of financial statements, and integration of financial policy and structure on overall management of the enterprise. Students will present cases on the material covered in this and earlier courses to demonstrate they are able to collect and analyze data and present recommendations.  
Prerequisite: (FINA 3320).  

FINA 4315  International Finance  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the institutions and relationships of the international financial system as it relates to the balance of payments, foreign exchange risk, arbitrage and the Eurocurrency market. The emphasis is on methods of arbitrage, forecasting exchange rates, and hedging against foreign exchange risk.  
Prerequisite: (ECON 2301, 2302 and FINA 3310).  

FINA 4321  Financial Institutions Management  
3 Semester Credit Hours (3 Lecture Hours)  
A study of major financial institutions and the markets in which they operate, with emphasis on financial decision making and risk management. Topics include financial intermediation theory; measurement and management of interest rate risk, credit risk, off-balance sheet risk, foreign exchange risk, country risk, and liquidity risk; capital adequacy; and product/market diversification.  
Prerequisite: (FINA 3310 and ECON 2302).  

FINA 4330  Introduction to Derivative Securities  
3 Semester Credit Hours (3 Lecture Hours)  
Course coverage includes an analysis of financial derivative contracts. The class includes options, futures and forward contracts; in particular commodity trading and hedging strategies will be covered in detail. Swaps and Interest Rate Options will be included in the presentation if time permits.  
Prerequisite: (MATH 1324).  

FINA 4332  Security Analysis and Portfolio Management  
3 Semester Credit Hours (3 Lecture Hours)  
Evaluation of investment securities of both private and public institutions through external analysis of financial statements and economic conditions, portfolio selection, expected return and risk selection, and conditions of market efficiency.  
Prerequisite: (FINA 3310, 3331 and ORMS 3310).  

FINA 4334  Financial Statement Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
A detailed study of financial reporting with emphasis upon practical interpretations. Attention will be given to financial statement analysis using financial accounting information and its finance implications. Assignments may differ depending on major.  
Prerequisite: (ACCT 2301, 2302 and FINA 3310).  

FINA 4390  Current Topics in Finance  
3 Semester Credit Hours (3 Lecture Hours)  
Selected topics for special study related to finance functions, processes or issues. May be repeated for credit when topics vary.
FINA 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and completion of a final report.

FINA 4398 Internship in Finance
3 Semester Credit Hours
Supervised full-time or part-time, off-campus training in business or government finance office. Oral and written reports required.

General Business, BBA

Program Description
This program of study provides a broad-based business background for those persons who are interested in a business career but do not wish to specialize in a specific functional area. Study in the various business disciplines provides a broader competency base for those who may want to work in or to manage small businesses or selected not-for-profit organizations. This major provides a background for entry-level work in a broad range of businesses. An On-Campus format provides a mix of online, face-to-face, and blended courses. An Online completion format provides 60 hours of online courses.

Complete the Business Foundation Curriculum in the freshman and sophomore years.

BBA Student Learning Goals and Objectives

• G1. To Be Effective Communicators
  • O1. Students will demonstrate the ability to identify the appropriate message purpose, select appropriate organization, provide sufficient supporting details, and use effective mechanics.
  • O2. Students will demonstrate the ability to prepare (content, presentation and media) and deliver (verbally and nonverbally) a professional presentation.

• G2. To Be Competent in Business Practices
  • O1. Students will demonstrate knowledge of key business theories and concepts and will apply these business theories and concepts correctly.
  • O2. Students demonstrate the ability to incorporate theories, concepts, and practices across multiple disciplines to produce practical answers.
  • O3. Students will effectively analyze data.

• G3. To Be Good Decision Makers
  • O1. Students will demonstrate the ability to identify valid, reliable and important information applicable to the issue being studied.
  • O2. Students will demonstrate the ability to analyze multiple responses to issues.
  • O3. Students will demonstrate the ability to determine and support an appropriate decision.

• G4. To Be Good Citizens
  • O1. Students will demonstrate the ability to identify ethical concepts.

In addition, all General Business Majors will demonstrate knowledge of key International Business theories and concepts, and will apply these International Business theories and concepts correctly.

BBA General Business Online Completion
This program of study provides a broad-based business background for those persons who are interested in a business career but do not wish to specialize in a specific functional area. Study in the various business disciplines provides a broader competency base for those who may want to work in or to manage small businesses or selected not-for-profit organizations. This major provides a background for entry-level work in a broad range of businesses. An On-Campus format provides a mix of online, face-to-face, and blended courses. An Online completion format provides 60 hours of online courses. The course schedule for the Online BBA General Business option will differ from on-campus course offerings and may not include all course options available to on-campus students.

Entry Requirements
Applicants who have completed 42 hours with a GPA of 2.0 or higher may be accepted into the Online General Business BBA Completion Program. Students may transition into the upper division course sequence as they complete the University Core Curriculum and 60 hours including the following courses or their equivalents:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 2302</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2302</td>
<td>Microeconomics Principles</td>
<td>3</td>
</tr>
<tr>
<td>MISM 2305</td>
<td>Computer Applications in Business</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences (Higher level mathematics course may be accepted as substitute with approval)</td>
<td>3</td>
</tr>
</tbody>
</table>

Non-Business elective

All Business majors are required to complete the following courses as part of their University Core Curriculum Program:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>ECON 2301</td>
<td>Macroeconomics Principles</td>
</tr>
<tr>
<td>MATH 1324</td>
<td>Mathematics for Business and Social Sciences (Higher level mathematics course may be accepted as a substitute with approval)</td>
</tr>
</tbody>
</table>

* Online offering

General Requirements for BBA Degree

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
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<tr>
<td>Business Core</td>
<td>45</td>
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<tr>
<td>General Business Major Requirements</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Total Credit Hours</td>
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</table>

1 Full-time, first time in college students are required to take the first-year seminars.
  • UNIV 1101 First-Year Seminar I (1 sch)
  • UNIV 1102 First-Year Seminar II (1 sch)
Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td></td>
<td>Full-time, First-Year Students</td>
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<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
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<tr>
<td></td>
<td>Core Curriculum Program</td>
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<tr>
<td></td>
<td>University Core Curriculum</td>
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<td></td>
<td>Business majors are required to complete the following courses as part of their University Core Curriculum Program:</td>
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</tr>
<tr>
<td>ECON 2301</td>
<td>Macroeconomics Principles</td>
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<td>MATH 1324</td>
<td>Mathematics for Business and Social Sciences</td>
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<td></td>
<td>Business Core</td>
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</tr>
<tr>
<td>BUSI 0011</td>
<td>Cob Student Code of Ethics and Plagiarism ^</td>
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</tr>
<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 2302</td>
<td>Managerial Accounting</td>
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<tr>
<td>BLAW 3310</td>
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<td>ECON 2302</td>
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<tr>
<td>FINA 3310</td>
<td>Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences</td>
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<tr>
<td>MGMT 3310</td>
<td>Principles of Management</td>
<td>3</td>
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<tr>
<td>MGMT 3315</td>
<td>Business Communications</td>
<td>3</td>
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<tr>
<td>MGMT 4388</td>
<td>Business Strategy</td>
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<tr>
<td>MISY 2305</td>
<td>Computer Applications in Business</td>
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<td>MISY 3310</td>
<td>Management Information Systems Concepts</td>
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<td>MKTG 3310</td>
<td>Principles of Marketing</td>
<td>3</td>
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<tr>
<td>OPSY 4314</td>
<td>Operations Management</td>
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<td>ORMS 3310</td>
<td>Data Analysis and Statistics</td>
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<tr>
<td></td>
<td>International Business Course</td>
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<td></td>
<td>Select one of the following depending on major:</td>
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<tr>
<td>ACCT 3315</td>
<td>Multinational Entities: Accounting and Consolidations (for Accounting Major)</td>
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</tr>
<tr>
<td>ECON 3315</td>
<td>International Economic Issues (for Business Economics Major)</td>
<td></td>
</tr>
<tr>
<td>FINA 4315</td>
<td>International Finance (for Finance Major)</td>
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</tr>
<tr>
<td>MGMT 4315</td>
<td>Multinational Management (for Management Major)</td>
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</tr>
<tr>
<td>BUSI 4310</td>
<td>International Business (for all other Majors)</td>
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</tr>
<tr>
<td></td>
<td>General Business Major Requirements</td>
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</tr>
<tr>
<td></td>
<td>Accounting</td>
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<tr>
<td></td>
<td>Select one of the following:</td>
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</tr>
<tr>
<td>ACCT 3311</td>
<td>Intermediate Accounting I *</td>
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</tr>
<tr>
<td>ACCT 3314</td>
<td>Cost Accounting</td>
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</tr>
<tr>
<td>ACCT 3315</td>
<td>Multinational Entities: Accounting and Consolidations *</td>
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<tr>
<td>ACCT 3316</td>
<td>Governmental and Not-for-Profit Accounting</td>
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<td>ACCT 3317</td>
<td>Oil, Gas, &amp; Energy Accounting</td>
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<tr>
<td>ACCT 3321</td>
<td>Federal Income Tax I *</td>
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<td>ACCT 3340</td>
<td>Fraud Examination</td>
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<tr>
<td>ACCT 4355</td>
<td>Accounting Information Systems *</td>
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<td></td>
<td>Finance</td>
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<tr>
<td>FINA 3312</td>
<td>Financial Markets and Institutions</td>
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<tr>
<td>FINA 3320</td>
<td>Intermediate Corporate Finance</td>
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<tr>
<td>FINA 3331</td>
<td>Investments</td>
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<tr>
<td>FINA 3354</td>
<td>Real Estate Principles *</td>
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<td></td>
<td>Management</td>
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<tr>
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<td>Select one of the following:</td>
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<tr>
<td>MKTG 3315</td>
<td>Advertising and Promotional Strategy *</td>
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<tr>
<td>MKTG 3325</td>
<td>Entrepreneurial Marketing *</td>
<td></td>
</tr>
<tr>
<td>MKTG 4360</td>
<td>Social Media Marketing *</td>
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<tr>
<td></td>
<td>Marketing</td>
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<tr>
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<td>Select one of the following:</td>
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<tr>
<td>MKTG 3315</td>
<td>Advertising and Promotional Strategy *</td>
<td></td>
</tr>
<tr>
<td>MKTG 3325</td>
<td>Entrepreneurial Marketing *</td>
<td></td>
</tr>
<tr>
<td>MKTG 4360</td>
<td>Social Media Marketing *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Business Electives</td>
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<tr>
<td></td>
<td>Select one Business Elective</td>
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<tr>
<td></td>
<td>Select 9 hours of upper-level Business Electives</td>
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<td>Electives</td>
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<td>Business Elective</td>
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<tr>
<td></td>
<td>Non-Business Elective</td>
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<tr>
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<td>Total Hours</td>
<td>122</td>
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<tr>
<td></td>
<td>1. Higher level mathematics course may be accepted as a substitute with approval.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. All Business Majors and Minors must complete BUSI 0011 Cob Student Code of Ethics and Plagiarism (0 sch) before or during their first semester enrolled in upper-division Business courses.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. ACCT 3315 Multinational Entities: Accounting and Consolidations (3 sch) may be taken as either International Business Course or as an Accounting Elective but not both.</td>
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<tr>
<td></td>
<td>^ Online offering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>^ Blended offering</td>
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</tbody>
</table>

Note:

Course prerequisites are strictly enforced.

General Requirements for BBA Online Completion

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Business Core</td>
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<tr>
<td>General Business Major Requirements</td>
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<tr>
<td>Business Electives</td>
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<td>Total Credit Hours</td>
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Online Program Requirements

(All available Online)

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>BUSI 0011</td>
<td>Cob Student Code of Ethics and Plagiarism ^</td>
<td>0</td>
</tr>
<tr>
<td>BLAW 3310</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUSI 0088</td>
<td>Graduation Requirements Review</td>
<td>0</td>
</tr>
</tbody>
</table>
### General Business Major Requirements

- **ACCT 2301**: Financial Accounting 3
- **MGMT 3315**: Business Communications * 3
- **MGMT 4388**: Business Strategy * 3
- **MISY 3310**: Management Information Systems Concepts ** 3
- **MKTG 3310**: Principles of Marketing * 3
- **OPSY 4314**: Operations Management * 3
- **ORMS 3310**: Data Analysis and Statistics * 3
- **MGMT 4315**: Multinational Management * 3
- **ACCT 2355**: Accounting Information Systems * 3
- **FINA 3354**: Real Estate Principles * 3
- **MGMT 3320**: Human Resource Management * 3
- **MKTG 3315**: Advertising and Promotional Strategy * 3

### Business Electives

Upper-level Business Electives 18

Total Hours 60

1. All Business Majors and Minors must complete BUSI 0011 Cob Student Code of Ethics and Plagiarism (0 sch) before or during their first semester enrolled in upper-division Business courses.

* Online offering
^ Blended offering

### Course Sequencing

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Year</strong></td>
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<tr>
<td>Fall</td>
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</tr>
<tr>
<td>BUSI 0011</td>
<td>Cob Student Code of Ethics and Plagiarism</td>
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<tr>
<td>Creative Arts Core Requirement</td>
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<tr>
<td>ECON 2301</td>
<td>Macroeconomics Principles</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1302</td>
<td>Writing and Rhetoric</td>
<td>3</td>
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<tr>
<td>HIST 1301</td>
<td>U.S. History to 1865</td>
<td>3</td>
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<tr>
<td>Life &amp; Physical Science Core Requirement</td>
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<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
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<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>COMM 1311</td>
<td>Foundation of Communication</td>
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<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
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<tr>
<td>ECON 2302</td>
<td>Microeconomics Principles</td>
<td>3</td>
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<tr>
<td>Language, Philosophy &amp; Culture Core Requirement</td>
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<tr>
<td>MATH 1324</td>
<td>Mathematics for Business and Social Sciences</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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<tr>
<td><strong>Second Year</strong></td>
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<tr>
<td>Fall</td>
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<td>ACCT 2301</td>
<td>Financial Accounting</td>
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<td>Business Elective</td>
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<td>Component Area Option Core Requirement</td>
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<tr>
<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences</td>
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<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
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<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>ACCT 2302</td>
<td>Managerial Accounting</td>
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<td>Component Area Option Core Requirement</td>
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<td>Life &amp; Physical Science Core Requirement</td>
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<td>MISY 2305</td>
<td>Computer Applications in Business</td>
<td>3</td>
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<td>POLS 2306</td>
<td>State and Local Government</td>
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<td><strong>Non Business Elective</strong></td>
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<td><strong>Fourth Year</strong></td>
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<tr>
<td>Upper Level MANAGEMENT</td>
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<tr>
<td>Upper Level MARKETING</td>
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<tr>
<td>OPSY 4314</td>
<td>Operations Management</td>
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<tr>
<td>BLAW 3310</td>
<td>Legal Environment of Business</td>
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<td>Upper Level Business Elective</td>
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<tr>
<td>Upper Level Business Elective</td>
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<tr>
<td>Upper Level Business Elective</td>
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<tr>
<td>MGMT 4388</td>
<td>Business Strategy</td>
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<tr>
<td><strong>Courses</strong></td>
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</tr>
</tbody>
</table>

**Courses**

BUSI 0010 Orientation to Online Learning
0 Semester Credit Hours

This non-credit, no-cost, self-paced web-based course introduces new online MBA and new online Master of Accountancy students to successful online learning practices and the Blackboard Learn environment.
BBA 0011  Cob Student Code of Ethics and Plagiarism
0 Semester Credit Hours
The emphasis of this non-credit, web-based course is educational. It covers the provisions in the COB Student Code of Ethics and covers information related to the issue of plagiarism. It prepares business majors to successfully complete an online test to meet a requirement for graduation.

BUSA 0088  Graduation Requirements Review
0 Semester Credit Hours
The purpose of this non-credit, web-based course is educational. This no cost course provides important information to prepare students for a successful progression toward graduation.

Prerequisite: MGMT 3312.
Co-requisite: MGMT 3312.

BUSI 1310  Introduction to the Business Environment
3 Semester Credit Hours (3 Lecture Hours)
An overview of the nature of business and its environment. Emphasizes the dynamic role of business in everyday life and its importance to society. Not open to Juniors or Seniors majoring in business.
TCCN: BUSI 1301

BUSI 4310  International Business
3 Semester Credit Hours (3 Lecture Hours)
An understanding of international business including its importance in today’s world, the evolution of international institutions and the monetary system, the differences and similarities among nations and cultures, and the special characteristics of the business functions in a global setting.

Management Information Systems, BBA

Program Description
The MIS program supports students and professionals in their applied use of computers. Information systems supports a variety of business activities using computer systems; it is not intended to prepare software developers.
Student Learning Outcome: Students will demonstrate an understanding of how computer systems support a variety of business activities. Complete the Business Foundation Curriculum in the freshman and sophomore years.

BBA Student Learning Goals and Objectives

• G1. To Be Effective Communicators
  • O1. Students will demonstrate the ability to identify the appropriate message purpose, select appropriate organization, provide sufficient supporting details, and use effective mechanics.
  • O2. Students will demonstrate the ability to prepare (content, presentation and media) and deliver (verbally and nonverbally) a professional presentation.

• G2. To Be Competent in Business Practices
  • O1. Students will demonstrate knowledge of key business theories and concepts and will apply these business theories and concepts correctly.

  • O2. Students demonstrate the ability to incorporate theories, concepts, and practices across multiple disciplines to produce practical answers.
  • O3. Students will effectively analyze data.

• G3. To Be Good Decision Makers
  • O1. Students will demonstrate the ability to identify valid, reliable and important information applicable to the issue being studied.
  • O2. Students will demonstrate the ability to analyze multiple responses to issues.
  • O3. Students will demonstrate the ability to determine and support an appropriate decision.

• G4. To Be Good Citizens
  • O1. Students will demonstrate the ability to identify ethical concepts.

In addition, all Management Information Systems Majors will demonstrate basic knowledge of Management Information Systems theories and an understanding of how to apply concepts correctly.

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
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<tr>
<td>First-Year Seminars (when applicable)</td>
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<td>Electives</td>
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<td>Total Credit Hours</td>
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</table>

1 Full-time, first time in college students are required to take the first-year seminars.
  • UNIV 1101 First-Year Seminar I (1 sch)
  • UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>UNIV 1101</td>
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<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
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<tr>
<td>MATH 1324</td>
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Business Core

<table>
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<tr>
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<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
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<tr>
<td>ACCT 3202</td>
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<td>BLAW 3310</td>
<td>Legal Environment of Business</td>
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<td>BUSI 0088</td>
<td>Graduation Requirements Review</td>
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<td>ECON 3202</td>
<td>Microeconomics Principles</td>
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<td>FINA 3310</td>
<td>Financial Management</td>
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<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences</td>
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</tbody>
</table>

* Asterisks indicate that these courses are associated with the Business Core requirement.

** A double asterisk indicates that these courses are required for the BBA degree.

Texas A&M University - Corpus Christi Undergraduate Catalog
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MISY 3310</td>
<td>Principles of Management</td>
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<tr>
<td>MGMT 3315</td>
<td>Business Communications ^</td>
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<tr>
<td>MGMT 4388</td>
<td>Business Strategy ^</td>
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<td>MYSIS 2305</td>
<td>Management Information Systems Concepts **</td>
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<tr>
<td>MKTG 3310</td>
<td>Principles of Marketing ^</td>
<td>3</td>
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<td>OPSY 4314</td>
<td>Operations Management ^</td>
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</tr>
<tr>
<td>ORMS 3310</td>
<td>Data Analysis and Statistics ^</td>
<td>3</td>
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</tbody>
</table>

* Online offering
^ Blended offering

** Course prerequisites are strictly enforced.

### Course Sequencing

#### First Year

**Fall**
- BUSI 0011 Cob Student Code of Ethics and Plagiarism 0
- Creative Arts Core Requirement 3
- ECON 2301 Macroeconomics Principles 3
- ENGL 1302 Writing and Rhetoric 3
- HIST 1301 U.S. History to 1865 3
- Life & Physical Science Core Requirement 3
- MISY 3320 Business Data Communication and Networking I 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3
- MISY 3350 Business Applications Development 3
- MISY 3360 Business Data Communications and Networking II 3
- MISY 3430 Website Development for Business 3
- MISY 3435 Business Intelligence and Analytics 3
- MISY 3436 Data Warehousing and Data Mining for Business Intelligence 3
- MISY 3439 Current Topics in Management Information Systems 3
- MISY 3439 Direct Individual Study 3
- MISY 3439 Internship in Management Information Systems 3
- BUSI 0011 Cob Student Code of Ethics and Plagiarism 0
- Creative Arts Core Requirement 3
- ECON 2301 Macroeconomics Principles 3
- ENGL 1302 Writing and Rhetoric 3
- HIST 1301 U.S. History to 1865 3
- Life & Physical Science Core Requirement 3
- MISY 3320 Business Data Communication and Networking I 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3
- MISY 3430 Website Development for Business 3
- MISY 3435 Business Intelligence and Analytics 3
- MISY 3436 Data Warehousing and Data Mining for Business Intelligence 3
- MISY 3439 Current Topics in Management Information Systems 3
- MISY 3439 Direct Individual Study 3
- MISY 3439 Internship in Management Information Systems 3

**Spring**
- ACCT 2301 Financial Accounting 3
- ACCT 2302 Managerial Accounting 3
- Component Area Option Core Requirement 3
- MATH 3325 Calculus for Business & Social Sciences 3
- MATH 3325 Calculus for Business & Social Sciences 3
- MATH 3325 Calculus for Business & Social Sciences 3
- MATH 3325 Calculus for Business & Social Sciences 3
- BLAW 3310 Legal Environment of Business 3
- MISY 3310 Management Information Systems Concepts 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3

#### Second Year

**Fall**
- ACCT 2301 Financial Accounting 3
- ACCT 2302 Managerial Accounting 3
- Component Area Option Core Requirement 3
- MATH 3325 Calculus for Business & Social Sciences 3
- MATH 3325 Calculus for Business & Social Sciences 3
- MATH 3325 Calculus for Business & Social Sciences 3
- MATH 3325 Calculus for Business & Social Sciences 3
- BUSI 0011 Cob Student Code of Ethics and Plagiarism 0
- Creative Arts Core Requirement 3
- ECON 2301 Macroeconomics Principles 3
- ENGL 1302 Writing and Rhetoric 3
- HIST 1301 U.S. History to 1865 3
- Life & Physical Science Core Requirement 3
- MISY 3320 Business Data Communication and Networking I 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3
- MISY 3430 Website Development for Business 3
- MISY 3435 Business Intelligence and Analytics 3
- MISY 3436 Data Warehousing and Data Mining for Business Intelligence 3
- MISY 3439 Current Topics in Management Information Systems 3
- MISY 3439 Direct Individual Study 3
- MISY 3439 Internship in Management Information Systems 3
- BUSI 0011 Cob Student Code of Ethics and Plagiarism 0
- Creative Arts Core Requirement 3
- ECON 2301 Macroeconomics Principles 3
- ENGL 1302 Writing and Rhetoric 3
- HIST 1301 U.S. History to 1865 3
- Life & Physical Science Core Requirement 3
- MISY 3320 Business Data Communication and Networking I 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3
- MISY 3430 Website Development for Business 3
- MISY 3435 Business Intelligence and Analytics 3
- MISY 3436 Data Warehousing and Data Mining for Business Intelligence 3
- MISY 3439 Current Topics in Management Information Systems 3
- MISY 3439 Direct Individual Study 3
- MISY 3439 Internship in Management Information Systems 3
- BUSI 0011 Cob Student Code of Ethics and Plagiarism 0
- Creative Arts Core Requirement 3
- ECON 2301 Macroeconomics Principles 3
- ENGL 1302 Writing and Rhetoric 3
- HIST 1301 U.S. History to 1865 3
- Life & Physical Science Core Requirement 3
- MISY 3320 Business Data Communication and Networking I 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3
- MISY 3430 Website Development for Business 3
- MISY 3435 Business Intelligence and Analytics 3
- MISY 3436 Data Warehousing and Data Mining for Business Intelligence 3
- MISY 3439 Current Topics in Management Information Systems 3
- MISY 3439 Direct Individual Study 3
- MISY 3439 Internship in Management Information Systems 3

**Spring**
- ACCT 2301 Financial Accounting 3
- ACCT 2302 Managerial Accounting 3
- Component Area Option Core Requirement 3
- MATH 3325 Calculus for Business & Social Sciences 3
- MATH 3325 Calculus for Business & Social Sciences 3
- MATH 3325 Calculus for Business & Social Sciences 3
- MATH 3325 Calculus for Business & Social Sciences 3
- BUSI 0011 Cob Student Code of Ethics and Plagiarism 0
- Creative Arts Core Requirement 3
- ECON 2301 Macroeconomics Principles 3
- ENGL 1302 Writing and Rhetoric 3
- HIST 1301 U.S. History to 1865 3
- Life & Physical Science Core Requirement 3
- MISY 3320 Business Data Communication and Networking I 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3
- MISY 3430 Website Development for Business 3
- MISY 3435 Business Intelligence and Analytics 3
- MISY 3436 Data Warehousing and Data Mining for Business Intelligence 3
- MISY 3439 Current Topics in Management Information Systems 3
- MISY 3439 Direct Individual Study 3
- MISY 3439 Internship in Management Information Systems 3
- BUSI 0011 Cob Student Code of Ethics and Plagiarism 0
- Creative Arts Core Requirement 3
- ECON 2301 Macroeconomics Principles 3
- ENGL 1302 Writing and Rhetoric 3
- HIST 1301 U.S. History to 1865 3
- Life & Physical Science Core Requirement 3
- MISY 3320 Business Data Communication and Networking I 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3
- MISY 3430 Website Development for Business 3
- MISY 3435 Business Intelligence and Analytics 3
- MISY 3436 Data Warehousing and Data Mining for Business Intelligence 3
- MISY 3439 Current Topics in Management Information Systems 3
- MISY 3439 Direct Individual Study 3
- MISY 3439 Internship in Management Information Systems 3
- BUSI 0011 Cob Student Code of Ethics and Plagiarism 0
- Creative Arts Core Requirement 3
- ECON 2301 Macroeconomics Principles 3
- ENGL 1302 Writing and Rhetoric 3
- HIST 1301 U.S. History to 1865 3
- Life & Physical Science Core Requirement 3
- MISY 3320 Business Data Communication and Networking I 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3
- MISY 3430 Website Development for Business 3
- MISY 3435 Business Intelligence and Analytics 3
- MISY 3436 Data Warehousing and Data Mining for Business Intelligence 3
- MISY 3439 Current Topics in Management Information Systems 3
- MISY 3439 Direct Individual Study 3
- MISY 3439 Internship in Management Information Systems 3

**Third Year**

**Fall**
- BLAW 3310 Legal Environment of Business 3
- MISY 3310 Management Information Systems Concepts 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3
- MISY 3320 Business Data Communication and Networking I 3
- MISY 3330 Database Management 3
- MISY 3340 Systems Analysis and Design 3
- MISY 3430 Website Development for Business 3
- MISY 3435 Business Intelligence and Analytics 3
- MISY 3436 Data Warehousing and Data Mining for Business Intelligence 3
- MISY 3439 Current Topics in Management Information Systems 3
- MISY 3439 Direct Individual Study 3
- MISY 3439 Internship in Management Information Systems 3

**Note:**
- Higher level mathematics course may be accepted as a substitute with approval.
- All Business Majors and Minors must complete BUSI 0011 Cob Student Code of Ethics and Plagiarism (0 sch) before or during their first semester enrolled in upper-division Business courses.
- ACCT 3315 Multinational Entities: Accounting and Consolidations (3 sch) may be taken as either International Business Course or as an Accounting Elective but not both.
Courses

MISY 2305  Computer Applications in Business
3 Semester Credit Hours (3 Lecture Hours)
Survey of modern business computer hardware, software, and applications. Opportunities to create programs and use existing application software to solve various management information technology-oriented problems. Emphasizes the end-user's perspective, and interactions with management information technology.
TCCNS: BCIS 1305

MISY 3310  Management Information Systems Concepts
3 Semester Credit Hours (3 Lecture Hours)
Provides an understanding of the importance of computer-based information in the success of the firm. Illustrates ways in which companies utilize computer systems to strategically compete within certain industries. Emphasis is on the role of information systems within each of the functional areas of business. Major concepts include data management, decision support, and management information systems.
Prerequisite: BUSI 0011 and MISY 2305.

MISY 3320  Business Data Communication and Networking I
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of contemporary business data communication components, their configurations, and their impact on management information systems design. Topics include designing, managing, securing, and implementing business data communication networks, and their integration into management information systems. Exercises and assignments use various data communication facilities.

MISY 3330  Database Management
3 Semester Credit Hours (3 Lecture Hours)
Concepts and methodology of data base planning, design, development, and management of the computerized data base of a management information system. The emphasis is on logical data base design and a study of hierarchical, network, and relational implementations. Normalization exercises are completed relative to the logical design of relational data bases. Exercises and assignments use a relational DBMS package.

MISY 3340  Systems Analysis and Design
3 Semester Credit Hours (3 Lecture Hours)
Develops ability to analyze an existing information system within an organization, to identify information requirements, and to specify the functions of a new information system. Includes cost/benefit analysis of proposed information systems. Exercises and assignments use a Computer Aided Software Engineering (CASE) tool.

MISY 3350  Business Applications Development
3 Semester Credit Hours (3 Lecture Hours)
Design, implementation, and operation of client-server network systems for organizational Intranets and Internet presence. Exercises and assignments use selected data communications facilities.

MISY 4325  Business Applications Development
3 Semester Credit Hours (3 Lecture Hours)
This course provides an understanding of the Visual Basic programming environment in the context of business application design and development. This course will place emphasis on performance characteristics and user interface design considerations.

MISY 4340  Business Decision Support Systems and Expert Systems
3 Semester Credit Hours (3 Lecture Hours)
A survey of decision support systems and expert systems used in business. Topics include artificial intelligence (AI), knowledge engineering, knowledge acquisition, expert system shells, modeling, simulation, and selection of appropriate computer package support. Exercises and assignments use various computer packages such as neural network systems and expert system shells.

MISY 4330  Website Development for Business
3 Semester Credit Hours (3 Lecture Hours)
This course provides an understanding of the principles and techniques for client-side web development using HTML and CSS. Text editors and the website development software will be used to create and maintain websites. This course includes designing to meet web standards, including accessibility, usability, and workflow for web design.

MISY 4340  Electronic Commerce Management
3 Semester Credit Hours (3 Lecture Hours)
A broad overview of electronic commerce topics as they relate to various users. General coverage includes electronic commerce history, opportunities, limitations, and risks. Technical discussions include the internet, intranets, extranets, firewalls, security, protocols, servers, and browsers.
MISY 4341 Management of Healthcare Information Systems
3 Semester Credit Hours (3 Lecture Hours)
This course provides an overview of the knowledge and skills required to manage information for organizations related to healthcare. The course specifically focuses on the practice of acquiring, analyzing and protecting digital and traditional information vital to providing quality patient care. Some of the topics that are covered include: evolution of health care information systems (HCIS), components and basic HCIS functions, technology infrastructure for healthcare organizations, basic concepts such as electronic health records (HER), health information exchange (HIE), computerized physician order entry (CPOE), clinical decision support systems (CDSS), hospital incident command systems (HICS) and standards such as HIPPA, HL7, and digital imaging and communications in medicine (DICOM). Other topics include strategic information systems planning for healthcare organizations, systems analysis and project management, information security and privacy issues, and the roles of HCIS professionals in health organizations.
Prerequisite: (MISY 3310).

MISY 4345 Information Security and Privacy in Healthcare
3 Semester Credit Hours (3 Lecture Hours)
This course provides an overview of the knowledge and skills required to manage information privacy and security for organizations related to healthcare. It focuses on best practices for healthcare information security and privacy with detailed coverage of essential topics such as information governance, roles and occupations, risk assessment and management, incident response, patient rights, healthcare responsibilities, cyberattacks and cybersecurity. Topics also include relevant laws and regulations and other aspects of information security and privacy, with emphasis on real-life scenarios in clinical practices and business operations in healthcare.
Prerequisite: (MISY 3310).

MISY 4350 Business Intelligence and Analytics
3 Semester Credit Hours (3 Lecture Hours)
Overview of important concepts of business intelligence, and the use of analytics, technologies, applications and processes used by organizations to gain data-driven insights. These insights and predictions can be used to aid decision-making and performance management across functional areas, including marketing, operations, and finance. Students will learn to extract and manipulate data, and create reports, scorecards and dashboards, including mobile apps.
MISY 4365 Data Warehousing and Data Mining for Business Intelligence
3 Semester Credit Hours (3 Lecture Hours)
In the information age, organizations can and do collect massive amounts of data. Yet organizations are often "data rich" but "information and knowledge poor". This course is designed to prepare business professionals who, by using analytical methods and data mining and data visualization tools will be able to harness the potential of data by extracting business intelligence that can be used to improve decisions and operations at various points in the value chain.
Prerequisite: MISY 2305, 3330 and ORMS 3310.

MISY 4366 Data Analytics for Healthcare Management
3 Semester Credit Hours (3 Lecture Hours)
The goal of this course is to prepare business professionals to extract business intelligence to improve decisions and operations in organizations, especially in the healthcare industry, at various points in the value chain. Data mining methods covered include multiple linear regression, k-nearest neighbor, classification and regression trees, logistic regression, discriminant analysis, artificial neural networks, association rules, cluster analysis and text mining. Areas in healthcare include healthcare market basket analysis, churn analysis for hospitals and insurance companies, health insurance fraud detection, readmission assessment, personalization of treatment regimen, patient risk management and performance-based payment analysis. Students should have a background in database and statistics. The focus will be less on statistical mathematics and more on the application of data mining methods using software tools.
Prerequisite: (MISY 2305, 3330, ORMS 3310 and MISY 4341).

MISY 4375 IT Project Management
3 Semester Credit Hours (3 Lecture Hours)
This course covers issues related to managing projects in organizations. The course focuses on the management of projects and working as a team. Students are expected to draw on materials from other management information system courses, especially the System Analysis and Design, and Database Management courses.
Prerequisite: MISY 3330.

MISY 4390 Current Topics in Management Information Systems
1-3 Semester Credit Hours (1-3 Lecture Hours)
Selected topics for special study related to management information systems.

MISY 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and a final report.

MISY 4398 Internship in Management Information Systems
1-3 Semester Credit Hours
Supervised practical experience in business computer systems.

Management, BBA
Program Description
The major is designed to provide entry-level knowledge, skills, and concepts for general management. Management majors take a common core of management courses. These courses provide a basic understanding of the nature of organizations, effective acquisition and utilization of human and physical resources, and the skills required to carry out the managerial functions of planning, organizing, directing, and controlling.

A sound background in management fundamentals, coupled with applied classroom experiences, can accelerate an individual’s progress in obtaining positions of greater responsibility. Students completing the major will be better prepared to handle supervisory or managerial positions in profit, not-for-profit, and governmental organizations.

Complete the Business Foundation Curriculum in the freshman and sophomore years.
BBA Student Learning Goals and Objectives

- G1. To Be Effective Communicators
  - 01. Students will demonstrate the ability to identify the proper message purpose, select appropriate organization, provide sufficient supporting details, and use effective mechanics.
  - 02. Students will demonstrate the ability to prepare (content, presentation and media) and deliver (verbally and nonverbally) a professional presentation.

- G2. To Be Competent in Business Practices
  - 01. Students will demonstrate knowledge of key business theories and concepts and will apply these business theories and concepts correctly.
  - 02. Students demonstrate the ability to incorporate theories, concepts, and practices across multiple disciplines to produce practical answers.
  - 03. Students will effectively analyze data.

- G3. To Be Good Decision Makers
  - 01. Students will demonstrate the ability to identify valid, reliable and important information applicable to the issue being studied.
  - 02. Students will demonstrate the ability to analyze multiple responses to issues.
  - 03. Students will demonstrate the ability to determine and support an appropriate decision.

- G4. To Be Good Citizens
  - 01. Students will demonstrate the ability to identify ethical concepts.

In addition, all Management Majors will demonstrate knowledge of key Management theories and concepts, and will apply these Management theories and concepts correctly.

BBA General Management Online Completion

The major is designed to provide entry-level knowledge, skills, and concepts for general management. Management majors take a common core of management courses. These courses provide a basic understanding of the nature of organizations, effective acquisition and utilization of human and physical resources, and the skills required to carry out the managerial functions of planning, organizing, directing, and controlling. The general management Online Completion students will broaden their understanding of these basic concepts in their advanced courses. An On-Campus format provides a mix of online, face-to-face, and blended courses. An Online completion format provides 60 hours of online courses. The course schedule for the Online BBA General Management option may differ from on-campus course offerings.

Entry Requirements

Applicants who have completed 42 hours with a GPA of 2.0 or higher may be accepted into the Online General Management BBA Completion Program. Students may transition into the upper division course sequence as they complete the University Core Curriculum and 60 hours including the following courses or their equivalents:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 2302</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

ECON 2302 | Microeconomics Principles * | 3     |
MISY 2305 | Computer Applications in Business * | 3     |
MATH 1325 | Calculus for Business & Social Sciences (Higher level mathematics course may be accepted as substitute with approval) | 3     |

Non-Business elective | 3

All Business majors are required to complete the following courses as part of their University Core Curriculum Program:

- ECON 2301 | Macroeconomics Principles * | 3
- MATH 1324 | Mathematics for Business and Social Sciences (Higher level mathematics course may be accepted as a substitute with approval) | 3

• Online offering

General Requirements for BBA Degree

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
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<tr>
<td>Business Core</td>
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<tr>
<td>Management Major Requirements</td>
<td>24</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>120-122</td>
</tr>
</tbody>
</table>

1 Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>ECON 2301</td>
<td>Macroeconomics Principles *</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1324</td>
<td>Mathematics for Business and Social Sciences 1</td>
<td></td>
</tr>
</tbody>
</table>

Business Core

- BUSI 0011 | Cob Student Code of Ethics and Plagiarism 2+       | 0     |
- ACCT 2301 | Financial Accounting                              | 3     |
- ACCT 2302 | Managerial Accounting                             | 3     |
- BLAW 3310 | Legal Environment of Business *                    | 3     |
- BUSI 0088 | Graduation Requirements Review                     | 0     |
- ECON 2302 | Microeconomics Principles *                        | 3     |
- FINA 3310 | Financial Management                              | 3     |
- MATH 1325 | Calculus for Business & Social Sciences 1          |       |
- MGMT 3310 | Principles of Management                          | 3     |
- MGMT 3315 | Business Communications *                          | 3     |
- MGMT 4388 | Business Strategy *                                | 3     |
- MISY 2305 | Computer Applications in Business *                | 3     |
General Requirements for BBA Online Completion

Requirements | Credit Hours
---|---
Business Core | 30
Management Major Requirements | 12
Management Electives | 12
Business Electives | 6
**Total Credit Hours** | **60**

Online Program Requirements
(all available Online)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSI 0011</td>
<td>Cob Student Code of Ethics and Plagiarism</td>
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</tr>
<tr>
<td>BLAW 3310</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUSI 0088</td>
<td>Graduation Requirements Review</td>
<td>0</td>
</tr>
<tr>
<td>FINA 3310</td>
<td>Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 3310</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 3315</td>
<td>Business Communications</td>
<td>3</td>
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<tr>
<td>MGMT 4315</td>
<td>Multinational Management</td>
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<td>MGMT 4388</td>
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<td>MISC 310</td>
<td>Management Information Systems Concepts</td>
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<tr>
<td>MKTG 3310</td>
<td>Principles of Marketing</td>
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</tr>
<tr>
<td>OPSY 4314</td>
<td>Operations Management</td>
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</tr>
<tr>
<td>ORMS 3310</td>
<td>Data Analysis and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 4396</td>
<td>Directed Individual Study</td>
<td>3</td>
</tr>
</tbody>
</table>

Management Major

| MGMT 3318 | Organizational Behavior | 3 |
| MGMT 3320 | Human Resource Management | 3 |
| MGMT 3350 | Business Ethics and Decision Making | 3 |
| MGMT 4320 | Leadership Development | 3 |

Management Electives Requirements

Select 12 hours from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 3355</td>
<td>Organization Change</td>
<td></td>
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<tr>
<td>MGMT 3360</td>
<td>Social Entrepreneurship</td>
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</tr>
<tr>
<td>MGMT 3370</td>
<td>Entrepreneurship, Creativity, &amp; Innovation</td>
<td></td>
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<tr>
<td>MGMT 4305</td>
<td>Organization Staffing</td>
<td></td>
</tr>
<tr>
<td>MGMT 4350</td>
<td>Small and Family Business</td>
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<tr>
<td>MGMT 4370</td>
<td>New Venture Creation</td>
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<tr>
<td>MGMT 4385</td>
<td>Strategic Human Resource Management</td>
<td></td>
</tr>
<tr>
<td>MGMT 4390</td>
<td>Current Topics in Management</td>
<td></td>
</tr>
<tr>
<td>MGMT 4396</td>
<td>Directed Individual Study</td>
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</tr>
<tr>
<td>MGMT 4398</td>
<td>Internship in Management</td>
<td></td>
</tr>
</tbody>
</table>

Electives

| Upper-level Business Elective | 3 |
| Business Elective | 3 |
| Non-Business Elective | 3 |

**Total Hours** | **122**

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1 Higher level mathematics course may be accepted as a substitute with approval.
2 All Business Majors and Minors must complete BUSI 0011 Cob Student Code of Ethics and Plagiarism (0 sch) before or during their first semester enrolled in upper-division Business courses.
3 ACCT 3315 Multinational Entities: Accounting and Consolidations (3 sch) may be taken as either International Business Course or as an Accounting Elective but not both.
4 Students should choose electives that fit their interests and career aspirations. Please be aware that courses cannot be counted as part of the Core Requirements and again as a Management Elective.

* Online offering
^ Blended offering

Note:

Course prerequisites are strictly enforced.
### Course Sequencing

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
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</tr>
<tr>
<td>BUSI 0011</td>
<td>Cob Student Code of Ethics and Plagiarism</td>
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<tr>
<td>Creative Arts Core Requirement</td>
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<tr>
<td>ECON 2301</td>
<td>Macroeconomics Principles</td>
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<tr>
<td>ENGL 1302</td>
<td>Writing and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1301</td>
<td>U.S. History to 1865</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Science Core Requirement</td>
<td>3</td>
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</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
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<tr>
<td><strong>Hours</strong></td>
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<td></td>
</tr>
<tr>
<td>Spring</td>
<td></td>
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</tr>
<tr>
<td>COMM 1311</td>
<td>Foundation of Communication</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2302</td>
<td>Microeconomics Principles</td>
<td>3</td>
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<tr>
<td>Language, Philsopshy &amp; Culture Core Requirement</td>
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<td>MATH 1324</td>
<td>Mathematics for Business and Social Sciences</td>
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<td>UNIV 1102</td>
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<td><strong>Hours</strong></td>
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<td><strong>Second Year</strong></td>
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<tr>
<td>Fall</td>
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<td>ACCT 2301</td>
<td>Financial Accounting</td>
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<tr>
<td>Business Elective</td>
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<tr>
<td>Component Area Option Core Requirement</td>
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<tr>
<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences</td>
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<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
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<tr>
<td><strong>Hours</strong></td>
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<tr>
<td>Spring</td>
<td></td>
<td></td>
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<tr>
<td>ACCT 2302</td>
<td>Managerial Accounting</td>
<td>3</td>
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<tr>
<td>Component Area Option Core Requirement</td>
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<tr>
<td>Life &amp; Physical Science Core Requirement</td>
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<td>MISY 2305</td>
<td>Computer Applications in Business</td>
<td>3</td>
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<tr>
<td>POLS 2306</td>
<td>State and Local Government</td>
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<tr>
<td><strong>Third Year</strong></td>
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<tr>
<td>Fall</td>
<td></td>
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<tr>
<td>MGMT 3310</td>
<td>Principles of Management</td>
<td>3</td>
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<tr>
<td>MGMT 3315</td>
<td>Business Communications</td>
<td>3</td>
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<tr>
<td>FINA 3310</td>
<td>Financial Management</td>
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<tr>
<td>BLAW 3310</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 3310</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
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<td></td>
</tr>
<tr>
<td>MGMT 3320</td>
<td>Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 3318</td>
<td>Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MISY 3310</td>
<td>Management Information Systems Concepts</td>
<td>3</td>
</tr>
<tr>
<td>ORMS 3310</td>
<td>Data Analysis and Statistics</td>
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<tr>
<td>International Business Course</td>
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<tr>
<td><strong>Hours</strong></td>
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</tr>
</tbody>
</table>

### Courses

#### Fourth Year

**Fall**
- MGMT 3350 Business Ethics and Decision Making | 3
- Management Elective | 3
- OPSY 4314 Operations Management | 3
- Non Business Elective | 3
- Management Elective | 3

**Hours** | 15

**Spring**
- Management Elective | 3
- Management Elective | 3
- MGMT 4320 Leadership Development | 3
- Upper Level Business Elective | 3
- MGMT 4388 Business Strategy | 3

**Hours** | 15

**Total Hours** | 122

#### MGMT 3310 Principles of Management
3 Semester Credit Hours (3 Lecture Hours)
Explores fundamental management principles and theories of organizations. Emphasis is placed on the basic functions of management: planning, organizing, directing, and controlling. Topics include the external environment, ethics, international management, decision making, organizational structure, human resource management and diversity, motivation, group dynamics, and control mechanisms.

**Prerequisite:** BUSI 0011.

#### MGMT 3315 Business Communications
3 Semester Credit Hours (3 Lecture Hours)
Introduces the fundamentals of effective communication in business and administration. Emphasis is placed on the application of modern techniques to business writing, professional presentations, group communications, verbal communications, nonverbal communications, and listening.

**Prerequisite:** BUSI 0011.

#### MGMT 3318 Organizational Behavior
3 Semester Credit Hours (3 Lecture Hours)
Introduces factors that influence interactions between individuals and groups in work environments. Topics include individual differences and diversity, motivation, leadership, power and influence, conflict, organizational culture, stress, and teams.

**Prerequisite:** MGMT 3310.

#### MGMT 3320 Human Resource Management
3 Semester Credit Hours (3 Lecture Hours)
Explores the comprehensive set of managerial activities carried out in organizations to develop and maintain a qualified workforce. Topics include the legal environment, recruitment, selection, training, employee appraisals, compensation systems, and employer relations.

**Prerequisite:** MGMT 3310.

#### MGMT 3350 Business Ethics and Decision Making
3 Semester Credit Hours (3 Lecture Hours)
Historical and contemporary views of business as a social institution; focus is on the nature of ethics and the utilization of codes of ethics, decision-making processes, critical thinking, and creative problem solving.

**Prerequisite:** MGMT 3310.
MGMT 3355 Organization Change
3 Semester Credit Hours (3 Lecture Hours)
An in-depth study of group and organization-wide interventions designed to improve the group and organization's ability to cope with change and manage continuous improvement. Emphasis is on developing processes to improve group dynamics, organization-wide health and effectiveness, and on a systems approach to diagnosing and solving problems.
Prerequisite: MGMT 3310.

MGMT 3360 Social Entrepreneurship
3 Semester Credit Hours (3 Lecture Hours)
Introduces the theory and practice of mission-driven organizations. Emphasis is on understanding unmet social needs and opportunities and creating a viable sustainable social venture.
Prerequisite: MGMT 3310.

MGMT 3370 Entrepreneurship, Creativity, & Innovation
3 Semester Credit Hours (3 Lecture Hours)
The student will learn the description and analysis of the characteristics that produce creative opportunities and commercially sustainable innovations. This will include learning about the personal and organizational characteristics, business and societal planning tools, and practices of entrepreneurs. Factors inside and outside the entrepreneurial firm that influence creativity and innovation are also considered as they affect successful business decisions.
Prerequisite: MGMT 3310.

MGMT 3305 Organization Staffing
3 Semester Credit Hours (3 Lecture Hours)
Examines the concepts, methods, and problems encountered in the development, validation, and utilization of employee recruitment, selection, training, and career development. Legal defensibility, and organizational effectiveness of staffing and development will be discussed.
Prerequisite: MGMT 3320.

MGMT 4315 Multinational Management
3 Semester Credit Hours (3 Lecture Hours)
A study of management processes and their application across different cultural, economic and legal environments. The course focuses on differences among values, beliefs, perceptions, attitudes and behaviors across national and cultural boundaries that affect the employee work and performance.
Prerequisite: MGMT 3310.

MGMT 4320 Leadership Development
3 Semester Credit Hours (3 Lecture Hours)
A study of traditional and contemporary leadership models, styles, and practices. Focuses on self-assessment and the characteristics of leaders important to effective leadership outcomes.
Prerequisite: MGMT 3310.

MGMT 4350 Small and Family Business
3 Semester Credit Hours (3 Lecture Hours)
Examines the entrepreneurial aspects and the ongoing management of a small and family business enterprises, with a focus on achieving and sustaining competitive advantage. Additional topics include the unique aspects of family business, leadership, decision-making, management, marketing, financial controls and other mission-critical processes.
Prerequisite: MGMT 3310.

MGMT 4370 New Venture Creation
3 Semester Credit Hours (3 Lecture Hours)
New venture creation teaches students how to analyze the feasibility of a new product, service or innovation within the entrepreneurial organization. Students learn to develop business plans necessary for the creation of start-up enterprise to include specific business practices, finances, and obligations of the firms created and maintained by entrepreneurs. Factors inside and outside the entrepreneurial enterprise are researched and analyzed as they affect successful new venture business decisions.

MGMT 4385 Strategic Human Resource Management
3 Semester Credit Hours (3 Lecture Hours)
An examination of the issues important to human resource planning. Emphasis is on the processes and activities used to develop human resource objectives, practices, and policies to meet the needs and opportunities of an organization and improve organizational effectiveness.
Prerequisite: MGMT 3320.

MGMT 4388 Business Strategy
3 Semester Credit Hours (3 Lecture Hours)
Analytical process and methodology for policy-strategy formulation, approached as a multi-level, integrative process. Analysis focused on integration of skills and competencies acquired through the BBA program.

MGMT 4390 Current Topics in Management
1-3 Semester Credit Hours (3 Lecture Hours)
Selected topics for special study related to management functions, processes or issues. May be repeated for credit when topics vary.

MGMT 4396 Directed Individual Study
1-3 Semester Credit Hours (3 Lecture Hours)
Individual supervised study and a final report.

MGMT 4398 Internship in Management
3 Semester Credit Hours (3 Lecture Hours)
Supervised full-time or part-time, off-campus training in business or government organization. Oral and written reports required.

Marketing, BBA

Program Description
The marketing curriculum is designed to help students prepare for careers in fields such as retailing, distribution, marketing research, advertising, and personal selling. The program provides knowledge and competencies that facilitate acquiring and succeeding in entry-level positions and moving into marketing management positions or business ownership. Emphasis is on development of analytical skills adequate for and appropriate to professional marketing activities in a highly competitive global market place. Marketing courses stress problem solving and decision making and the development and implementation of competitive policies and strategies.

Complete the Business Foundation Curriculum in the freshman and sophomore years.

BBA Student Learning Goals and Objectives

- G1. To Be Effective Communicators
- O1. Students will demonstrate the ability to identify the appropriate message purpose, select appropriate organization,
provide sufficient supporting details, and use effective mechanics.

- G2. To Be Competent in Business Practices
  - O1. Students will demonstrate knowledge of key business theories and concepts and will apply these business theories and concepts correctly.
  - O2. Students demonstrate the ability to incorporate theories, concepts, and practices across multiple disciplines to produce practical answers.
  - O3. Students will effectively analyze data.

- G3. To Be Good Decision Makers
  - O1. Students will demonstrate the ability to identify valid, reliable and important information applicable to the issue being studied.
  - O2. Students will demonstrate the ability to analyze multiple responses to issues.
  - O3. Students will demonstrate the ability to determine and support an appropriate decision.

- G4. To Be Good Citizens
  - O1. Students will demonstrate the ability to identify ethical concepts.

In addition, all Marketing Majors will demonstrate knowledge of key marketing theories and concepts, and the ability to apply these theories and concepts.

### BBA Marketing Online Completion

The marketing curriculum is designed to help students prepare for careers in fields such as retailing, distribution, marketing research, advertising, and personal selling. The program provides knowledge and competencies that facilitate acquiring and succeeding in entry-level positions and moving into marketing management positions or business ownership. Emphasis is on development of analytical skills adequate for and appropriate to professional marketing activities in a highly competitive global market place. Marketing courses stress problem solving and decision making and the development and implementation of competitive policies and strategies. An On-Campus format provides a mix of online, face-to-face, and blended courses. An Online completion format provides 60 hours of online courses. The course schedule for the Online BBA-Marketing option will differ from on-campus course offerings and may not include all course options available to on-campus students.

### Entry Requirements

Applicants who have completed 42 hours with a GPA of 2.0 or higher may be accepted into the Online Marketing BBA Completion Program. Students may transition into the upper division course sequence as they complete the University Core Curriculum and 60 hours including the following courses or their equivalents:

### Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
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<td>ACCT 2302</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2302</td>
<td>Microeconomics Principles *</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1325</td>
<td>Calculus for Business &amp; Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>MISY 2305</td>
<td>Computer Applications in Business *</td>
<td>3</td>
</tr>
<tr>
<td>Non-Business elective</td>
<td></td>
<td>3</td>
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</tbody>
</table>

All Business majors are required to complete the following courses as part of their University Core Curriculum Program:

- ECON 2301 Macroeconomics Principles * 3
- MATH 1324 Mathematics for Business and Social Sciences (Higher level mathematics course may be accepted as a substitute with approval)

* Online offering

### General Requirements for BBA Degree

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
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<tr>
<td>First-Year Seminars (when applicable)*</td>
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<tr>
<td>Electives</td>
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</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>120-122</strong></td>
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</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

### Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<td>ACCT 2302</td>
<td>Managerial Accounting</td>
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<tr>
<td>BLAW 3310</td>
<td>Legal Environment of Business *</td>
<td>3</td>
</tr>
<tr>
<td>BUSI 0088</td>
<td>Graduation Requirements Review</td>
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<td>ECON 2302</td>
<td>Microeconomics Principles *</td>
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<td>MATH 1325</td>
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<td>MGMT 3310</td>
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<tr>
<td>MGMT 3315</td>
<td>Business Communications *</td>
<td>3</td>
</tr>
<tr>
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<td>Business Strategy *</td>
<td>3</td>
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<tr>
<td>MISY 2305</td>
<td>Computer Applications in Business *</td>
<td>3</td>
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<td>MISY 3310</td>
<td>Management Information Systems Concepts **</td>
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<td>MKTG 3310</td>
<td>Principles of Marketing *</td>
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<td>OPSY 4314</td>
<td>Operations Management *</td>
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<td>ORMS 3310</td>
<td>Data Analysis and Statistics *</td>
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### International Business Course

<table>
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Texas A&M University - Corpus Christi Undergraduate Catalog
Select one of the following depending on major: 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>ACCT 3315</td>
<td>Multinational Entities: Accounting and Consolidations (for Accounting Major)</td>
</tr>
<tr>
<td>ECON 3315</td>
<td>International Economic Issues (for Business Economics Major)</td>
</tr>
<tr>
<td>FINA 4315</td>
<td>International Finance (for Finance Major)</td>
</tr>
<tr>
<td>MGMT 4315</td>
<td>Multinational Management (for Management Major)</td>
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<tr>
<td>BUSI 4310</td>
<td>International Business (for all other Majors)</td>
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Marketing Major Requirements

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<th>Title</th>
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<tbody>
<tr>
<td>MKTG 3315</td>
<td>Advertising and Promotional Strategy *</td>
</tr>
<tr>
<td>MKTG 3330</td>
<td>Consumer Behavior *</td>
</tr>
<tr>
<td>MKTG 3333</td>
<td>Digital Marketing *</td>
</tr>
<tr>
<td>MKTG 4320</td>
<td>Marketing Research and Analytics *</td>
</tr>
<tr>
<td>MKTG 4350</td>
<td>Marketing Strategy *</td>
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</table>

Marketing Electives

Select 9 hours from the following: 9

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>MKTG 3311</td>
<td>Professional Selling: Concepts and Practices *</td>
</tr>
<tr>
<td>MKTG 3325</td>
<td>Entrepreneurial Marketing *</td>
</tr>
<tr>
<td>MKTG 3340</td>
<td>Retail Management</td>
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<td>MKTG 3345</td>
<td>Sales Management</td>
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<td>Distribution Systems in Marketing</td>
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<td>MKTG 4340</td>
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<td>MKTG 4360</td>
<td>Social Media Marketing</td>
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<td>MKTG 4396</td>
<td>Directed Individual Study</td>
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<td>MKTG 4398</td>
<td>Internship in Marketing</td>
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Electives

<table>
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<tr>
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<tr>
<td></td>
<td>Non-Business Elective</td>
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</tbody>
</table>

Total Hours 122

1 Higher level mathematics course may be accepted as a substitute with approval.
2 All Business Majors and Minors must complete BUSI 0011 Cob Student Code of Ethics and Plagiarism (0 sch) before or during their first semester enrolled in upper-division Business courses.
3 ACCT 3315 Multinational Entities: Accounting and Consolidations (3 sch) may be taken as either International Business Course or as an Accounting Elective but not both.

* Online offering
^ Blended offering

Note: Course prerequisites are strictly enforced.

General Requirements for BBA Online Completion

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>Business Core</td>
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<td>Marketing Major Requirements</td>
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<td>Marketing Electives</td>
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Business Electives 6

Total Credit Hours 60

Online Program Requirements
(all available Online)

<table>
<thead>
<tr>
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<th>Hours</th>
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<tr>
<td>BLAW 3310</td>
<td>Legal Environment of Business ^</td>
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<tr>
<td>BUSI 0088</td>
<td>Graduation Requirements Review</td>
<td>0</td>
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<tr>
<td>FINA 3310</td>
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<td>MGMT 3310</td>
<td>Principles of Management</td>
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<td>Business Communications</td>
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<td>MGMT 4388</td>
<td>Business Strategy</td>
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<td>MGMT 3330</td>
<td>Consumer Behavior</td>
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<td>MGMT 4350</td>
<td>Marketing Strategy</td>
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<tr>
<td>MGMT 3315</td>
<td>Multinational Management</td>
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<tr>
<td>MKTG 3311</td>
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<tr>
<td>MKTG 3325</td>
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<td>MKTG 3360</td>
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<td>MGMT 4350</td>
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<tr>
<td>MGMT 3370</td>
<td>Entrepreneurship, Creativity, &amp; Innovation *</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 4320</td>
<td>Leadership Development</td>
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</tbody>
</table>

Note: Additional electives may be made available based upon student demand.

Total Hours 60

1 All Business Majors and Minors must complete BUSI 0011 Cob Student Code of Ethics and Plagiarism (0 sch) before or during their first semester enrolled in upper-division Business courses.

* Online offering
^ Blended offering

Course Sequencing

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSI 0011</td>
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<td>ECON 2301</td>
<td>Macroeconomics Principles</td>
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<tr>
<td>ENGL 1302</td>
<td>Writing and Rhetoric</td>
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<td>HIST 1301</td>
<td>U.S. History to 1865</td>
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<tr>
<td>MGMT 3370</td>
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<td>3</td>
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<tr>
<td>MGMT 4320</td>
<td>Leadership Development</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 4396</td>
<td>Management Information Systems Concepts **</td>
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Life & Physical Science Core Requirement 3

Note: Additional electives may be made available based upon student demand.

Total Hours 60
<table>
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<tbody>
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<td>COMM 1311</td>
<td>Foundation of Communication</td>
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<tr>
<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
<td>3</td>
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<tr>
<td>ECON 2302</td>
<td>Microeconomics Principles</td>
<td>3</td>
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<tr>
<td>Lang, Phil &amp; Cult Core Req</td>
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<td>MATH 1324</td>
<td>Mathematics for Business and Social Sciences</td>
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<td>UNIV 1102</td>
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<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
<td>3</td>
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<td>ACCT 2302</td>
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<td>3</td>
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<td>Component Area Option Core Req</td>
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<tr>
<td>Life &amp; Phys Sci Core Req</td>
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<td>MISY 2305</td>
<td>Computer Applications in Business</td>
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<td>POLS 2306</td>
<td>State and Local Government</td>
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<td>Business Communications</td>
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<td>ORMS 3310</td>
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### Courses

**MKTG 3310 Principles of Marketing**
3 Semester Credit Hours (3 Lecture Hours)
The initial course in Marketing. Description and analysis of the flow of goods, services and ideas to consumers and industrial users. Factors outside the firm are also considered as they affect marketing decisions.  
**Prerequisite:** BUSI 0011.

**MKTG 3311 Professional Selling: Concepts and Practices**  
3 Semester Credit Hours (3 Lecture Hours)
An introduction to professional selling as a marketing tool. Emphasis is placed on the theory and application of the professional selling process.

**MKTG 3315 Advertising and Promotional Strategy**  
3 Semester Credit Hours (3 Lecture Hours)
The student will learn about the development and implementation of a coordinated and integrated advertising and promotions strategy. Emphasis is placed on the interrelationships among advertising, sales management, and sales promotion activities.  
**Prerequisite:** MKTG 3310.

**MKTG 3320 Basic Advertising**  
3 Semester Credit Hours (3 Lecture Hours)
Advertising concepts and a critical analysis of commercial advertising practices. Students apply advertising concepts in projects such as case studies, campaign evaluations, and simulation exercises.

**MKTG 3325 Entrepreneurial Marketing**  
3 Semester Credit Hours (3 Lecture Hours)
Entrepreneurial marketing provides entrepreneurs and small business owners with the knowledge needed to successfully perform marketing activities (primarily promotion) on a very low budget. Students will learn the utilization of techniques and the analysis of market characteristics that impact the small entrepreneurial organization, its products and services. Additionally, students will learn how to develop specific yet flexible marketing plans and activities, and the effective management of practices, finances, and obligations associated with the marketing of smaller entrepreneurial firms. Factors inside and outside the firm are researched and analyzed as they affect successful small business marketing decisions.

**MKTG 3330 Consumer Behavior**  
3 Semester Credit Hours (3 Lecture Hours)
An examination of the psychological and social influences that affect consumer decision making. Emphasizes the development of marketing programs designed with behavioral considerations in mind.  
**Prerequisite:** MKTG 3310.
MKTG 3333  Digital Marketing
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to the theories, strategies, tools, and techniques of effective online marketing. The course emphasizes the essential concepts, methods, technologies, and decision making criteria for business-to-business and business-to-consumer Internet marketing. The broad concepts of ethics, social responsibilities, sustainability, and globalization are integrated throughout the course. Topics include online marketing research, business intelligence, Web site design, and Internet marketing strategy.

Prerequisite: MKTG 3310.

MKTG 3345  Sales Management
3 Semester Credit Hours (3 Lecture Hours)
An exploration of the problems and practices of sales and sales management. Organizational structure and development of programs to assure a competent and effective sales force are stressed.
Prerequisite: MKTG 3310.

MKTG 4310  Distribution Systems in Marketing
3 Semester Credit Hours (3 Lecture Hours)
An analysis of the development of integrated distribution systems. Topics include retail and wholesale institutions, channel conflict and cooperation, channel control, franchising and emerging developments in distribution channels.
Prerequisite: MKTG 3310.

MKTG 4320  Marketing Research and Analytics
3 Semester Credit Hours (3 Lecture Hours)
The study of research in marketing with emphasis on the collection and interpretation of data and its application to the solution of marketing problems.
Prerequisite: ORMS 3310 and MKTG 3310.

MKTG 4340  International Marketing
3 Semester Credit Hours (3 Lecture Hours)
A study of the economic, social and cultural environment of international marketing. The course focuses on marketing decision making in this environment.
Prerequisite: MKTG 3310.

MKTG 4350  Marketing Strategy
3 Semester Credit Hours (3 Lecture Hours)
The study and application of the strategic marketing planning process to realistic business situations. Topics include: strategies for growth and competitive advantage; market segmentation, targeting and positioning; marketing mix strategies and tactics; customer satisfaction and relationship building; and evaluation and control of marketing strategies. Attention to ethical considerations in marketing and a triple bottom line (TBL) evaluation of marketing outcomes.
Prerequisite: MKTG 3310.

MKTG 4360  Social Media Marketing
3 Semester Credit Hours (3 Lecture Hours)
A comprehensive study of Social Marketing strategy and implementation. The course explores the tools, techniques, and strategic logic used in the development and implementation of social media marketing strategy. The course also describes and defines the logic models used for specific plans and programs that affect and are affected by the technology and competitive environments.
Prerequisite: MKTG 3310.

MKTG 4390  Special Topics in Marketing
1-3 Semester Credit Hours (3 Lecture Hours)
Selected topics for special study related to marketing functions, processes, or issues. May be repeated for credit when topics vary.

MKTG 4396  Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and a final report.

MKTG 4398  Internship in Marketing
3 Semester Credit Hours
Supervised full-time or part-time, off-campus training in business or government organization. Oral and written reports required.

Certificate Programs

Entrepreneurship & Innovation, Certificate

Program Description
Knowing how to integrate innovation into a student's chosen profession is crucial for creating thriving communities and careers. The Entrepreneurship & Innovation Certificate Program will teach the essential skills and effective strategies for enhancing working experiences and for starting new opportunities. In classes designed to engage and inspire idea generation, students will learn how to solve problems, seize opportunities, and move from idealized dreams to tangible ventures.

Student Learning Outcomes

The Student Will Benefit From:

• Understanding how to transform ideas into feasible commercial opportunities.
• A wider set of innovation skills that are designed to fit any profession or career path.
• Exposure to the most current practice and theory on innovation and entrepreneurship.
• Insights about the entrepreneurial process and entrepreneurial competencies needed to succeed in a highly competitive global economy.
• The joy of learning how to transform their passion into the source of their livelihood.

The Student Should Enroll If:

• There is a desire to be independent.
• Is creative and innovative.
• There is an interest in starting their own venture or enhancing their career.
• They are leaders wishing to solve problems for the betterment of their communities.
Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 3370</td>
<td>Entrepreneurship, Creativity, &amp; Innovation</td>
<td>3</td>
</tr>
</tbody>
</table>
| One Semester Hour Project focused on entrepreneurial project:
  MGMT 4396 | Directed Individual Study | 1     |

Electives

Select one of the following:

- MGMT 3360 Social Entrepreneurship *
- MGMT 4350 Small and Family Business
- MGMT 4370 New Venture Creation
- MGMT 4390 Current Topics in Management
- MKTG 3325 Entrepreneurial Marketing *
- MKTG 4360 Social Media Marketing *

Total Hours 7

* Online offering

The student will receive a printed certificate upon completion of the course work. Completion of the certificate will not appear on the student's transcript. All course work will be included on the student's transcript.

Course Sequencing

Certificate Coordinator: Dr. Randall Harris

Students should take the courses in the following sequence to complete in the most timely manner:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>MGMT 3370 Entrepreneurship, Creativity, &amp; Innovation</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>MKTG 4360 Social Media Marketing</td>
<td>3</td>
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<tr>
<td>Or another elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Second Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>MGMT 4396 Directed Individual Study</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Hours 7

Courses

MGMT 3310 Principles of Management
3 Semester Credit Hours (3 Lecture Hours)

Explores fundamental management principles and theories of organizations. Emphasis is placed on the basic functions of management: planning, organizing, directing, and controlling. Topics include the external environment, ethics, international management, decision making, organizational structure, human resource management and diversity, motivation, group dynamics, and control mechanisms.

Prerequisite: BUSI 0011.

MGMT 3315 Business Communications
3 Semester Credit Hours (3 Lecture Hours)

Introduces the fundamentals of effective communication in business and administration. Emphasis is placed on the application of modern techniques to business writing, professional presentations, group communications, verbal communications, nonverbal communications, and listening.

Prerequisite: BUSI 0011.

MGMT 3318 Organizational Behavior
3 Semester Credit Hours (3 Lecture Hours)

Introduces factors that influence interactions between individuals and groups in work environments. Topics include individual differences and diversity, motivation, leadership, power and influence, conflict, organizational culture, stress, and teams.

Prerequisite: MGMT 3310.

MGMT 3320 Human Resource Management
3 Semester Credit Hours (3 Lecture Hours)

Explores the comprehensive set of managerial activities carried out in organizations to develop and maintain a qualified workforce. Topics include the legal environment, recruitment, selection, training, employee appraisals, compensation systems, and employer relations.

Prerequisite: MGMT 3310.

MGMT 3350 Business Ethics and Decision Making
3 Semester Credit Hours (3 Lecture Hours)

Historical and contemporary views of business as a social institution; focus is on the nature of ethics and the utilization of codes of ethics, decision-making processes, critical thinking, and creative problem solving.

Prerequisite: MGMT 3310.

MGMT 3355 Organization Change
3 Semester Credit Hours (3 Lecture Hours)

An in-depth study of group and organization-wide interventions designed to improve the group and organization's ability to cope with change and manage continuous improvement. Emphasis is on developing processes to improve group dynamics, organization-wide health and effectiveness, and on a systems approach to diagnosing and solving problems.

Prerequisite: MGMT 3310.

MGMT 3360 Social Entrepreneurship
3 Semester Credit Hours (3 Lecture Hours)

Introduces the theory and practice of mission-driven organizations. Emphasis is on understanding unmet social needs and opportunities and creating a viable sustainable social venture.

Prerequisite: MGMT 3310.

MGMT 3370 Entrepreneurship, Creativity, & Innovation
3 Semester Credit Hours (3 Lecture Hours)

The student will learn the description and analysis of the characteristics that produce creative opportunities and commercially sustainable innovations. This will include learning about the personal and organizational characteristics, business and societal planning tools, and practices of entrepreneurs. Factors inside and outside the entrepreneurial firm that influence creativity and innovation are also considered as they affect successful business decisions.

Prerequisite: MGMT 3310.
MGMT 4305 Organization Staffing  
3 Semester Credit Hours (3 Lecture Hours)  
Examines the concepts, methods, and problems encountered in the development, validation, and utilization of employee recruitment, selection, training, and career development. Legal defensibility, and organizational effectiveness of staffing and development will be discussed.  
Prerequisite: MGMT 3320.

MGMT 4315 Multinational Management  
3 Semester Credit Hours (3 Lecture Hours)  
A study of management processes and their application across different cultural, economic and legal environments. The course focuses on differences among values, beliefs, perceptions, attitudes and behaviors across national and cultural boundaries that affect the employee work and performance.  
Prerequisite: MGMT 3310.

MGMT 4320 Leadership Development  
3 Semester Credit Hours (3 Lecture Hours)  
A study of traditional and contemporary leadership models, styles, and practices. Focuses on self-assessment and the characteristics of leaders important to effective leadership outcomes.  
Prerequisite: MGMT 3310.

MGMT 4350 Small and Family Business  
3 Semester Credit Hours (3 Lecture Hours)  
Examines the entrepreneurial aspects and the ongoing management of a small and family business enterprises, with a focus on achieving and sustaining competitive advantage. Additional topics include the unique aspects of family business, leadership, decision-making, management, marketing, financial controls and other mission-critical processes.  
Prerequisite: MGMT 3310.

MGMT 4370 New Venture Creation  
3 Semester Credit Hours (3 Lecture Hours)  
New venture creation teaches students how to analyze the feasibility of a new product, service or innovation within the entrepreneurial organization. Students learn to develop business plans necessary for the creation of start-up enterprise to include specific business practices, finances, and obligations of the firms created and maintained by entrepreneurs. Factors inside and outside the entrepreneurial enterprise are researched and analyzed as they affect successful new venture business decisions.

MGMT 4385 Strategic Human Resource Management  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of the issues important to human resource planning. Emphasis is on the processes and activities used to develop human resource objectives, practices, and policies to improve organizational effectiveness.  
Prerequisite: MGMT 3320.

MGMT 4388 Business Strategy  
3 Semester Credit Hours (3 Lecture Hours)  
Analytical process and methodology for policy-strategy formulation, approached as a multi-level, integrative process. Analysis focused on integration of skills and competencies acquired through the BBA program.

MGMT 4390 Current Topics in Management  
1-3 Semester Credit Hours (3 Lecture Hours)  
Selected topics for special study related to management functions, processes or issues. May be repeated for credit when topics vary.

MGMT 4396 Directed Individual Study  
1-3 Semester Credit Hours (3 Lecture Hours)  
Individual supervised study and a final report.

MGMT 4398 Internship in Management  
3 Semester Credit Hours (3 Lecture Hours)  
Supervised full-time or part-time, off-campus training in business or government organization. Oral and written reports required.

International Business, Certificate

Program Description
(for Business and Non-Business Majors)

This certificate provides students with exposure to the global dimension of business. Exploration of global ideas and issues provides students with the knowledge and skills that enhance their ability to compete in today’s complex work environment.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Required Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select at least two of the following:</td>
<td></td>
</tr>
<tr>
<td>ACCT 3315</td>
<td>Multinational Entities: Accounting and Consolidations*</td>
<td>6</td>
</tr>
<tr>
<td>ECON 3315</td>
<td>International Economic Issues</td>
<td></td>
</tr>
<tr>
<td>FINA 4315</td>
<td>International Finance</td>
<td></td>
</tr>
<tr>
<td>MGMT 4315</td>
<td>Multinational Management*</td>
<td></td>
</tr>
<tr>
<td>MKTG 4340</td>
<td>International Marketing</td>
<td></td>
</tr>
<tr>
<td>BUSI 4310</td>
<td>International Business</td>
<td></td>
</tr>
<tr>
<td>Total Hours</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

* Online offering

In addition, the student must participate in a College of Business qualified international travel experience as part of their academic degree.

The student will receive a printed certificate from the College of Business upon completion of the requirements. Completion of the certificate will not appear on the student’s transcript. All course work will be included on the student’s transcript.

Course Sequencing

Certificate Coordinator: Dr. Randall Harris

Students should take the courses in the following sequence to complete in the most timely manner:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Year</td>
<td></td>
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<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MGMT 4315</td>
<td>Multinational Management*</td>
<td>3</td>
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<tr>
<td>Or equivalent</td>
<td></td>
<td></td>
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<tr>
<td>Hours</td>
<td></td>
<td>3</td>
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<tr>
<td></td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>ECON 3315</td>
<td>International Economic Issues</td>
<td>3</td>
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<tr>
<td>Or equivalent</td>
<td></td>
<td></td>
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<tr>
<td>Hours</td>
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<td>3</td>
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</tbody>
</table>
Second Year
Fall

Qualified International Travel Experience

<table>
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<tr>
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<thead>
<tr>
<th>Total Hours</th>
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</thead>
<tbody>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

Courses

BUSI 0010 Orientation to Online Learning
0 Semester Credit Hours
This non-credit, no-cost, self-paced web-based course introduces new online MBA and new online Master of Accountancy students to successful online learning practices and the Blackboard Learn environment.

BUSI 0011 Cob Student Code of Ethics and Plagiarism
0 Semester Credit Hours
The emphasis of this non-credit, web-based course is educational. It covers the provisions in the COB Student Code of Ethics and covers information related to the issue of plagiarism. It prepares business majors to successfully complete an online test to meet a requirement for graduation.

BUSI 0088 Graduation Requirements Review
0 Semester Credit Hours
The purpose of this non-credit, web-based course is educational. This no cost course provides important information to prepare students for a successful progression toward graduation.

Prerequisite: MGMT 3312.
Co-requisite: MGMT 3312.

BUSI 1310 Introduction to the Business Environment
3 Semester Credit Hours (3 Lecture Hours)
An overview of the nature of business and its environment. Emphasizes the dynamic role of business in everyday life and its importance to society. Not open to Juniors or Seniors majoring in business.

TCCNS: BUSI 1301

BUSI 4310 International Business
3 Semester Credit Hours (3 Lecture Hours)
An understanding of international business including its importance in today's world, the evolution of international institutions and the monetary system, the differences and similarities among nations and cultures, and the special characteristics of the business functions in a global setting.

Minors

- Accounting, Minor (p. 85)
- Business Administration, Minor (p. 86)
- Economics, Minor (p. 87)
- Entrepreneurship, Minor (p. 89)
- Finance, Minor (p. 89)
- Human Resource Management, Minor (p. 91)
- International Business, Minor (p. 92)
- Management Information Systems, Minor (p. 93)
- Management, Minor (p. 95)
- Marketing, Minor (p. 96)

Accounting, Minor
Program Description
(for Non-accounting Majors)

The minor in Accounting is designed to serve non-accounting majors who are interested in supplementing their major with an accounting dimension. A minimum of 12 hours must be taken at Texas A&M University-Corpus Christi. For additional information, contact the academic advisor in the College of Business.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 2302</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3311</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3312</td>
<td>Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3314</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3321</td>
<td>Federal Income Tax I</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours 18

1 See course descriptions for prerequisites.

Online offering

Courses

ACCT 2301 Financial Accounting
3 Semester Credit Hours (3 Lecture Hours)

TCCNS: ACCT 2301

ACCT 2302 Managerial Accounting
3 Semester Credit Hours (3 Lecture Hours)
The use of accounting information as an aid to management decision making, including performance measurement and budgets.

Prerequisite: ACCT 2301.

TCCNS: ACCT 2302

ACCT 3311 Intermediate Accounting I
3 Semester Credit Hours (3 Lecture Hours)
An intensive study of the balance sheet accounts and the related income statement accounts. It exposes the student to the various Accounting Principles Board opinions and Financial Accounting Standards Board statements, and International Financial Reporting standards, as these publications affect the various accounts and transactions. It covers the various working capital accounts and operational assets.

Prerequisite: (ACCT 2301 and 2302).

ACCT 3312 Intermediate Accounting II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of Intermediate Accounting I involving current and non-current liabilities and owner equity accounts, the Statement of Cash Flows, deferred income tax, financial statement analysis and several special problem areas.

Prerequisite: (ACCT 3311).
ACCT 3314  Cost Accounting
3 Semester Credit Hours (3 Lecture Hours)
A study of procedures and concepts in allocating the costs of firm inputs to outputs, determination and use of standard costs in the control function, profit planning and control techniques used in management decision-making. 
Prerequisite: (ACCT 2301 and 2302).

ACCT 3315  Multinational Entities: Accounting and Consolidations
3 Semester Credit Hours (3 Lecture Hours)
A study of the similarities and differences between U.S. and other countries' accounting and reporting procedures. Basic consolidation of international segments will be covered. Use of spreadsheets and web technology required. 
Prerequisite: (ACCT 2301 and 2302).

ACCT 3316  Governmental and Not-for-Profit Accounting
3 Semester Credit Hours (3 Lecture Hours)
A study of fund accounting used in governmental entities and non-profit organizations. Emphasis on budgetary and fund accounts. 
Prerequisite: (ACCT 2301 and 2302).

ACCT 3317  Oil, Gas, & Energy Accounting
3 Semester Credit Hours (3 Lecture Hours)
This course covers the basic principles of oil and gas accounting. Course topics include upstream oil and gas operations, successful efforts accounting, full cost pool accounting, accounting for production, exploration and construction, joint interest accounting, international operations, oil and taxation and analysis of oil and gas financial statements. 
Prerequisite: (ACCT 3311).

ACCT 3321  Federal Income Tax I
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes the role of taxation in the business decision-making process. The course introduces the tools to conduct basic tax research and planning. 
Prerequisite: (ACCT 2301 and 2302).

ACCT 3322  Federal Income Tax II
3 Semester Credit Hours (3 Lecture Hours)
Examines additional, more complex topics in business decision-making, tax research, and tax planning. 
Prerequisite: (ACCT 3321).

ACCT 3340  Fraud Examination
3 Semester Credit Hours (3 Lecture Hours)
This course covers the basic principles of fraud examination. Course topics include the behavioral aspects of fraud and common fraud schemes including skimming, larceny, check tampering, register disbursement schemes, billing schemes, payroll and expense reimbursement, non-cash misappropriations, corruption and bribery, and fraudulent financial statements. 
Prerequisite: (ACCT 2301 and 2302).

ACCT 4311  Auditing Principles and Procedures
3 Semester Credit Hours (3 Lecture Hours)
Auditing principles and techniques underlying the audit process; procedures used in conducting external audits, reviews and compilations. 
Prerequisite: (ACCT 3312).

ACCT 4314  Advanced Accounting Problems
3 Semester Credit Hours (3 Lecture Hours)
A study of advanced accounting topics, including leases, pensions, consolidations, asset retirement obligations, accounting for not-for-profit organizations and government entities and other special problem areas. 
Prerequisite: (ACCT 3312).

ACCT 4345  Ethics for Texas CPA Candidates and Business Executives
3 Semester Credit Hours (3 Lecture Hours)
This course will cover ethical theory, ethical reasoning, integrity, objectivity, independence and other core values and regulatory requirements associated with the practice of professional accounting and decision making of other executives, with an emphasis on corporate governance in the post-Sarbanes-Oxley regulatory environment. This course satisfies the ethics requirement of the Texas State Board of Public Accountancy (TSBPA); however, it does not count for advanced accounting hours required to sit for the CPA exam. Students who receive credit for ACCT 4345 cannot also receive credit for ACCT 5345.

ACCT 4355  Accounting Information Systems
3 Semester Credit Hours (3 Lecture Hours)
A study of the role of accounting information systems and related subsystems in both for profit and not-for-profit entities. The relationship of accounting information systems to other systems, including management information systems, is addressed. Concepts are reinforced by the completion of computer-based projects. 
Prerequisite: (ACCT 2301, 2302 and MISY 2305).

ACCT 4390  Current Topics in Accounting
3 Semester Credit Hours (3 Lecture Hours)
Selected topics for special study related to accounting functions, processes or issues. May be repeated for credit when topics vary. 

ACCT 4396  Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
Individual supervised study and completion of a final report. 

ACCT 4398  Accounting Internship
3 Semester Credit Hours (3 Lecture Hours)
Supervised full-time or part-time, off-campus training in public accounting, industry, or government. Oral and written reports required.

Business Administration, Minor
Program Description
(for Nonbusiness Majors)
The minor is designed to provide a foundation of business knowledge for students who want to complement a nonbusiness bachelor's program with a planned business program. Students who select the minor must establish a record with the academic advisor in the College of Business and be certified by the Dean of the College of Business upon application for graduation. A minimum of 18 hours is required for the minor. At least 12 of these hours must be taken at Texas A&M University-Corpus Christi.

Program Requirements

<table>
<thead>
<tr>
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<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 2302</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3310</td>
<td>Financial Management (or any upper-level FINA class)</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 3310</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
</tbody>
</table>
Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 2301</td>
<td>Macroeconomics Principles 1, *</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2302</td>
<td>Microeconomics Principles</td>
<td>3</td>
</tr>
<tr>
<td>ECON 3310</td>
<td>Intermediate Macroeconomics or ECON 3311</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select three of the following (if not already taken as required courses):</td>
<td>9</td>
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</tr>
<tr>
<td>ECON 3310</td>
<td>Intermediate Macroeconomics</td>
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<tr>
<td>ECON 3311</td>
<td>Intermediate Microeconomics</td>
<td></td>
</tr>
<tr>
<td>ECON 3312</td>
<td>Money and Banking</td>
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</tr>
<tr>
<td>ECON 3315</td>
<td>International Economic Issues</td>
<td></td>
</tr>
<tr>
<td>ECON 3316</td>
<td>Environmental Economics</td>
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<td>ECON 3320</td>
<td>Public Finance</td>
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<td>ECON 3322</td>
<td>Managerial Economics</td>
<td></td>
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<tr>
<td>ECON 4388</td>
<td>History of Economic Thought *</td>
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</tr>
<tr>
<td>ECON 4310</td>
<td>Introduction to Econometrics</td>
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</tbody>
</table>

Total Hours 18

1 Core Curriculum Program
* Online offering

Courses

**ECON 1301 Introduction to Economics**
3 Semester Credit Hours (3 Lecture Hours)
Non-technical introduction to the structure and functioning of the aggregate economy and selected specific markets. Basic concepts regarding how markets function, regulation, monetary and fiscal policy in a macroeconomic context and some special topics of contemporary relevance are studied. Students are introduced to the basic concepts used in the social and behavioral sciences for measuring and interpreting economic and business conditions. This course cannot be taken to fulfill the Business Core or any Business Major requirements. It is recommended that students who might be interested in majoring in business or economics, take either ECON 2301 or ECON 2302 instead.

**TCCNS:** ECON 1301

**ECON 2301 Macroeconomics Principles**
3 Semester Credit Hours (3 Lecture Hours)
An overview of how the economy of the United States is organized and functions in a market price system. Market processes are used to show how resources and incomes are allocated by households and businesses. Determination of national income, employment, price level, interest rates, and growth are the focus of simple analysis techniques. Monetary and fiscal policies are examined including their international dimensions. Satisfies the social and behavioral sciences component of the University core curriculum. A student taking remedial courses in Basic English (ENGL 0399) and/or Mathematics (MATH 0300) is not recommended to take this course concurrently.

**TCCNS:** ECON 2301

**ECON 2302 Microeconomics Principles**
3 Semester Credit Hours (3 Lecture Hours)
Demand and supply, consumer behavior, elasticity, production costs, perfect and imperfect market structures and models of the modern market price system are analyzed. Emphasis is on use of marginal analysis to determine prices, output, income and economic welfare in a market price system. Satisfies the social and behavioral sciences component of the university core curriculum.

**TCCNS:** ECON 2302

**ECON 3310 Intermediate Macroeconomics**
3 Semester Credit Hours (3 Lecture Hours)
Theory of the determination of aggregate income, employment and prices is examined. Focus is on the microeconomic foundations of aggregate demand: consumption, investment, foreign trade, and government. Macroeconomic models from the basic through the complete model are examined for the U.S. and global economies.

**Prerequisite:** (ECON 2301 and 2302).

**ECON 3311 Intermediate Microeconomics**
3 Semester Credit Hours (3 Lecture Hours)
Examines supply and demand analysis, consumption theory, production theory, structure and performance of firms, efficiency of markets, and determination of general welfare in a market price system.

**Prerequisite:** (ECON 2301 and 2302).

**ECON 3312 Money and Banking**
3 Semester Credit Hours (3 Lecture Hours)
Description of the operations of banking and other financial institutions, examination of the basic tenets of monetary theory, analysis of monetary policy and its contribution to economic policy.

**Prerequisite:** (ECON 2301 and 2302).
ECON 3315 International Economic Issues
3 Semester Credit Hours (3 Lecture Hours)
Evaluates and analyzes various contemporary issues in international economics, using elementary economic theory and recent economic and financial data. The course includes issues such as economic integration, regionalization and globalization, international trade issues, the structure and role of international economic organizations, the foreign exchange market, and economic issues in developing countries. 
Prerequisite: (ECON 2301).

ECON 3316 Environmental Economics
3 Semester Credit Hours (3 Lecture Hours)
Uses economic analysis to examine the underlying causes of environmental and natural resource problems, as well as alternative policy issues. The choice of environmental protection goals and the means of achieving them are analyzed and applied to the cases of air pollution (local and global), water pollution, and toxic pollution. The environmental policies of various countries are compared and studied from an economic perspective. 
Prerequisite: (ECON 2301 or 2302).

ECON 3320 Public Finance
3 Semester Credit Hours
This course examines the role that government plays in the economy. The course discusses the conditions for economic efficiency to be achieved and circumstances where a market fails. It also presents the concepts of public goods and the aggregation of individual preferences into collective priorities as expressed by the general public through the political process. Topics include taxation, welfare economics, environmental and health externalities, cost-benefit analysis, and government budget. 
Prerequisite: (ECON 2301 or 2302).

ECON 3322 Managerial Economics
3 Semester Credit Hours (3 Lecture Hours)
Emphasis is on the use of economic principles to make sound business decisions. Students will use economic analysis, knowledge of markets and organizations to address real-world problems. The course emphasizes the role of the business economist as a member of the management team trying to find ways to improve the use of resources available to an organization. 
Prerequisite: (ECON 2302).

ECON 3335 Labor Economics
3 Semester Credit Hours (3 Lecture Hours)
The study of labor theory and labor market processes to explain how household labor decisions are made and how household incomes are determined. The effects of labor market imperfections, and the effects of business decisions and labor unions on labor market outcomes are also evaluated. Provides an overview of the U.S. labor movement, including its impact on federal legislation; labor theory; and contemporary labor issues. The effects of federal legislation are examined, including those on the competitiveness of U.S. labor in a global economy. 
Prerequisite: (ECON 2301 and 2302).

ECON 3340 Healthcare Economics
3 Semester Credit Hours (3 Lecture Hours)
The supply and demand for health services. Markets for health professionals and healthcare provider firms. Discusses the roles of insurance, managed care and HMO’s, professional licensure, for-profit and not-for-profit provider firms, and information problems in health care markets; regulation, government financing of health care and health care reform issues in the U.S. 
Prerequisite: (ECON 2301 and 2302).

ECON 4085 Economics Exit Exam
0 Semester Credit Hours
The Economics Exit Exam (EEE) is an exam given in the Fall and Spring semesters only. It is a graduation requirement for all students with a BBA degree in Economics. Students enroll in this course during the semester that they plan to take the EEE. Admission is limited to students who have completed 90 or more semester credit hours.

ECON 4310 Introduction to Econometrics
3 Semester Credit Hours (3 Lecture Hours)
A study of the analysis of quantitative data, with special emphasis on the application of statistical methods to economic problems. The course covers the theory and practice of ordinary least squares regression, application to economics and finance, and selected special topics. Topics include heteroskedasticity, multicollinearity and autocorrelation, qualitative independent and dependent variables, and simple time-series analysis. 
Prerequisite: (ECON 2301, 2302 and ORMS 3310 or MATH 1342).

ECON 4325 Economics of European Integration
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the economics of Western Europe, and by implication, the economic functions of the institutions of the European Union (EU). Students are introduced to economic policy issues which are currently of concern in the European Union, and the analysis of economic problems which are of particular relevance to European Union member states. These include (but are not limited to) the theory of customs unions, optimal currency area theory, the single market, competition policy, and the external trade and development policies of the EU. 
Prerequisite: (ECON 2301 and 2302).

ECON 4340 Topics in Health Economics and Healthcare Policy
3 Semester Credit Hours (3 Lecture Hours)
Examines some aspects of U.S. healthcare decision making and delivery system from an applied and behavioral economics perspective. Topics selected will show students how to apply the principles of economics to analyze healthcare outcomes and institutional effectiveness, as well as government decision making in healthcare. The scope of this course may include analysis of current trends and topics in the U.S. healthcare industry, the utilization and application quantitative skills required to understand and evaluate performance of healthcare organizations, health outcomes, and current healthcare issues. 
Prerequisite: (ECON 3340).

ECON 4388 History of Economic Thought
3 Semester Credit Hours (3 Lecture Hours)
A consideration of the philosophical basis, historical context, and development of economic thinking. Focuses on pre-20th-century economists—the Mercantilists, the Physiocrats, Adam Smith, David Ricardo, Karl Marx, and early neoclassical economists. Attention is also given to later economists and schools of thought as continuations and modifications of earlier ideas in economics. 
Prerequisite: (ECON 3310 and 3311).

ECON 4390 Current Topics in Economics
1-3 Semester Credit Hours (1-3 Lecture Hours)
Selected topics for special study related to economics, the functioning of the economy or economic issues. May be repeated for credit when topics vary. 
Prerequisite: (ECON 2301).

ECON 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and a final report.
ECON 4398 Internship in Economics
3 Semester Credit Hours
Supervised full-time or part-time, off-campus training in a service, manufacturing, or public sector position. Oral and written reports required.

Entrepreneurship, Minor
Program Description
(for Business and Nonbusiness Majors)
This minor is designed for students who wish to supplement their major with applied course work in the field of entrepreneurship and who would like to explore the possibilities of starting their own business. A minimum of 12 hours must be taken at Texas A & M University-Corpus Christi.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MGMT 3370</td>
<td>Entrepreneurship, Creativity, &amp; Innovation *</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 3325</td>
<td>Entrepreneurial Marketing *</td>
<td>3</td>
</tr>
<tr>
<td>Entrepreneurship Electives</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>MGMT 3360</td>
<td>Social Entrepreneurship</td>
<td></td>
</tr>
<tr>
<td>MGMT 4350</td>
<td>Small and Family Business</td>
<td></td>
</tr>
<tr>
<td>MGMT 4370</td>
<td>New Venture Creation</td>
<td></td>
</tr>
<tr>
<td>College of Business Electives</td>
<td>6</td>
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</tr>
<tr>
<td>BUSI 1310</td>
<td>Introduction to the Business Environment</td>
<td></td>
</tr>
<tr>
<td>BUSI 4310</td>
<td>International Business</td>
<td></td>
</tr>
<tr>
<td>FINA 1307</td>
<td>Personal Finance *</td>
<td></td>
</tr>
<tr>
<td>Total Hours</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

* Online offering

Note:
Business majors may not take BUSI 1310 Introduction to the Business Environment (3 sch) for credit towards the minor.

Courses

BUSI 0010 Orientation to Online Learning
0 Semester Credit Hours
This non-credit, no-cost, self-paced web-based course introduces new online MBA and new online Master of Accountancy students to successful online learning practices and the Blackboard Learn environment.

BUSI 0011 Cob Student Code of Ethics and Plagiarism
0 Semester Credit Hours
The emphasis of this non-credit, web-based course is educational. It covers the provisions in the COB Student Code of Ethics and covers information related to the issue of plagiarism. It prepares business majors to successfully complete an online test to meet a requirement for graduation.

BUSI 0088 Graduation Requirements Review
0 Semester Credit Hours
The purpose of this non-credit, web-based course is educational. This no cost course provides important information to prepare students for a successful progression toward graduation.

Prerequisite: MGMT 3312.
Co-requirement: MGMT 3312.

BUSI 1310 Introduction to the Business Environment
3 Semester Credit Hours (3 Lecture Hours)
An overview of the nature of business and its environment. Emphasizes the dynamic role of business in everyday life and its importance to society. Not open to Juniors or Seniors majoring in business.

TCCNS: BUSI 1301

BUSI 4310 International Business
3 Semester Credit Hours (3 Lecture Hours)
An understanding of international business including its importance in today’s world, the evolution of international institutions and the monetary system, the differences and similarities among nations and cultures, and the special characteristics of the business functions in a global setting.

Finance, Minor
Program Description
(for Business and Nonbusiness Majors)
This minor is designed to serve business and nonbusiness students who are interested in supplementing their major with additional knowledge and skills in the area of Finance. A minimum of 12 hours must be taken at Texas A&M University-Corpus Christi. For additional information, contact the academic advisor in the College of Business.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Required Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACCT 2301</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3310</td>
<td>Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3331</td>
<td>Investments</td>
<td>3</td>
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<tr>
<td>Designated Electives</td>
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<td></td>
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<tr>
<td>Select three of the following:</td>
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<td></td>
</tr>
<tr>
<td>ACCT 3321</td>
<td>Federal Income Tax</td>
<td>3</td>
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<tr>
<td>FINA 3312</td>
<td>Financial Markets and Institutions</td>
<td></td>
</tr>
<tr>
<td>FINA Elective - Upper Division Finance electives (excluding Finance Internship)</td>
<td>3, 6 or 9 sch</td>
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<td>Total Hours</td>
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</tbody>
</table>

1 MATH 1325 Calculus for Business & Social Sciences (3 sch) or MATH 2413 Calculus I (4 sch) are required prerequisite for FINA 3310 Financial Management (3 sch)*.
2 ACCT 2301 Financial Accounting (3 sch), MATH 1325 Calculus for Business & Social Sciences (3 sch) or equivalent is required prerequisite for FINA 3331 Investments (3 sch).
3 ACCT 2301 Financial Accounting (3 sch) and ACCT 2302 Managerial Accounting (3 sch) are required prerequisites for ACCT 3321 Federal Income Tax I (3 sch)*.
* Online offering
Other Requirements
A minimum of 12 hours must be taken at Texas A&M University - Corpus Christi.

Courses

FINA 1307  Personal Finance
3 Semester Credit Hours (3 Lecture Hours)
Covers the foundations of financial planning, managing basic assets, managing credit, managing insurance needs, managing investments, and retirement and estate planning. This course is designed for nonbusiness as well as business majors to give them a basic understanding of the aspects of personal financial planning.
TCCNS: BUSI 1307

FINA 3310  Financial Management
3 Semester Credit Hours (3 Lecture Hours)
A survey of financial management issues emphasizing planning and decision making. Specific topics covered include discounted cash flow analysis, stock and bond valuation, financial intermediation, organizing, raising and managing capital, capital investment, risk analysis, and financial statement analysis.
Prerequisite: (ACCT 2301, 2302, MATH 1325, BUSI 2011, ECON 2301 and 2302).

FINA 3312  Financial Markets and Institutions
3 Semester Credit Hours (3 Lecture Hours)
Course coverage includes an analysis of financial markets and institutions; regulation, money market operations, global impact of central banking principles and monetary policy, and determinants of interest rates with financial asset pricing.
Prerequisite: (ECON 2301 and 2302).

FINA 3320  Intermediate Corporate Finance
3 Semester Credit Hours (3 Lecture Hours)
An in-depth study of financial planning and management with emphasis on capital structure and cost of capital, capital budgeting, and other topics in corporate financial management. The course serves as a framework for understanding a broad range of corporate financial decisions.
Prerequisite: (FINA 3310).

FINA 3331  Investments
3 Semester Credit Hours (3 Lecture Hours)
Framework of financial markets, valuation of the firm, security analysis, investment equity versus debt, efficiency of market evaluation, diversification efforts, investment goals, and portfolio selection.
Prerequisite: (ACCT 2301 and MATH 1325).

FINA 3335  Financial Modeling
3 Semester Credit Hours (3 Lecture Hours)
This course will cover the use of spreadsheet analysis in financial applications and introduce students to spreadsheet tools and functions to conduct business and personal financial analysis, valuation of bonds and stocks, and financial forecasting.

FINA 3350  Cash Management
3 Semester Credit Hours (3 Lecture Hours)
An examination of the principles and methods of cash and liquidity management with particular attention to funds transfer procedures and requirements. Specific topics include the role of cash management in corporate financial management, a review of relevant accounting concepts, the structure of the financial environment, the system of disbursements and collections, accounts receivable management, accounts payable management, information technology and electronic commerce, cash flow forecasting, short-term investing and borrowing, financial risk management, international treasury management, and management of relationships.
Prerequisite: (FINA 3310).

FINA 3351  Insurance Principles
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of risk management as practiced in the commercial life, health, property, and casualty insurance industries.

FINA 3354  Real Estate Principles
3 Semester Credit Hours (3 Lecture Hours)
Fundamental real estate covering the basic principles of real estate, providing the background necessary for advanced study in specialized real estate courses.

FINA 3355  Employee Benefits and Retirement Planning
3 Semester Credit Hours (3 Lecture Hours)
This course examines the financial aspects of retirement planning as well as employee benefit planning including group insurance plans and the characteristics of the various types of employee benefit plans: life insurance, medical expense, disability, and retirement income.

FINA 4310  Advanced Financial Management
3 Semester Credit Hours (3 Lecture Hours)
Application of financial management tools, examination and interpretation of financial statements, and integration of financial policy and structure on overall management of the enterprise. Students will present cases on the material covered in this and earlier courses to demonstrate they are able to collect and analyze data and present recommendations.
Prerequisite: (FINA 3320).

FINA 4315  International Finance
3 Semester Credit Hours (3 Lecture Hours)
A study of the institutions and relationships of the international financial system as it relates to the balance of payments, foreign exchange risk, arbitrage and the Eurocurrency market. The emphasis is on methods of arbitrage, forecasting exchange rates, and hedging against foreign exchange risk.
Prerequisite: (ECON 2301, 2302 and FINA 3310).

FINA 4321  Financial Institutions Management
3 Semester Credit Hours (3 Lecture Hours)
A study of major financial institutions and the markets in which they operate, with emphasis on financial decision making and risk management. Topics include financial intermediation theory; measurement and management of interest rate risk, credit risk, off-balance-sheet risk, foreign exchange risk, country risk, and liquidity risk; capital adequacy; and product/market diversification.
Prerequisite: (FINA 3310 and ECON 2302).
FINA 4330 Introduction to Derivative Securities
3 Semester Credit Hours (3 Lecture Hours)
Course coverage includes an analysis of financial derivative contracts.
The class includes options, futures and forward contracts; in particular
commodity trading and hedging strategies will be covered in detail. Swaps
and Interest Rate Options will be included in the presentation if time
permits.
Prerequisite: (MATH 1324).
FINA 4332 Security Analysis and Portfolio Management
3 Semester Credit Hours (3 Lecture Hours)
Evaluation of investment securities of both private and public institutions
through external analysis of financial statements and economic
conditions, portfolio selection, expected return and risk selection, and
conditions of market efficiency.
Prerequisite: (FINA 3310, 3331 and ORMS 3310).
FINA 4334 Financial Statement Analysis
3 Semester Credit Hours (3 Lecture Hours)
A detailed study of financial reporting with emphasis upon practical
interpretations. Attention will be given to financial statement analysis
using financial accounting information and its finance implications.
Assignments may differ depending on major.
Prerequisite: (ACCT 2301, 2302 and FINA 3310).
FINA 4390 Current Topics in Finance
3 Semester Credit Hours (3 Lecture Hours)
Selected topics for special study related to finance functions, processes
or issues. May be repeated for credit when topics vary.
FINA 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and completion of a final report.
FINA 4398 Internship in Finance
3 Semester Credit Hours
Supervised full-time or part-time, off-campus training in business or
government finance office. Oral and written reports required.

Human Resource Management, Minor
Program Description
(for Business and Nonbusiness Majors)
This minor is designed for students seeking to supplement their major
with a human resource management dimension. A minimum of 12 hours
must be taken at Texas A & M University-Corpus Christi.

Program Requirements

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<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINA 3355</td>
<td>Employee Benefits and Retirement Planning</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 3310</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 3318</td>
<td>Organizational Behavior                      *</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 3320</td>
<td>Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 4305</td>
<td>Organization Staffing                             *</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4330</td>
<td>Strategic Human Resource Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours 18

* Online offering

Note:

Program Requirements

FINA 4330 Introduction to Derivative Securities
3 Semester Credit Hours (3 Lecture Hours)
Course coverage includes an analysis of financial derivative contracts.
The class includes options, futures and forward contracts; in particular
commodity trading and hedging strategies will be covered in detail. Swaps
and Interest Rate Options will be included in the presentation if time
permits.
Prerequisite: (MATH 1324).
FINA 4332 Security Analysis and Portfolio Management
3 Semester Credit Hours (3 Lecture Hours)
Evaluation of investment securities of both private and public institutions
through external analysis of financial statements and economic
conditions, portfolio selection, expected return and risk selection, and
conditions of market efficiency.
Prerequisite: (FINA 3310, 3331 and ORMS 3310).
FINA 4334 Financial Statement Analysis
3 Semester Credit Hours (3 Lecture Hours)
A detailed study of financial reporting with emphasis upon practical
interpretations. Attention will be given to financial statement analysis
using financial accounting information and its finance implications.
Assignments may differ depending on major.
Prerequisite: (ACCT 2301, 2302 and FINA 3310).
FINA 4390 Current Topics in Finance
3 Semester Credit Hours (3 Lecture Hours)
Selected topics for special study related to finance functions, processes
or issues. May be repeated for credit when topics vary.
FINA 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and completion of a final report.
FINA 4398 Internship in Finance
3 Semester Credit Hours
Supervised full-time or part-time, off-campus training in business or
government finance office. Oral and written reports required.

Human Resource Management, Minor
Program Description
(for Business and Nonbusiness Majors)
This minor is designed for students seeking to supplement their major
with a human resource management dimension. A minimum of 12 hours
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<td>MGMT 3318</td>
<td>Organizational Behavior                      *</td>
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<td>3</td>
</tr>
<tr>
<td>MGMT 4305</td>
<td>Organization Staffing                             *</td>
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<tr>
<td>MGMT 4385</td>
<td>Strategic Human Resource Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours 18

* Online offering

Note:
MGMT 3370 Entrepreneurship, Creativity, & Innovation
3 Semester Credit Hours (3 Lecture Hours)
The student will learn the description and analysis of the characteristics that produce creative opportunities and commercially sustainable innovations. This will include learning about the personal and organizational characteristics, business and societal planning tools, and practices of entrepreneurs. Factors inside and outside the entrepreneurial firm that influence creativity and innovation are also considered as they affect successful business decisions.
Prerequisite: MGMT 3310.

MGMT 4305 Organization Staffing
3 Semester Credit Hours (3 Lecture Hours)
Examines the concepts, methods, and problems encountered in the development, validation, and utilization of employee recruitment, selection, training, and career development. Legal defensibility, and organizational effectiveness of staffing and development will be discussed.
Prerequisite: MGMT 3320.

MGMT 4315 Multinational Management
3 Semester Credit Hours (3 Lecture Hours)
A study of management processes and their application across different cultural, economic and legal environments. The course focuses on differences among values, beliefs, perceptions, attitudes and behaviors across national and cultural boundaries that affect the employee work and performance.
Prerequisite: MGMT 3310.

MGMT 4320 Leadership Development
3 Semester Credit Hours (3 Lecture Hours)
A study of traditional and contemporary leadership models, styles, and practices. Focuses on self-assessment and the characteristics of leaders important to effective leadership outcomes.
Prerequisite: MGMT 3310.

MGMT 4350 Small and Family Business
3 Semester Credit Hours (3 Lecture Hours)
Examines the entrepreneurial aspects and the ongoing management of a small and family business enterprises, with a focus on achieving and sustaining competitive advantage. Additional topics include the unique aspects of family business, leadership, decision-making, management, marketing, financial controls and other mission-critical processes.
Prerequisite: MGMT 3310.

MGMT 4370 New Venture Creation
3 Semester Credit Hours (3 Lecture Hours)
New venture creation teaches students how to analyze the feasibility of a new product, service or innovation within the entrepreneurial organization. Students learn to develop business plans necessary for the creation of start-up enterprise to include specific business practices, finances, and obligations of the firms created and maintained by entrepreneurs. Factors inside and outside the entrepreneurial enterprise are researched and analyzed as they affect successful new venture business decisions.

MGMT 4385 Strategic Human Resource Management
3 Semester Credit Hours (3 Lecture Hours)
An examination of the issues important to human resource planning. Emphasis is on the processes and activities used to develop human resource objectives, practices, and policies to meet the needs and opportunities of an organization and improve organizational effectiveness.
Prerequisite: MGMT 3320.

MGMT 4388 Business Strategy
3 Semester Credit Hours (3 Lecture Hours)
Analytical process and methodology for policy-strategy formulation, approached as a multi-level, integrative process. Analysis focused on integration of skills and competencies acquired through the BBA program.

MGMT 4390 Current Topics in Management
1-3 Semester Credit Hours (3 Lecture Hours)
Selected topics for special study related to management functions, processes or issues. May be repeated for credit when topics vary.

MGMT 4396 Directed Individual Study
1-3 Semester Credit Hours (3 Lecture Hours)
Individual supervised study and a final report.

MGMT 4398 Internship in Management
3 Semester Credit Hours (3 Lecture Hours)
Supervised full-time or part-time, off-campus training in business or government organization. Oral and written reports required.

**International Business, Minor**

**Program Description**

(for Business and NonBusiness Majors)

This minor is designed to serve students who are interested in supplementing their major with a global dimension. A minimum of 12 hours must be taken at Texas A&M University-Corpus Christi. For additional information, contact the academic advisor in the College of Business.

**Program Requirements**

<table>
<thead>
<tr>
<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Required Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACCT 3315</td>
<td>Multinational Entities: Accounting and Consolidations</td>
<td>3</td>
</tr>
<tr>
<td>or ECON 3315</td>
<td>International Economic Issues</td>
<td></td>
</tr>
<tr>
<td>FINA 4315</td>
<td>International Finance</td>
<td>3</td>
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<td>MGMT 4315</td>
<td>Multinational Management</td>
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<tr>
<td>MKTG 4340</td>
<td>International Marketing</td>
<td>3</td>
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<td>BUSI 4310</td>
<td>International Business</td>
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<tr>
<td>Approved upper level elective</td>
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<tr>
<td>Total Hours</td>
<td>18</td>
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* Online offering

**Courses**

BUSI 0010 Orientation to Online Learning
0 Semester Credit Hours
This non-credit, no-cost, self-paced web-based course introduces new online MBA and new online Master of Accountancy students to successful online learning practices and the Blackboard Learn environment.
Program Requirements

Required Courses

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<td>Misy2305</td>
<td>Computer Applications in Business</td>
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</tr>
<tr>
<td>Misy3310</td>
<td>Management Information Systems Concepts</td>
<td>3</td>
</tr>
<tr>
<td>Misy3320</td>
<td>Business Data Communication and Networking I</td>
<td>3</td>
</tr>
<tr>
<td>Misy3330</td>
<td>Database Management</td>
<td>3</td>
</tr>
<tr>
<td>Misy3340</td>
<td>Systems Analysis and Design</td>
<td>3</td>
</tr>
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<td>3</td>
</tr>
</tbody>
</table>

Total Hours: 18

* Online offering
^ Blended offering

Courses

Misy2305 Computer Applications in Business
3 Semester Credit Hours (3 Lecture Hours)
Survey of modern business computer hardware, software, and applications. Opportunities to create programs and use existing application software to solve various management information technology-oriented problems. Emphasizes the end-user's perspective, and interactions with management information technology.
TCCNS: BCIS 1305

Misy3310 Management Information Systems Concepts
3 Semester Credit Hours (3 Lecture Hours)
Provides an understanding of the importance of computer-based information in the success of the firm. Illustrates ways in which companies utilize computer systems to strategically compete within certain industries. Emphasis is on the role of information systems within each of the functional areas of business. Major concepts include data management, decision support, and management information systems.
Prerequisite: BUSI 0011 and Misy 2305.

Misy3320 Business Data Communication and Networking I
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of contemporary business data communication components, their configurations, and their impact on management information systems design. Topics include designing, managing, securing, and implementing business data communication networks, and their integration into management information systems. Exercises and assignments use various data communication facilities.

Misy3330 Database Management
3 Semester Credit Hours (3 Lecture Hours)
Concepts and methodology of data base planning, design, development, and management of the computerized data base of a management information system. The emphasis is on logical data base design and a study of hierarchical, network, and relational implementations. Normalization exercises are completed relative to the logical design of relational data bases. Exercises and assignments use a relational DBMS package.

Misy3340 Systems Analysis and Design
3 Semester Credit Hours (3 Lecture Hours)
Develops ability to analyze an existing information system within an organization, to identify information requirements, and to specify the functions of a new information system. Includes cost/benefit analysis of proposed information systems. Exercises and assignments use a Computer Aided Software Engineering (CASE) tool.

Misy3350 Business Applications Development
3 Semester Credit Hours (3 Lecture Hours)
This course provides an understanding of the Visual Basic programming environment in the context of business application design and development. This course will place emphasis on performance characteristics and user interface design considerations.

Misy4310 Business Data Communications and Networking II
3 Semester Credit Hours (3 Lecture Hours)
Design, implementation, and operation of client-server network systems for organizational Intranets and Internet presence. Exercises and assignments use selected data communications facilities.
Prerequisite: Misy 3320.
MISY 4325 Business Decision Support Systems and Expert Systems
3 Semester Credit Hours (3 Lecture Hours)
A survey of decision support systems and expert systems used in business. Topics include artificial intelligence (AI), knowledge engineering, knowledge acquisition, expert system shells, modeling, simulation, and selection of appropriate computer package support. Exercises and assignments use various computer packages such as neural network systems and expert system shells.

MISY 4330 Website Development for Business
3 Semester Credit Hours (3 Lecture Hours)
This course provides an understanding of the principles and techniques for client-side web development using HTML and CSS. Text editors and the website development software will be used to create and maintain websites. This course includes designing to meet web standards, including accessibility, usability, and workflow for web design.

MISY 4340 Electronic Commerce Management
3 Semester Credit Hours (3 Lecture Hours)
A broad overview of electronic commerce topics as they relate to various users. General coverage includes electronic commerce history, opportunities, limitations, and risks. Technical discussions include the internet, intranets, extranets, firewalls, security, protocols, servers, and browsers.

MISY 4341 Management of Healthcare Information Systems
3 Semester Credit Hours (3 Lecture Hours)
This course provides an overview of the knowledge and skills required to manage information for organizations related to healthcare. The course specifically focuses on the practice of acquiring, analyzing and protecting digital and traditional medical information vital to providing quality patient care. Some of the topics that are covered include: evolution of health care information systems (HCIS), components and basic HCIS functions, technology infrastructure for healthcare organizations, basic concepts such as electronic health records (EHR), health information exchange (HIE), computerized physician order entry (CPOE), clinical decision support systems (CDSS), hospital incident command systems (HICS) and standards such as HIPPA, HL7, and digital imaging and communications in medicine (DICOM). Other topics include strategic information systems planning for healthcare organizations, systems analysis and project management, information security and privacy issues, and the roles of HCIS professionals in health organizations.
Prerequisite: (MISY 3310).

MISY 4345 Information Security and Privacy in Healthcare
3 Semester Credit Hours (3 Lecture Hours)
This course provides an overview of the knowledge and skills required to manage information privacy and security for organizations related to healthcare. It focuses on best practices for healthcare information security and privacy with detailed coverage of essential topics such as information governance, roles and occupations, risk assessment and management, incident response, patient rights, healthcare responsibilities, cyberattacks and cybersecurity. Topics also include relevant laws and regulations and other aspects of information security and privacy, with emphasis on real-life scenarios in clinical practices and business operations in healthcare.
Prerequisite: (MISY 3310).

MISY 4350 Business Intelligence and Analytics
3 Semester Credit Hours (3 Lecture Hours)
Overview of important concepts of business intelligence, and the use of analytics, technologies, applications and processes used by organizations to gain data-driven insights. These insights and predictions can be used to aid decision-making and performance management across functional areas, including marketing, operations, and finance. Students will learn to extract and manipulate data, and create reports, scorecards and dashboards, including mobile apps.

MISY 4365 Data Warehousing and Data Mining for Business Intelligence
3 Semester Credit Hours (3 Lecture Hours)
In the information age, organizations can and do collect massive amounts of data. Yet organizations are often "data rich" but "information and knowledge poor". This course is designed to prepare business professionals who, by using analytical methods and data mining and data visualization tools will be able to harness the potential of data by extracting business intelligence that can be used to improve decisions and operations at various points in the value chain.
Prerequisite: MISY 2305, 3330 and ORMS 3310.

MISY 4366 Data Analytics for Healthcare Management
3 Semester Credit Hours (3 Lecture Hours)
The goal of this course is to prepare business professionals to extract business intelligence to improve decisions and operations in organizations, especially in the healthcare industry, at various points in the value chain. Data mining methods covered include multiple linear regression, k-nearest neighbor, classification and regression trees, logistic regression, discriminant analysis, artificial neural networks, association rules, cluster analysis and text mining. Areas in healthcare include healthcare market basket analysis, churn analysis for hospitals and insurance companies, health insurance fraud detection, readmission assessment, personalization of treatment regimen, patient risk management and performance-based payment analysis. Students should have a background in database and statistics. The focus will be less on statistical mathematics and more on the application of data mining methods using software tools.
Prerequisite: (MISY 2305, 3330, ORMS 3310 and MISY 4341).

MISY 4375 IT Project Management
3 Semester Credit Hours (3 Lecture Hours)
This course covers issues related to managing projects in organizations. The course focuses on the management of projects and working as a team. Students are expected to draw on materials from other management information system courses, especially the System Analysis and Design, and Database Management courses.
Prerequisite: MISY 3330.

MISY 4380 Current Topics in Management Information Systems
1-3 Semester Credit Hours (1-3 Lecture Hours)
Selected topics for special study related to management information systems.

MISY 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and a final report.

MISY 4398 Internship in Management Information Systems
1-3 Semester Credit Hours
Supervised practical experience in business computer systems.
Management, Minor

Program Description
(for Business and Nonbusiness Majors)

This minor is designed for students seeking to supplement their major with a management dimension. A minimum of 12 hours must be taken at Texas A&M University-Corpus Christi. For additional information, contact the academic advisor in the College of Business.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MGMT 3310</td>
<td>Principles of Management</td>
<td>3</td>
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<tr>
<td>MGMT 3318</td>
<td>Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 3320</td>
<td>Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 3350</td>
<td>Business Ethics and Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 4315</td>
<td>Multinational Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 4320</td>
<td>Leadership Development</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 4305</td>
<td>Organization Staffing</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 4330</td>
<td>Social Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 4370</td>
<td>Entrepreneurship, Creativity &amp; Innovation</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours: 18

* Online offering

Courses

**MGMT 3310 Principles of Management**
3 Semester Credit Hours (3 Lecture Hours)
Explores fundamental management principles and theories of organizations. Emphasis is placed on the basic functions of management: planning, organizing, directing, and controlling. Topics include the external environment, ethics, international management, decision making, organizational structure, human resource management and diversity, motivation, group dynamics, and control mechanisms.
Prerequisite: BUSI 0011.

**MGMT 3315 Business Communications**
3 Semester Credit Hours (3 Lecture Hours)
Introduces the fundamentals of effective communication in business and administration. Emphasis is placed on the application of modern techniques to business writing, professional presentations, group communications, verbal communications, nonverbal communications, and listening.
Prerequisite: BUSI 0011.

**MGMT 3318 Organizational Behavior**
3 Semester Credit Hours (3 Lecture Hours)
Introduces factors that influence interactions between individuals and groups in work environments. Topics include individual differences and diversity, motivation, leadership, power and influence, conflict, organizational culture, stress, and teams.
Prerequisite: MGMT 3310.

**MGMT 3320 Human Resource Management**
3 Semester Credit Hours (3 Lecture Hours)
Explores the comprehensive set of managerial activities carried out in organizations to develop and maintain a qualified workforce. Topics include the legal environment, recruitment, selection, training, employee appraisals, compensation systems, and employer relations.
Prerequisite: MGMT 3310.

**MGMT 3350 Business Ethics and Decision Making**
3 Semester Credit Hours (3 Lecture Hours)
Historical and contemporary views of business as a social institution; focus is on the nature of ethics and the utilization of codes of ethics, decision-making processes, critical thinking, and creative problem solving.
Prerequisite: MGMT 3310.

**MGMT 3355 Organization Change**
3 Semester Credit Hours (3 Lecture Hours)
An in-depth study of group and organization-wide interventions designed to improve the group and organization’s ability to cope with change and manage continuous improvement. Emphasis is on developing processes to improve group dynamics, organization-wide health and effectiveness, and on a systems approach to diagnosing and solving problems.
Prerequisite: MGMT 3310.

**MGMT 3360 Social Entrepreneurship**
3 Semester Credit Hours (3 Lecture Hours)
Introduces the theory and practice of mission-driven organizations. Emphasis is on understanding unmet social needs and opportunities and creating a viable sustainable social venture.
Prerequisite: MGMT 3310.

**MGMT 3370 Entrepreneurship, Creativity & Innovation**
3 Semester Credit Hours (3 Lecture Hours)
The student will learn the description and analysis of the characteristics that produce creative opportunities and commercially sustainable innovations. This will include learning about the personal and organizational characteristics, business and societal planning tools, and practices of entrepreneurs. Factors inside and outside the entrepreneurial firm that influence creativity and innovation are also considered as they affect successful business decisions.
Prerequisite: MGMT 3310.

**MGMT 4305 Organization Staffing**
3 Semester Credit Hours (3 Lecture Hours)
Examines the concepts, methods, and problems encountered in the development, validation, and utilization of employee recruitment, selection, training, and career development. Legal defensibility, and organizational effectiveness of staffing and development will be discussed.
Prerequisite: MGMT 3320.

**MGMT 4315 Multinational Management**
3 Semester Credit Hours (3 Lecture Hours)
A study of management processes and their application across different cultural, economic and legal environments. The course focuses on differences among values, beliefs, perceptions, attitudes and behaviors across national and cultural boundaries that affect the employee work and performance.
Prerequisite: MGMT 3310.

**MGMT 4320 Leadership Development**
3 Semester Credit Hours (3 Lecture Hours)
A study of traditional and contemporary leadership models, styles, and practices. Focuses on self-assessment and the characteristics of leaders important to effective leadership outcomes.
Prerequisite: MGMT 3310.
MGMT 4350  Small and Family Business  
3 Semester Credit Hours (3 Lecture Hours)  
Examines the entrepreneurial aspects and the ongoing management of a small and family business enterprise, with a focus on achieving and sustaining competitive advantage. Additional topics include the unique aspects of family business, leadership, decision-making, management, marketing, financial controls and other mission-critical processes.  
Prerequisite: MGMT 3310.

MGMT 4370  New Venture Creation  
3 Semester Credit Hours (3 Lecture Hours)  
New venture creation teaches students how to analyze the feasibility of a new product, service or innovation within the entrepreneurial organization. Students learn to develop business plans necessary for the creation of start-up enterprise to include specific business practices, finances, and obligations of the firms created and maintained by entrepreneurs. Factors inside and outside the entrepreneurial enterprise are researched and analyzed as they affect successful new venture business decisions.

MGMT 4385  Strategic Human Resource Management  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of the issues important to human resource planning. Emphasis is on the processes and activities used to develop human resource objectives, practices, and policies to meet the needs and opportunities of an organization and improve organizational effectiveness.  
Prerequisite: MGMT 3320.

MGMT 4388  Business Strategy  
3 Semester Credit Hours (3 Lecture Hours)  
Analytical process and methodology for policy-strategy formulation, approached as a multi-level, integrative process. Analysis focused on integration of skills and competencies acquired through the BBA program.

MGMT 4390  Current Topics in Management  
1-3 Semester Credit Hours (3 Lecture Hours)  
Selected topics for special study related to management functions, processes or issues. May be repeated for credit when topics vary.

MGMT 4396  Directed Individual Study  
1-3 Semester Credit Hours (3 Lecture Hours)  
Individual supervised study and a final report.

MGMT 4398  Internship in Management  
3 Semester Credit Hours (3 Lecture Hours)  
Supervised full-time or part-time, off-campus training in business or government organization. Oral and written reports required.

Marketing, Minor  
Program Description  
(for Business and Nonbusiness Majors)  
This minor is designed to serve students who are interested in supplementing their major with additional basic knowledge and skills in marketing. A minimum of 12 hours must be taken at Texas A&M University-Corpus Christi. For additional information, contact the academic advisor in the College of Business.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MKTG 3310</td>
<td>Principles of Marketing *</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 3315</td>
<td>Advertising and Promotional Strategy *</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 3330</td>
<td>Consumer Behavior *</td>
<td>3</td>
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<tr>
<td><strong>Electives</strong></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>MKTG 3311</td>
<td>Professional Selling: Concepts and Practices *</td>
<td></td>
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<tr>
<td>MKTG 3320</td>
<td>Basic Advertising</td>
<td></td>
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<tr>
<td>MKTG 3340</td>
<td>Retail Management</td>
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<tr>
<td>MKTG 3345</td>
<td>Sales Management</td>
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<tr>
<td>MKTG 4310</td>
<td>Distribution Systems in Marketing</td>
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<tr>
<td>MKTG 4320</td>
<td>Marketing Research and Analytics *</td>
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<tr>
<td>MKTG 4340</td>
<td>International Marketing</td>
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<tr>
<td>MKTG 4350</td>
<td>Marketing Strategy *</td>
<td></td>
</tr>
<tr>
<td>MKTG 4360</td>
<td>Social Media Marketing</td>
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</tbody>
</table>

Total Hours 18

1 Since MKTG 3310 Principles of Marketing (3 sch) is required for business majors as part of the business core, business majors will take an additional 3 hour course from the electives for the minor in marketing.

* Online offering

Courses

MGTK 3310  Principles of Marketing  
3 Semester Credit Hours (3 Lecture Hours)  
The initial course in Marketing. Description and analysis of the flow of goods, services and ideas to consumers and industrial users. Factors outside the firm are also considered as they affect marketing decisions.  
Prerequisite: BUSI 0011.

MGKT 3311  Professional Selling: Concepts and Practices  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to professional selling as a marketing tool. Emphasis is placed on the theory and application of the professional selling process.

MGKT 3315  Advertising and Promotional Strategy  
3 Semester Credit Hours (3 Lecture Hours)  
The student will learn about the development and implementation of a coordinated and integrated advertising and promotions strategy. Emphasis is placed on the interrelationships among advertising, sales management, and sales promotion activities.  
Prerequisite: MKTG 3310.

MGKT 3320  Basic Advertising  
3 Semester Credit Hours (3 Lecture Hours)  
Advertising concepts and a critical analysis of commercial advertising practices. Students apply advertising concepts in projects such as case studies, campaign evaluations, and simulation exercises.
MKTG 3325 Entrepreneurial Marketing
3 Semester Credit Hours (3 Lecture Hours)
Entrepreneurial marketing provides entrepreneurs and small business owners with the knowledge needed to successfully perform marketing activities (primarily promotion) on a very low budget. Students will learn the utilization of techniques and the analysis of market characteristics that impact the small entrepreneurial organization, its products and services. Additionally, students will learn how to develop specific yet flexible marketing plans and activities, and the effective management of practices, finances, and obligations associated with the marketing of smaller entrepreneurial firms. Factors inside and outside the firm are researched and analyzed as they affect successful small business marketing decisions.

MKTG 3330 Consumer Behavior
3 Semester Credit Hours (3 Lecture Hours)
An examination of the psychological and social influences that affect consumer decision making. Emphasizes the development of marketing programs designed with behavioral considerations in mind.
Prerequisite: MKTG 3310.

MKTG 3333 Digital Marketing
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to the theories, strategies, tools, and techniques of effective online marketing. The course emphasizes the essential concepts, methods, technologies, and decision making criteria for business-to-business and business-to-consumer Internet marketing. The broad concepts of ethics, social responsibilities, sustainability, and globalization are integrated through the course. Topics include online marketing research, business intelligence, Web site design, and Internet marketing strategy.

MKTG 3340 Retail Management
3 Semester Credit Hours (3 Lecture Hours)
A managerial approach to retailing. Topics such as trade area evaluation, buying, layout, pricing, cost and expense analysis are considered.
Prerequisite: MKTG 3310.

MKTG 3345 Sales Management
3 Semester Credit Hours (3 Lecture Hours)
An exploration of the problems and practices of sales and sales management. Organizational structure and development of programs to assure a competent and effective sales force are stressed.
Prerequisite: MKTG 3310.

MKTG 4310 Distribution Systems in Marketing
3 Semester Credit Hours (3 Lecture Hours)
An analysis of the development of integrated distribution systems. Topics include retail and wholesale institutions, channel conflict and cooperation, channel control, franchising and emerging developments in distribution channels.
Prerequisite: MKTG 3310.

MKTG 4320 Marketing Research and Analytics
3 Semester Credit Hours (3 Lecture Hours)
The study of research in marketing with emphasis on the collection and interpretation of data and its application to the solution of marketing problems.
Prerequisite: ORMS 3310 and MKTG 3310.

MKTG 4340 International Marketing
3 Semester Credit Hours (3 Lecture Hours)
A study of the economic, social and cultural environment of international marketing. The course focuses on marketing decision making in this environment.
Prerequisite: MKTG 3310.

MKTG 4350 Marketing Strategy
3 Semester Credit Hours (3 Lecture Hours)
The study and application of the strategic marketing planning process to realistic business situations. Topics include: strategies for growth and competitive advantage; market segmentation, targeting and positioning; marketing mix strategies and tactics; customer satisfaction and relationship building; and evaluation and control of marketing strategies. Attention to ethical considerations in marketing and a triple bottom line (TBL) evaluation of marketing outcomes.
Prerequisite: MKTG 3310.

MKTG 4360 Social Media Marketing
3 Semester Credit Hours (3 Lecture Hours)
A comprehensive study of Social Marketing strategy and implementation. The course explores the tools, techniques, and strategic logic used in the development and implementation of social media marketing strategy. The course also describes and defines the logic models used for specific plans and programs that affect and are affected by the technology and competitive environments.
Prerequisite: MKTG 3310.

MKTG 4390 Special Topics in Marketing
1-3 Semester Credit Hours (3 Lecture Hours)
Selected topics for special study related to marketing functions, processes, or issues. May be repeated for credit when topics vary.

MKTG 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and a final report.

MKTG 4398 Internship in Marketing
3 Semester Credit Hours
Supervised full-time or part-time, off-campus training in business or government organization. Oral and written reports required.

College of Education and Human Development

“Expanding Possibilities, Creating Solutions”

Mission
The College of Education and Human Development at Texas A&M University–Corpus Christi, devoted to excellence in instruction, research, and service, prepares leaders representing diverse backgrounds and experiences, to serve the educational needs in the global community.

Catalog Subject To Change
Our programs may be required to respond to inter-catalog edition mandates for curricular and or policy changes required by outside accreditation, licensing and certification requirements. Required timelines for these responses may not allow for standard college and university-based review process. In such cases, programs will publish and disseminate information about changes on website and current student handbook addenda. Examples include Texas Education Agency (TEA), Texas Coordinating Board for Higher Education (TCBHE), Council for Accreditation of Counseling & Related Educational Programs (CACREP) and the Commission on Accreditation of Athletic Training Education (CAATE).

Undergraduate Programs
The College of Education and Human Development (COEHD) offers the Bachelor of Science Degree with majors in Elementary Education, Kinesiology, Sport Management, and Athletic Training. The Bachelor
of Applied Arts and Science in Early Childhood Education degree is designed for graduates of Applied Arts and Science programs in Child Development, as well as child care providers who seek additional qualifications (see University College (p. 556) for degree program description). Students may also receive a military commission through the Military Science program and a minor in Military Science.

Field-Based Program
The COEHD is committed to a field-based professional development program. Early in their program, students are required to spend a significant portion of their professional development courses observing and working with experienced teachers in the local school districts. Subsequent course work is taught at the school sites, with the students utilizing the setting to become actively involved in applying the concepts learned in the lectures. The field-based program culminates in the clinical teaching experience, wherein the student is assigned on a one-to-one basis with an experienced master teacher and moves from observation, through cooperative teaching, to full responsibility for a class.

Undergraduate Program General Requirements
General University degree requirements are discussed in the "Undergraduate Programs (p. 43)" section of this catalog. COEHD degree requirements follow:

Total Hours
A minimum of 120 semester hours of credit is required for graduation. Some curricula or combinations of fields require more. No developmental course work may be applied toward the degree.

Grade Point Average
Requirements for graduation include a minimum grade point average of 2.00 on a four-point scale on all academic work attempted, and a minimum grade point average of 2.00 in the major field(s) of study. For admission to and retention in teacher education, the GPA requirement is 2.75 on all academic work attempted or on the last 60 hours attempted at a public or private institution of higher education (TEC 21.0441).

Degree Plans
Students interested in seeking a degree offered by the College of Education and Human Development are encouraged to see an academic advisor to discuss their interests. After consultation with the student, the academic advisor will prepare a degree plan and assign a faculty advisor who will mentor the student regarding academic and career interests. Once reviewed by the faculty advisor and the certification officer, the degree plan will be labeled "official" by the academic advisor. The degree plan will follow the student through graduation. Students are encouraged to visit their academic and faculty advisors once a semester to audit their progress and ensure they are following their designated plan. Students may change official degree plans by seeing an academic advisor and repeating the process.

Requirements for Programs Leading to Teacher Certification
Admission to and Retention in the Teacher Education Program
Students following a degree plan leading to teacher certification must be admitted to the Teacher Education Program at Texas A&M University-Corpus Christi PRIOR to enrolling in any 4000 level EDUC courses. Applications for admission to the teacher education program may be obtained online at COEHD website.

The student expecting to enter a program leading to teacher certification should apply for admission to the Teacher Education Program while enrolled in EDUC 3311 School and Society (3 sch). This application may be accessed from COEHD Student Services and online at the COEHD website at http://education.tamucc.edu/.

In addition to the requirements listed below, students must meet any additional requirements set by the specific certification teaching fields. See catalog sections for individual teaching fields (e.g., Mathematics, English, History) for these requirements. Requirements for admission to, and retention in, the Teacher Education Program include:

1. Completion of the application process for admission to teacher education. (If denied admission, the student must reapply.)
2. A minimum grade point average of 2.75 on all academic work attempted or a 2.75 on the last 60 hours attempted.
3. Conduct an interview with Department of Curriculum, Instruction, and Learning Sciences faculty while enrolled in EDUC 3311 School and Society (3 sch).
4. Completion of EDUC 3311 School and Society (3 sch) with a grade of “C” or better.
5. Prerequisite Courses.
6. Thirty-nine hours of the General Education Requirements.
7. A minimum GPA of 2.75 on all academic work taken in the student’s teaching field(s), area of specialization or delivery system. Teaching certificate areas (i.e., History, English, Science and others) may require above the minimum grade point average of 2.75 and may not accept grades below “C”. Students are to check the catalog section that pertains to the certificate area for required GPA’s.
8. Completion of a criminal background check form.
9. Completion of TB screening.
10. Pay the ASEP Technology Fee as directed.

Verified admission to teacher education from another Texas institution of higher education will be accepted, provided that the quantitative standards from such other institutions equaled or exceeded those that existed at Texas A&M University-Corpus Christi at the time the student was admitted at the other institution.

Note: A fingerprint-based national criminal background investigation is conducted on all applicants for initial certification by the State Board for Educator Certification in Compliance with State Statute 19 TAC SS 141.5. Applicants for the Teacher Education program will also be subject to a criminal background check by the partner school district. Districts have the right to refuse any individual access to their schools and/or students at ANY time and Texas A&M University-Corpus Christi is obligated to honor that request. Inability to complete field requirements will preclude an individual from successfully meeting course requirements.
Admission to Clinical Teaching

All teacher preparation programs offered by this University require appropriate professional laboratory experiences. All programs require nine semester hours of clinical teaching experiences. Students may register for clinical teaching during their senior year only after they have been granted admission in writing by the Clinical Experiences Office. Clinical teaching must be completed at Texas A&M University-Corpus Christi, unless the Director of Clinical Experiences has approved a cooperative agreement with another university and written documentation is on file in the Office of Field Experiences.

Requirements that must be fulfilled before admission to clinical teaching can be granted include:

1. Admission to the Teacher Education Program.
2. Completion of a minimum of 100 semester hours of acceptable university work.
3. A minimum grade point average of 2.75 on all academic work attempted.
4. Completion of the required semester hours in general education.
5. Completion of EDUC 3311 School and Society (3 sch), EDUC 4311 Classroom Management (3 sch), and EDUC 4605 Planning, Teaching, Assessment and Technology (6 sch), and any ECED, BIEM, SPED, READ, MATH, KINE courses with a grade of "C" or better.
6. Completion of the courses required in the student's teaching field(s), areas of specialization, or delivery system.
7. A minimum GPA of 2.75 on all academic work taken in the student's teaching field(s), area of specialization, or delivery system. Teaching certificate areas (i.e., History, English, Science and others) may require above the minimum grade point average of 2.75 and may not accept grades below "C". Students are to check the catalog section that pertains to the certificate area for required GPA's.
8. Completion of "Fall Experience" (beginning-of-the-year activities in the public schools) and submission of a written summary is required for all students seeking placement. In order to be scheduled for this, candidates should sign up in the Office of Field Experiences during the month of May PRIOR to the fall or spring semester they will student teach.
9. Concurrent enrollment in EDUC 4321 Instructional Design for Special Populations (3 sch), if required in your degree plan, for undergraduate or field-based students only.
10. Students must pass their TExES content test prior to clinical teaching.

Clinical teaching is a Monday through Friday, all-day, all-semester assignment. The demands are equivalent to a full course load.

Program of Field Experiences

Students enrolled in degree programs that lead to teacher certification are required to complete a comprehensive program of structured laboratory experiences. These will range from classroom observations to extensive classroom involvement as the student progresses through his or her program. Courses that are designated as Field-Based will require students to spend a minimum of 51% of the course time in a school setting. Students should check with the instructor to determine the field experience requirements for specific courses.

Texas Examinations of Educator Standards (TExES)

In addition to successful completion of all courses, to be recommended for teacher certification, students must pass all appropriate TExES examinations required by the State Board for Educator Certification.

Certification programs must be completed or permission must be obtained from the program coordinator or designated person from the teaching field on the student's degree plan before permission will be granted to take certification examinations.

Recommendation for Teacher Certification

Teacher certification by the State of Texas is not automatically granted with the completion of an approved program of study. The student must first be recommended for certification by the COEHD. In order to be recommended a student must:

1. Have successfully completed the appropriate degree program.
2. Have successfully completed the appropriate approved certification program with an overall GPA of 2.75.
3. Have completed the appropriate clinical teaching experience with a grade of "C" or better.
4. Have passed all appropriate TExES tests. In addition, students seeking certification in Bilingual Education must have passed the Bilingual Target Language Proficiency Test (BTLPT) and the Bilingual Supplemental Test. Submit an application online for certification and an application fee to the Texas Education Agency (TEA).

Certification for Persons Holding Degrees

See "Graduate-Level Initial Teaching Certification Program" in the College of Education and Human Development section of the Graduate Catalog.

Undergraduate Courses

The College of Education and Human Development offers undergraduate courses in the following fields:

- Bilingual/ESL/Multicultural (BIEM)
- Early Childhood (ECED)
- Health (HLTH)
- Instructional Design and Educational Technology (IDET)
- Kinesiology (KINE)
- Military Science (MSCI)
- Reading Education (READ)
- Special Education (SPED)
- Sport Management (SMGT)
- Teacher Education (EDUC)

All course descriptions are located in course descriptions (p. 556).

Programs

- Bachelor Degree Programs (p. 100)
  - Athletic Training, BS (p. 100)
  - Elementary Education, BS (p. 100)
  - Kinesiology, BS (p. 111)
  - Sport Management, BS (http://catalog.tamucc.edu/undergraduate/education-human-development/bachelors/sport-management-bs/)
- Teacher Certifications (p. 117)
Bachelor Degree Programs

• Elementary, Teacher Certification (p. 117)
• Elementary Education, BS - Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/)
• Secondary/EC-12, Teacher Certification (p. 117)

• Minors (p. 119)
  • Education, Minor (p. 119)
  • Kinesiology, Minor (p. 121)
  • Military Science (p. 124)
  • Military Science, Minor (p. 126)

Athletic Training, BS

Program Description
The Texas A&M University-Corpus Christi Athletic Training Program is in an accreditation transition process. Please see the website for information regarding the Athletic Training Program.

Elementary Education, BS

Program Description
A minimum of 120 semester hours is required for the BS degree. Degree requirements include University Core Curriculum, the interdisciplinary major, and the professional development sequence. Certification in EC-6 Core Subjects, EC-6 Core Subjects-Bilingual, 4-8 Mathematics, EC-6 Core Subjects Early Childhood and STEM Focus or Reading, and EC-12 Special Education is available with the Bachelor of Science Degree.

Student Learning Outcomes

EC-6 Core Subjects-Bilingual
Students will:

• demonstrate a depth of knowledge of bilingual education;
• demonstrate a depth of speaking ability in Spanish;
• effectively apply the competencies of a bilingual education teacher in their clinical teaching experience.

EC-6 Core Subjects with Early Childhood Delivery with STEM Focus
Students will:

• provide well-designed instruction and assessment for students from a variety of backgrounds;
• develop classroom climates conducive to learning;
• apply in-depth knowledge of processes and practices associated with students’ reading and literacy development;
• fulfill professional roles and responsibilities.

EC-6 Core Subjects with Reading Delivery
Students will:

• provide well-designed instruction and assessment for students from a variety of backgrounds;
• develop classroom climates conducive to learning;
• apply in-depth knowledge of processes and practices associated with students’ reading and literacy development;
• fulfill professional roles and responsibilities.

4-8 Mathematics
Students will:

• establish a respectful educational environment for diverse middle level learners;
• demonstrate content knowledge by applying mathematics constructs;
• apply knowledge of curriculum standards for mathematics and their relationship to middle level learners within and across mathematical domains;
• engage middle level learners in developmentally appropriate mathematical activities and investigations;
• apply mathematical content and pedagogical knowledge to design lessons and units that facilitate student learning by incorporating a variety of strategies, including mathematics-specific instructional technologies;
• use formative and summative assessments to inform mathematics instruction.

EC-12 Special Education
The Special Education service delivery system in the BS program prepares preservice special education teachers to meet the needs of students with disabilities and their families, with an emphasis on the provision of services in inclusive environments.

Students will:

• demonstrate a depth of knowledge of understanding individuals with disabilities and evaluating their needs;
• demonstrate a depth of knowledge of fostering learning and development for individuals with disabilities;
• demonstrate a depth of knowledge of foundations of special education and professional roles and responsibilities of the special education teacher;
• effectively apply the competencies of a special education teacher in their clinical teaching experience.

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)¹</td>
<td>0-2</td>
</tr>
<tr>
<td>Major Requirements &amp; Supporting Fields</td>
<td>57-53</td>
</tr>
<tr>
<td>Professional Development Requirement</td>
<td>21-25</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>120-122</td>
</tr>
</tbody>
</table>
Program Requirements

Interdisciplinary Major Requirements (54-62 semester hours)

The Interdisciplinary major consists of an academic or delivery system specialization and a combination of supporting fields.

1. Interdisciplinary major concentrations may be selected from one of the following areas:
   - EC-6 Core Subjects-Bilingual
   - EC-6 Early Childhood Delivery with STEM Focus
   - EC-6 Core Subjects with Reading Delivery
   - 4-8 Mathematics
   - EC-12 Special Education

2. The combination of supporting fields consists of a combination of three of the following five fields: English, Mathematics, Reading, Science, and Social Studies. A different combination of supporting fields is designated for each concentration. A minimum of 24 of the 54-62 semester hours must be in upper-division courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1406</td>
<td>Biology I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
</tbody>
</table>

Interdisciplinary Major Concentration Requirements

Select one of the following Concentrations: 57-53

- EC-6 Core Subjects-Bilingual (p. 101)
- EC-6 Core Subjects with Early Childhood Delivery with STEM Focus (p. 101)
- EC-6 Core Subjects with Reading Delivery (p. 102)
- 4-8 Mathematics (p. 102)
- EC-12 Special Education (p. 103)

Professional Development Requirements

Select one of the following Concentrations: 21-25

- EC-6 Core Subjects-Bilingual (p. 101)
- EC-6 Core Subjects with Early Childhood Delivery with STEM Focus (p. 101)
- EC-6 Core Subjects with a Reading Delivery System Specialization (p. 102)
- 4-8 Mathematics (p. 102)
- EC-12 Special Education (p. 103)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIEM 4344</td>
<td>The Bilingual Child, Culture, &amp; the Social Studies Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>BIEM 4345</td>
<td>Language Acquisition and Development</td>
<td>3</td>
</tr>
<tr>
<td>BIEM 4349</td>
<td>Linguistics for Bilingual Teachers</td>
<td>3</td>
</tr>
<tr>
<td>BIEM 4355</td>
<td>Language Arts Studies in the Bilingual Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>BIEM 4356</td>
<td>Content Area Studies in the Bilingual Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>BIEM 4360</td>
<td>Foundations in Bilingualism</td>
<td>3</td>
</tr>
<tr>
<td>READ 3310</td>
<td>Principles and Practices of Early Reading Instruction</td>
<td>3</td>
</tr>
<tr>
<td>READ 3320</td>
<td>Principles and Practices of Reading Instruction</td>
<td>3</td>
</tr>
<tr>
<td>READ 3351</td>
<td>Reading Assessment and Intervention</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 1350</td>
<td>Fundamentals of Mathematics I (^\star) (^\star) (^\star)</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 1351</td>
<td>Fundamentals of Mathematics II (^\star) (^\star) (^\star)</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 3315</td>
<td>Foundational Approaches to the Physical Sciences</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 3316</td>
<td>Foundational Approaches to the Life Sciences (^\star) (^\star) (^\star)</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 3352</td>
<td>Fundamentals of Mathematics III (^\star) (^\star) (^\star)</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3111</td>
<td>School and Society (^\star) (^\star) (^\star)</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3311</td>
<td>Child Development</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 2312</td>
<td>Continuing Spanish</td>
<td>3</td>
</tr>
<tr>
<td>SPED 4310</td>
<td>Students with Exceptionalities (^\star) (^\star)</td>
<td>3</td>
</tr>
</tbody>
</table>

Clinical Observation Sequence

- EDUC 4311 | Classroom Management                      | 3     |
- EDUC 4605 | Planning, Teaching, Assessment and Technology | 6     |
- IDET 3100 | Educational Technology for Preservice Teachers in Schools \(^\star\) | 1     |

Clinical Teaching Sequence

- EDUC 4321 | Instructional Design for Special Populations | 3     |
- EDUC 4995 | Clinical Teaching                         | 9     |

Total Hours 79

* Online offering
^ Blended offering

EC-6 Core Subjects Early Childhood Delivery with STEM Focus

All courses in ECED and READ must be completed with a grade of “C” or better.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECED 3324</td>
<td>Child Development</td>
<td>3</td>
</tr>
<tr>
<td>ECED 3380</td>
<td>Developmentally Appropriate Practice in Early Childhood Education</td>
<td>3</td>
</tr>
</tbody>
</table>
All courses in ECED and READ must be completed with a grade of "C" or better.

**EC-6 Core Subjects with Reading Delivery**

All courses in ECED and READ must be completed with a grade of "C" or better.

**Code** | **Title** | **Hours**
--- | --- | ---
READ 3310 | Principles and Practices of Early Reading Instruction | 3
READ 3320 | Principles and Practices of Reading Instruction | 3
READ 3351 | Reading Assessment and Intervention | 3
READ 3352 | Content Area Reading for Elementary Students | 3
READ 3380 | Children's and Adolescents' Literature | 3
READ 4394 | Field Experiences in Reading | 3
SMTE 1350 | Fundamentals of Mathematics I ^*^ | 3
SMTE 1351 | Fundamentals of Mathematics II ^**^ | 3
SMTE 3315 | Foundational Approaches to the Physical Sciences | 3
SMTE 3316 | Foundational Approaches to the Life Sciences ^*^ | 3
SMTE 3352 | Fundamentals of Mathematics III ^**^ | 3
ENGL 3340 | Grammar | 3
ENGL 3360 | CURRENT APPROACHES TO COMPOSITION AND LITERATURE | 3
EDUC 3311 | School and Society ^*^ | 3

**Additional Requirements for Certification**

- ECED 3324 | Child Development | 3
- ECED 4345 | EC-6 Assessment and Evaluation | 3
- ECED 4350 | EC-6 Social Studies Curriculum | 3

Select one of the following:

- SPED 4345 | Behavioral Supports and Interventions for Students with Disabilities ^*^ | 3
- SPED 4310 | Students with Exceptionalities ^*^ | 3

**Professional Development Requirements**

- BIEM 3357 | Methods of Teaching English as a Second Language | 3

**Clinical Observation Sequence**

- EDUC 4311 | Classroom Management | 3
- EDUC 4605 | Planning, Teaching, Assessment and Technology | 6
- IDET 3100 | Educational Technology for Preservice Teachers in Schools ^*^ | 1

**Clinical Teaching Sequence**

- EDUC 4321 | Instructional Design for Special Populations | 3
- EDUC 4995 | Clinical Teaching | 9

**Total Hours:** 79

^* Online offering

^ Blended offering

**4-8 Mathematics**

All major requirements must be completed with a grade of "C" or better.

**Code** | **Title** | **Hours**
--- | --- | ---
MATH 1316 | Trigonometry | 3
or MATH 2312 | Precalculus | 3
MATH 2305 | Discrete Mathematics I | 3
MATH 2413 | Calculus I | 4
MATH 3312 | College Geometry | 3
MATH 1442 | Statistics for Life ^*^ | 4
SMTE 1350 | Fundamentals of Mathematics I ^**^ | 3
SMTE 1351 | Fundamentals of Mathematics II ^**^ | 3
SMTE 3352 | Fundamentals of Mathematics III ^**^ | 3
or EDCI 4301 | STEM Mathematics | 3
SMTE 4382 | Basic Mathematics From An Advanced Viewpoint | 3
READ 3320 | Principles and Practices of Reading Instruction | 3
READ 3352 | Content Area Reading for Elementary Students | 3
SMTE 3315 | Foundational Approaches to the Physical Sciences | 3
SMTE 3316 | Foundational Approaches to the Life Sciences ^*^ | 3
SPED 4310 | Students with Exceptionalities ^*^ | 3
EDCI 3350 | Investigating Student Learning in Middle Level Mathematics (3) | 3
EDCI 4350 | Assessment in Middle Level Mathematics | 3
EDUC 3311 | School and Society | 3

**Professional Development Requirements**

- BIEM 3357 | Methods of Teaching English as a Second Language | 3

**Clinical Observation Sequence**
EDUC 4311  Classroom Management  3  
EDUC 4605  Planning, Teaching, Assessment and Technology  6  
IDET 3100  Educational Technology for Preservice Teachers in Schools  1  

**Clinical Teaching Sequence**

EDUC 4321  Instructional Design for Special Populations  3  
EDUC 4995  Clinical Teaching  9  

Total Hours  78  

* Online offering  
^ Blended offering  

**EC-12 Special Education**

All courses in SPED and READ must be completed with a grade of “C” or better.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 4310</td>
<td>Students with Exceptionalities</td>
<td>3</td>
</tr>
<tr>
<td>SPED 3325</td>
<td>Strategic Instruction for Students with High-Incidence Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>SPED 3330</td>
<td>Individualized Education Programs for Students with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>SPED 3335</td>
<td>Applied Learning Theory</td>
<td>3</td>
</tr>
<tr>
<td>SPED 3340</td>
<td>Individuals with Severe Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>SPED 4345</td>
<td>Behavioral Supports and Interventions for Students with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>SPED 2397</td>
<td>Special Education Field Experience</td>
<td>3</td>
</tr>
<tr>
<td>READ 3320</td>
<td>Principles and Practices of Reading Instruction</td>
<td>3</td>
</tr>
<tr>
<td>READ 3351</td>
<td>Reading Assessment and Intervention</td>
<td>3</td>
</tr>
<tr>
<td>READ 3352</td>
<td>Content Area Reading for Elementary Students</td>
<td>3</td>
</tr>
<tr>
<td>or READ 3353</td>
<td>Content Area Reading for Secondary Students</td>
<td></td>
</tr>
<tr>
<td>SMTE 1350</td>
<td>Fundamentals of Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 1351</td>
<td>Fundamentals of Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 3315</td>
<td>Foundational Approaches to the Physical Sciences</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 3316</td>
<td>Foundational Approaches to the Life Sciences</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 3352</td>
<td>Fundamentals of Mathematics III</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3311</td>
<td>School and Society</td>
<td>3</td>
</tr>
</tbody>
</table>

| IDET 3310  | Technology Applications for Teachers                                   | 3     |
| READ 3310  | Principles and Practices of Early Reading Instruction                 | 3     |
| READ 3380  | Children’s and Adolescents' Literature                                 | 3     |

**Additional Requirements for Certification**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIEM 4357</td>
<td>Methods of Teaching English as a Second Language</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4995</td>
<td>Clinical Teaching</td>
<td>9</td>
</tr>
</tbody>
</table>

Total Hours  78  

**Non-Certification Track to the BS Degree**

The degree will be a BS Degree without certification. Students will follow the same degree plan as one of the five emphasis above (EC-6 Reading, EC-6 Bilingual, EC-6 Early childhood with STEM, EC-12 Special Education or 4-8 Mathematics) except for the last semester, during which they will choose 9 SCH of faculty advisor approved elective courses that will replace the clinical teaching component of the degree.

**Course Sequencing**

**EC-6 Core Subjects-Bilingual**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 1301 or ENGL 1302</td>
<td>Composition I or Writing and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1301 or HIST 1302</td>
<td>U.S. History to 1865 or U.S. History Since 1865</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1301</td>
<td>Art and Society</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2301</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours  16  

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>COMM 1311</td>
<td>Foundation of Communication</td>
<td>3</td>
</tr>
<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1308</td>
<td>Science for Life I (Non-Majors Biology)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 2332 or ENGL 2333 or ENGL 2316</td>
<td>Literature of the Western World: From the Classics to the Renaissance or Literature of the Western World: From the Enlightenment to the Present or Literature and Culture</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 1350</td>
<td>Fundamentals of Mathematics I</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours  16  

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESCI 1401</td>
<td>Environmental Science I: Intro to Environmental Science</td>
<td>4</td>
</tr>
<tr>
<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 1351</td>
<td>Fundamentals of Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>University Core Curriculum</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SPAN 2312</td>
<td>Continuing Spanish</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours  16  

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLS 2306</td>
<td>State and Local Government</td>
<td>3</td>
</tr>
<tr>
<td>University Core Curriculum</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SMTE 3316</td>
<td>Foundational Approaches to the Life Sciences</td>
<td>3</td>
</tr>
<tr>
<td>ECED 3324</td>
<td>Child Development</td>
<td>3</td>
</tr>
<tr>
<td>SMTE 3352</td>
<td>Fundamentals of Mathematics III</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours  15
BIEM 4344 The Bilingual Child, Culture, & the Social Studies Curriculum
3 Semester Credit Hours (3 Lecture Hours)
Studies of the bilingual children, the effect of culture on psychological
development, and the challenges of the social studies curriculum.

BIEM 4355 Language Arts Studies in the Bilingual Curriculum
3 Semester Credit Hours (3 Lecture Hours)
A study of language acquisition and development with special reference
to implications for monolingual and bilingual learners.

BIEM 4349 Linguistics for Bilingual Teachers
3 Semester Credit Hours (3 Lecture Hours)
A study of the phonological, morphological, syntactical, lexical, and
semantic characteristics of contemporary Spanish and English. The
course focuses on Spanish-English bilingualism.

BIEM 4351 The Minority Child
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to themes and issues associated with the education
of the minority child; modes of learning in various curriculum subjects;
relation of materials and methods to affective and cognitive aspects
of learning; information concerning the learning strengths and needs
of children from various minority groups. (May be used to satisfy COE
multicultural requirement.)

BIEM 4356 Content Area Studies in the Bilingual Curriculum
3 Semester Credit Hours (3 Lecture Hours)
The concepts and skills required to teach mathematics and science in the
elementary bilingual classroom are provided.

BIEM 4357 Methods of Teaching English as a Second Language
3 Semester Credit Hours (3 Lecture Hours)
Studies in methodology and techniques available for teaching those
whose native language is not English. Testing and assessment of English
language learners will be integrated into the course.

BIEM 4360 Foundations in Bilingualism
3 Semester Credit Hours (3 Lecture Hours)
The philosophical and legal foundations of bilingual schooling in the
United States through a sociohistorical approach. The rationale for
bilingual education is examined, as are the basic program models. An
overview of bilingual education in Texas is also provided.

BIEM 4393 Field Studies in Family Literacy
3 Semester Credit Hours (3 Lecture Hours)
Field experiences designed to develop skills regarding the orientation of
the adult population to bilingual/ESL purposes and philosophy, improving
parental involvement, and English literacy skills.

BIEM 4696 Directed Individual Study
1-6 Semester Credit Hours (1-6 Lecture Hours)
Programs will be designed for individual cases through special
permission of the Department Chair and Dean. May be repeated for credit
when the topic varies.

ECED 3324 Child Development
3 Semester Credit Hours (3 Lecture Hours)
Provides the student with an overview of the physical, social, emotional,
and psychological development of children from infancy through early
childhood.

ECED 3380 Developmentally Appropriate Practice in Early Childhood
Education
3 Semester Credit Hours (3 Lecture Hours)
An intensive study of developmentally appropriate practice in early
childhood education. Students will learn the components of lesson plans
and create several lesson plans. Emphasis will be placed on selecting,
deﬁning, developing strategies and techniques, and assessing practices
which support developmentally appropriate practices.
Prerequisite: ECED 2310 or 3324.
ECED 4310  SOCIALIZATION OF THE YOUNG CHILD
3 Semester Credit Hours (3 Lecture Hours)
An intensive study of the social development, the agents of socialization, and the socialization process in early childhood.
Prerequisite: ECED 2310 or 3324.

ECED 4320  The Young Child, Family and Community Resources
3 Semester Credit Hours (3 Lecture Hours)
A study of current family structures, their relationship to the young child, society, and the community. Emphasis will be placed on an inclusive model which addresses the needs of the global community as it relates to the young child.
Prerequisite: ECED 2310 or 3324.

ECED 4330  HEALTH, NUTRITION AND LOCOMOTOR CONCEPTS FOR THE YOUNG CHILD
3 Semester Credit Hours (3 Lecture Hours)
The relationship between health, nutrition, and locomotor development in the young child is investigated.

ECED 4340  Communication and Aesthetics
3 Semester Credit Hours (3 Lecture Hours)
A study of language development; early literacy, language arts, and aesthetics. Students will develop an integrated thematic unit plan. Strategies and curriculum materials that are developmentally appropriate for young children will be emphasized to support the Texas Essential Knowledge and Skills (TEKS).
Prerequisite: ECED 3311 and 3324.

ECED 4345  EC-6 Assessment and Evaluation
3 Semester Credit Hours (3 Lecture Hours)
A study of assessment for children EC-6 utilizing both formal and informal instruments will be addressed. A knowledge of choosing, administering, and reporting developmental assessment will be explored with an emphasis on assessment tools that can be used by teachers of young children. Principles of designing and using assessment and evaluation techniques that are culturally fair, intellectually sound, reliable, and content-valid for young children. Differentiation among criterion-referenced, norm-referenced, individual, informal, authentic, and group assessments will be emphasized. Students will review strategies for using assessment data to design instruction, and match assessment techniques to individual children and learning situations.

ECED 4350  EC-6 Social Studies Curriculum
3 Semester Credit Hours (3 Lecture Hours)
This course will expose students to skills and concepts taught in the Social Studies curriculum in the elementary school. Developmentally appropriate strategies, concepts, and curricular materials used in teaching the Social Studies will be emphasized.
Prerequisite: ECED 3324, EDCI 3311 and ECED 3380. May be taken concurrently.

Mathematics Courses
MATH 0099  Math Non-Course Based Development
0 Semester Credit Hours
Preparation workshop to help students achieve College Readiness in mathematics under the Texas Success Initiative. Topics include five general areas: fundamental mathematics, algebra, geometry, statistics, and problem solving.

MATH 0200  Brief Developmental Mathematics
1-2 Semester Credit Hours (1-2 Lecture Hours)
Topics as in MATH 0300. For students who have completed most topics in MATH 0300. Requires permission of MATH department. (Not counted toward graduation) Fall, Spring, Maymester, Summer.
Co-requisite: MATH 1314, MATH 1442.

MATH 0214  Brief Developmental Mathematics-Algebra
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1314. Support will focus on essential skills required for success in College Algebra (Math 1314). Supporting topics include review of intermediate algebra, polynomial equations, graphing techniques, and applications. Course provides the necessary academic support for TSI liable students concurrently enrolled in MATH 1314 as the co-requisite with MATH 0214. Students who register for MATH 0214 must co-register in MATH 1314. Math 0214 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1314.

MATH 0224  Brief Developmental Mathematics-Business Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is the co-requisite course supporting for MATH 1324. Support will focus on essential skills required for success in Business Math (Math 1324). Supporting topics include the use of calculators and technology. Topics focus on basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and financial management, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1324 as the co-requisite with MATH 0224. Students who register for MATH 0224 must co-register in MATH 1324. Math 0224 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1324.

MATH 0232  Brief Developmental Mathematics-Contemporary Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1332. Support will focus on essential skills required for success in Contemporary Mathematics (Math 1332). Supporting topics include a basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and descriptive statistics, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1332 as the co-requisite with MATH 0232. Students who register for MATH 0232 must co-register in MATH 1332. Math 0232 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1332.

MATH 0242  Brief Developmental Mathematics-Statistics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1442. Support will focus on essential skills required for success in Statistics for Life (Math 1442). Supporting topics include the use of calculators and technology. Topics focus on descriptive and inferential statistics, probabilities including notation, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1442 as the co-requisite with MATH 0242. Students who register for MATH 0242 must co-register in MATH 1442. Math 0242 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1442.
MATH 0300 Developmental Mathematics
3 Semester Credit Hours (3 Lecture Hours)
Topics include number concepts, computation, elementary algebra, geometry, and mathematical reasoning. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0310 Developmental Mathematics-Algebra
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
3 sem. hrs. (2:2) Topics include number concepts, computation, elementary algebra, and geometry. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0398 Introduction to Algebra
3 Semester Credit Hours (3 Lecture Hours)
Number concepts, computation, elementary algebra, geometry, and mathematical reasoning.

MATH 0399 Intermediate Algebra
3 Semester Credit Hours (3 Lecture Hours)
Topics include linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems.
Prerequisite: MATH 0308.

MATH 1314 College Algebra
3 Semester Credit Hours (2 Lecture Hours)
Quadratic equations, inequalities, graphs, logarithms and exponentials, theory of polynomial equations, systems of equations.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT Math', MATH 0320 or minimum score of 350 in 'TSI Math'.
Co-requisite: MATH 0214.
TCCNS: MATH 1314

MATH 1316 Trigonometry
3 Semester Credit Hours (3 Lecture Hours)
Trigonometric functions, identities, equations involving trigonometric functions, solutions of right and oblique triangles.
Prerequisite: MATH 1314, minimum score of 550 in 'SAT MATH SECTION' or minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT Math'.
TCCNS: MATH 1316

MATH 1324 Mathematics for Business and Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will learn how the properties and language of mathematics can be used in business and real-world problem solving and understand the techniques and applications of finance problems, basic matrix operation, basic counting principles, and probability analysis in modeling real-world scenarios.
Prerequisite: minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
Co-requisite: MATH 0224.
TCCNS: MATH 1324

MATH 1325 Calculus for Business & Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will develop and combine the concepts in and relationships between Mathematics and Business from the fundamentals of calculus and optimization in all Business fields. Students are expected to learn the materials algebraically with technology. Students will combine the concepts of limits, continuation, differentiation and integration techniques to solve problems in business, economics, and social sciences.
Prerequisite: MATH 1324, minimum score of 550 in 'SAT Math', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 1325

MATH 1332 Contemporary Mathematics
3 Semester Credit Hours (3 Lecture Hours)
This course serves as a terminal course and supplies a brief overview of several topics in mathematics. Topics may include introductory treatments of sets, logic, number systems, number theory, relations, functions, probability and statistics. Appropriate applications are included. This course emphasizes using critical thinking to make decisions based on information.
Co-requisite: MATH 0232.
TCCNS: MATH 1332

MATH 1390 Introduction to Mathematical Topics
1-3 Semester Credit Hours (1-3 Lab Hours)
A course to introduce students to mathematical topics in a formal setting. The course may support problem solving, or systematic investigations of topics outside the current mathematical catalog. May not be substituted for regularly scheduled offerings.

MATH 1442 Statistics for Life
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
An introduction to statistical concepts and methods used in all disciplines to enhance decision making based on data analysis, including: basic experimental design models, measurement and data collection through sampling; display and summary of information, and assessment of relationship through descriptive techniques; probability concepts leading to estimation and hypothesis testing of means, variance and proportions, regression analysis, one-factor ANOVA and chi-square test of independence; and applications through case studies. The laboratory component of the course offers applications of the theory presented during the classroom sessions.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT Math', MATH 0310, 0320, minimum score of 350 in 'TSI Math' or minimum score of 19 in 'ACT Math'.
Co-requisite: MATH 0242.
TCCNS: MATH 1442

MATH 2305 Discrete Mathematics I
3 Semester Credit Hours (3 Lecture Hours)
An introduction to topics in Discrete Mathematics with an emphasis on applications in Mathematics and Computer Science. Topics include formal logic, graphs, trees and related algorithms, and combinatorics and discrete probability.
Prerequisite: MATH 2413, minimum score of 620 in 'SAT Math', minimum score of 620 in 'SAT1 Mathematics', minimum score of 640 in 'SAT MATH SECTION', minimum score of 27 in 'ACT Math' or minimum score of 27 in 'ACT Math'.
TCCNS: MATH 2305
MATH 2312  Precalculus  
3 Semester Credit Hours (3 Lecture Hours)  
A more rapid treatment of the material in MATH 1314 and MATH 1316, this course is designed for students who wish a review of the above material, or who are very well prepared. Functions, graphs, trigonometry, and analytic geometry.  
Prerequisite: MATH 1314, minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.  
TCCNS: MATH 2312

MATH 2413  Calculus I  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Limits, continuity, derivatives, applications of the derivative, and an introduction to integrals. Contains a laboratory component.  
Prerequisite: MATH 1314, 2312, minimum score of 640 in 'SAT MATH SECTION' or minimum score of 27 in 'ACT1 Math'.  
TCCNS: MATH 2413

MATH 2414  Calculus II  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Prerequisite: MATH 2413.  
TCCNS: MATH 2414

MATH 2415  Calculus III  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component. Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component.  
Prerequisite: MATH 2414.  
TCCNS: MATH 2415

MATH 3300  Geospatial Mathematical Techniques  
3 Semester Credit Hours (3 Lecture Hours)  
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications. Students may not receive credit for both MATH 3300 and GISc 3300.  
Prerequisite: MATH 2413 and 2414.

MATH 3301  Introduction to Complex Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces functions of a complex variable and their applications. Contents include differentiation and integration; zeros, poles and residues; conformal mappings.  
Prerequisite: (MATH 2415) or (MATH 2414 and 3314).

MATH 3310  Mathematical Analysis for Mechanical Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming and probability and statistics into mechanical engineering. May not count towards the MATH major. Students may not receive credit for both MATH 3310 and MEEN 3310.  
Prerequisite: MATH 3315.

MATH 3311  Linear Algebra  
3 Semester Credit Hours (3 Lecture Hours)  
Fundamentals of linear algebra and matrix theory. Topics include vectors, matrix operations, linear transformations, fundamental properties of vector spaces, systems of linear equations, eigenvalues and eigenvectors. Applications.  
Prerequisite: MATH 2413.

MATH 3312  College Geometry  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
A careful study of the foundations of Euclidean geometry by synthetic methods with an introduction to non-Euclidean geometries. An introduction to transformational geometry.  
Prerequisite: MATH 2413.

MATH 3313  Foundations of Number Theory  
3 Semester Credit Hours (3 Lecture Hours)  
This course assists a student’s transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to topics from elementary number theory.  
Prerequisite: MATH 2305 and 2414.

MATH 3314  Foundations of Real Numbers  
3 Semester Credit Hours (3 Lecture Hours)  
This course assists a student’s transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to development of the real number line.  
Prerequisite: MATH 2414 and 2305.

MATH 3315  Differential Equations  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to both theoretical and applied aspects of ordinary differential equations. Topics include: first order equations, linear second order equations, elementary numerical methods, and the Laplace transform.  
Prerequisite: MATH 2414.

MATH 3342  Applied Probability and Statistics  
3 Semester Credit Hours (3 Lecture Hours)  
A calculus based introduction to probability and statistics. Emphasis will be on development of statistical thinking and working with data. Topics include probability theory, descriptive statistics, common distributions, and statistical inference.  
Prerequisite: MATH 2413.

MATH 3345  Statistical Modeling and Data Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to probability/statistical modeling and data analysis techniques to investigate data. Topics include: exploratory data analysis, probability models and simulation, sampling distributions, statistical inference. Applications to real world problems. Students will be expected to present and justify results orally and in writing.  
Prerequisite: MATH 2413 and (COSC 1330 or 1435).

MATH 3347  Introduction to Probability  
3 Semester Credit Hours (3 Lecture Hours)  
This is an introduction to probability. In the course, key fundamental concepts of probability, random variables and their distributions, expectations, and conditional probabilities will be covered. Topics include counting rules, combinatorial analysis, sample spaces, axioms of probability, conditional probability and independence, discrete and continuous random variables, jointly distributed random variables, characteristics of random variables, law of large numbers and central limit theorem, random processes, Markov chains, Markov chain-Monte Carlo, Poisson Process and Entropy.  
Prerequisite: MATH 2415.
MATH 3385 Linear Optimization and Decisions
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the linear programming and optimization problems arising in many applications. Contents include linear programming models with solutions, the simplex method, duality theory and its use for management decision making, dual simplex method and sensitivity analysis.
Prerequisite: MATH 3311 and 2413.

MATH 3390 Problem Solving in Mathematics
1-3 Semester Credit Hours (1-3 Lecture Hours)
A problem solving course for students who want to participate in math problem solving competitions, train for the actuarial or other professional examinations, work on research aimed at conference presentations, or perform research projects at the junior level that are not at the level of directed independent study material.
Prerequisite: MATH 2414.

MATH 4185 Senior Mathematics Seminar
1 Semester Credit Hour (1 Lecture Hour)
This course introduces a weekly mathematics seminar. Students will generate a viable project for the capstone course.

MATH 4285 Mathematics Major Capstone
2 Semester Credit Hours (2 Lecture Hours)
Development of projects as proposed in MATH 4185, as well as mathematics communication skills. Students will present their projects, and take a national level assessment.
Prerequisite: MATH 4185.

MATH 4301 Introduction to Analysis
3 Semester Credit Hours (3 Lecture Hours)
An advanced treatment of the foundations of calculus stressing rigorous proofs of theorems. Topics include: elements of propositional and predicate logic, topology of the real numbers, sequences, limits, the derivative, and the Riemann integral.
Prerequisite: MATH 2415 and 3314.

MATH 4306 Modern Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of set operations, maps and relations, groups, rings and field theory. Topics include permutation groups, cosets, homomorphisms and isomorphisms, direct product of groups and rings, integral domains field of quotients, fundamental properties of integers, the ring of integers modulo n, and rings of polynomials. Applications.
Prerequisite: MATH 3311 and 3313.

MATH 4312 Differential Geometry
3 Semester Credit Hours (3 Lecture Hours)
Differential forms on R1, R2, R3, and Rn; Integration and differentiation of differential forms; Stokes’ Theorem; manifolds; Gaussian curvature and the Gauss-Bonnet Theorem.
Prerequisite: MATH 2415.

MATH 4315 Partial Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
An introduction to partial differential equations emphasizing the wave, diffusion and potential (Laplace) equations. A focus on understanding the physical meaning and mathematical properties of solutions of partial differential equations. Methods include fundamental solutions and transform methods for problems on the line, and separation of variables using orthogonal series for problems in regions with boundary. Additional topics include higher dimensional problems and special topics like Harmonic functions, the maximum principle, Green’s functions etc.
Prerequisite: MATH 3315 and 2415.

MATH 4321 Applied Regression Analysis
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the formulation of linear models and the estimation of the parameters of such models, with primary emphasis on least squares. Application of multiple regression and curve fitting and the design of experiments for fitting regression models.
Prerequisite: MATH 1342, 2342 or 1470.

MATH 4328 Discrete Mathematics II
3 Semester Credit Hours (3 Lecture Hours)
A continued study of topics from Discrete Mathematics I with additional topics from discrete mathematics that have strong application to the field of computer science. Additional topics include: recurrence relations, formal languages, and finite-state machines.
Prerequisite: MATH 2305 and COSC 2437.

MATH 4342 Introduction to Mathematical Statistics
3 Semester Credit Hours (3 Lecture Hours)
This is a first course in mathematical statistics, topics include: moment-generating functions, functions of random variables, sampling distributions, methods of estimation including Bayesian estimation, characteristics of estimators, interval estimation, hypothesis testing, Neyman-Pearson Lemma, likelihood ratio test, tests involving means and variances, regression and correlation, multiple linear regression, introduction to ANOVA, non-parametric tests.
Prerequisite: MATH 2415.

MATH 4385 Applied Modeling
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for mathematics majors. The construction of mathematical models from areas such as economics, refining, biology and mariculture, etc. Where possible, local phenomena will be modeled with the assistance of outside consultants.
Prerequisite: MATH 3315 and 3342 or MATH 3345.

MATH 4390 Selected Topics
3 Semester Credit Hours (3 Lecture Hours)
Offered on sufficient demand.

MATH 4696 Directed Independent Study
1-6 Semester Credit Hours
See college description.

Reading Courses

READ 0399 Basic Reading and Comprehension
3 Semester Credit Hours (3 Lecture Hours)
This is a reading course for students who need assistance in developing college level reading skills. Emphasis will be on improving reading comprehension, critical reasoning skills, recognition of the organization of ideas in written material, study skills and vocabulary development. The Higher Education Assessment (THEA) reading skills will be covered.

READ 3310 Principles and Practices of Early Reading Instruction
3 Semester Credit Hours (3 Lecture Hours)
This course explores theories of early language and literacy development of children. Course content addresses language development and literacy concepts essential for pre-reading areas, such as phonemic awareness, oral language development, listening comprehension development, and alphabetic knowledge. The course explores ways educators can enhance language and literacy concepts utilizing art, music, and drama. READ 3310 emphasizes development of emergent literacy skills that lead to literacy skills taught in READ 3320.
READ 3320 Principles and Practices of Reading Instruction  
3 Semester Credit Hours (3 Lecture Hours)  
The purpose of this course is to provide the preservice teacher with a solid foundation for effective literacy instruction. This course will review research-based teaching strategies, instructional materials for phonics, vocabulary, fluency, and comprehension will as methods and assessments for efficacious literacy instruction. The primary focus of course content will be on core (tier 1) classroom instruction with discussions of differentiated instruction and frameworks for responsive intervention also addressed. The targeted grade levels for this course are third through sixth grade.

READ 3321 Principles and Practices of Reading Instruction, Grades 4 – 8  
3 Semester Credit Hours (3 Lecture Hours)  
This course will emphasize materials, methods, and beliefs for teaching reading in grades 4-8. Components of the course will include but not be limited to the five pillars of reading instruction identified by the National Reading Panel (2000): phonemic awareness, phonics, fluency, vocabulary, and comprehension.

READ 3351 Reading Assessment and Intervention  
3 Semester Credit Hours (3 Lecture Hours)  
This course is an introduction to utilizing formal and informal reading assessments and intervention strategies in a classroom setting. Students will administer assessments in the areas of phonemic awareness, phonics, fluency, vocabulary, and comprehension. Students will then select and adapt appropriate scientifically proven instructional strategies, based upon assessment results, for working with readers of varying abilities and implement these through actual lessons.  
**Prerequisite:** READ 3310 and 3320 or READ 3353.

READ 3352 Content Area Reading for Elementary Students  
3 Semester Credit Hours (3 Lecture Hours)  
This course focuses on recent issues, materials, methods, and strategies considered essential for effective reading instruction in the elementary school content areas. Components of the course will include comprehension strategies, vocabulary development, reading-writing connections, and word study. The course will also include but not be limited to the five pillars of reading instruction identified by the National Reading Panel (2000): phonemic awareness, phonics, fluency, vocabulary, and comprehension.  
**Prerequisite:** READ 3310 and 3320.

READ 3353 Content Area Reading for Secondary Students  
3 Semester Credit Hours (3 Lecture Hours)  
The skills required of secondary students to deal with subject matter in the various content areas are presented. In addition, developmental and corrective processes that incorporate the identification and remediation of dyslexia and other reading disorders are presented.

READ 3355 Teaching Reading in the Secondary School  
3 Semester Credit Hours (3 Lecture Hours)  
This course focuses on planning, developing, selecting, and organizing reading materials for secondary reading instruction.  
**Prerequisite:** READ 3353.

READ 3356 Technology and Literacy  
3 Semester Credit Hours (3 Lecture Hours)  
Various software packages that have been developed for providing initial and tutorial instruction in the language arts are presented. In addition, instructional techniques for using these packages are covered.  
**Prerequisite:** READ 3320 and 3321.

READ 3380 Children's and Adolescents' Literature  
3 Semester Credit Hours (3 Lecture Hours)  
Provides students with an understanding of children's and adolescent literature. Included in the class is the reading and study of literature and how to promote reading of literature in the schools. Extensive reading is required.

READ 4352 Advanced Practices in Reading/ Language Arts  
3 Semester Credit Hours  
The emphasis is on instructional approaches supported by current theory and research and supervised implementation in a school setting. Attention is given to word study, comprehension, critical reading and reasoning, and reading-writing connections. Components of the course will include but not be limited to the five pillars of reading instruction identified by the National Reading Panel (2000): phonemic awareness, phonics, fluency, vocabulary, and comprehension.  
**Prerequisite:** READ 3320, 3351, 4380 and 4394.  
* May be taken concurrently.

READ 4394 Field Experiences in Reading  
3 Semester Credit Hours (3 Lecture Hours)  
The culminating experience for those students working toward a specialization in reading. Students are provided supervised experience in field-based activities, in addition to on?campus activities.  
**Prerequisite:** READ 3310, 3320, 3351, 3352 and 4380.

READ 4696 Directed Individual Study  
1-6 Semester Credit Hours  
Programs will be designed for individual cases through special permission of the Department Chair and Dean. May be repeated for credit when the topic varies.

Science/Math and Tech Education Courses

SMTE 0091 Biological Laboratory Safety Seminar  
0 Semester Credit Hours  
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0092 Biomedical Laboratory Safety Seminar  
0 Semester Credit Hours  
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0093 Chemistry Laboratory Safety Seminar  
0 Semester Credit Hours  
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.
SMTE 0094  Geology Laboratory Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0095  Physics Laboratory Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0096  Environmental Science Laboratory Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0097  Art Student Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0098  Theatre Student Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

Co-requisite: THEA 2121, THEA 3121.

SMTE 0099  Engineering Safety Seminar
0 Semester Credit Hours

SMTE 1350  Fundamentals of Mathematics I
3 Semester Credit Hours (3 Lecture Hours)
The conceptual framework for understanding and applying properties, models, and operations related to various number systems in problem solving settings.
Prerequisite: MATH 1314.
TCCNS: MATH 1350

SMTE 1351  Fundamentals of Mathematics II
3 Semester Credit Hours (3 Lecture Hours)
The conceptual framework for understanding and applying properties, models, and operations related to various data systems in problem solving settings.
Prerequisite: SMTE 1350.
TCCNS: MATH 1351

SMTE 3315  Foundational Approaches to the Physical Sciences
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Physical science topics such as simple machines, atoms, molecules, electricity and magnetism, sound, and light. Laboratory involvement will emphasize techniques of problem solving, data gathering, and data application. The course is taught following an inquiry based format and is recommended for future K-8 level science educators.
Co-requisite: SMTE 0096.

SMTE 3316  Foundational Approaches to the Life Sciences
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Emphasis on biological concepts including cells, plants, invertebrate and vertebrate structural systems. Laboratory investigations focus on techniques of problem solving, data gathering, and data applications. The course is taught following an inquiry based format and is recommended for future K-8 level science educators.
Co-requisite: SMTE 0091.

SMTE 3352  Fundamentals of Mathematics III
3 Semester Credit Hours (3 Lecture Hours)
The conceptual framework for understanding and applying properties, models, and operations related to various geometric systems in problem solving settings.
Prerequisite: SMTE 1351.

SMTE 4217  Secondary Approaches to the Life Sciences
2 Semester Credit Hours (2 Lecture Hours)
Study of secondary science teaching and learning from the standpoints of theory and practice, curriculum objectives, materials and evaluation. The course will emphasize contemporary issues by focusing on biological content ranging across the sub-disciplines of molecular biology, physiology, evolution and environmental science while teaching in a relevant and engaging context that includes web searches, laboratory activities, and student-centered inquiry activities.

SMTE 4270  Science Education Topics I
2 Semester Credit Hours (2 Lecture Hours)
Presentation of the conceptual framework for understanding and applying science content in life sciences including biology, ecology and evolution using the national standards for science education and Texas Essential Knowledge and Skills (TEKS). The course is taught using scientifically researched literature and content knowledge in an inquiry based format and is recommended for future 4-8 and 7-12 level science educators.

SMTE 4273  Historical Development of the Sciences
2 Semester Credit Hours (2 Lecture Hours)
Study of human endeavors leading to the present body of scientific knowledge placed in a historical and philosophical context. Portions of the materials will be presented in a format conducive to adaptation for middle school and high school.
Prerequisite: BIOL 1407, CHEM 1412 and EDUC 3311.

SMTE 4320  Secondary Science Laboratory Techniques
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to assist the 4-8 and 7-12 future science teacher in developing content knowledge, skills and mastery of designated laboratory and research techniques through scientific experimentation in areas such as chemistry, biology and physics. State and national laboratory safety mandates will also be addressed.
Prerequisite: BIOL 1407, CHEM 1412 and EDUC 3311.
Co-requisite: SMTE 0091.
SMTE 4370 Mathematics Education Topics I
3 Semester Credit Hours (3 Lecture Hours)
Presentations of contemporary issues in mathematics education. Topics include history of mathematics education, state and national standards for mathematics education, cognitive development, the importance of culture, language and gender in learning mathematics, authentic assessment, and interdisciplinary curriculum.

SMTE 4382 Basic Mathematics From An Advanced Viewpoint
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for students pursuing grades 4-8 certification in mathematics. Presents basic mathematical concepts in the context of advanced mathematics courses. The course includes historical development of significant ideas in mathematics and science, interpretations of mathematical topics at multiple levels, and the use of technology to generate and convey understanding of mathematical ideas. Prerequisite: MATH 2305 and 3312.

SMTE 4490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject materials variable. May be repeated for credit when topics are significantly different.

SMTE 4496 Directed Independent Study
1-4 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College.

Special Education Courses

SPED 2397 Special Education Field Experience
3 Semester Credit Hours (3 Lecture Hours)
This course requires students to participate in schools and programs that serve individuals with disabilities on and off campus. Students will be actively involved in the learning situation.

SPED 3325 Strategic Instruction for Students with High-Incidence Disabilities
3 Semester Credit Hours (3 Lecture Hours)
This course provides an introduction and demonstration of specific skills necessary for teaching students with high-incidence disabilities.

SPED 3330 Individualized Education Programs for Students with Disabilities
3 Semester Credit Hours (3 Lecture Hours)
This course emphasizes the design and implementation of individualized educational programs (IEP) for students with disabilities.

SPED 3335 Applied Learning Theory
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to develop and extend the student's knowledge of the principles of applied learning theory as it relates to students with extensive and pervasive support needs.

SPED 3340 Individuals with Severe Disabilities
3 Semester Credit Hours (3 Lecture Hours)
This course is an introductory study of the adaptations, approaches, and supports necessary to meet the educational needs of students who have communication, intellectual, motor, sensory, medical impairments, and/or other extensive and pervasive support needs. There are no prerequisite courses required to enroll in this course.

SPED 4310 Students with Exceptionalities
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to familiarize the student with the various conditions of individuals with disabilities.

SPED 4315 Motor Development for Students with Exceptional Needs
3 Semester Credit Hours (3 Lecture Hours)
A comparative overview of the physical development and motor-activity needs of students with disabilities.

SPED 4320 Community-based Instruction for the Students with Exceptionalities
3 Semester Credit Hours (3 Lecture Hours)
Strategies and procedures for teaching community-based instruction to individuals with disabilities, including independent living and socialization skills, are discussed.

SPED 4345 Behavioral Supports and Interventions for Students with Disabilities
3 Semester Credit Hours (3 Lecture Hours)
This introductory course will focus on positive behavioral supports and behavior intervention techniques. Course content includes information on: definitions, characteristics, prevalence, causes, assessment, prevention of behavioral difficulties, functional behavior assessment, applied behavior analysis, education service delivery, advocacy, and other current issues in the field.

SPED 4696 Directed Individual Study
1-6 Semester Credit Hours
Programs will be designed for individual cases through special permission of the Department Chair and Dean. May be repeated for credit when the topic varies.

Kinesiology, BS

Program Description

Students seeking a BS in Kinesiology can specialize in EC-12 Physical Education Certification, Exercise Science-Strength & Conditioning, or Pre-Allied Health. All majors must take a minimum of 42 SCH in University Core Courses and a minimum of 23 SCH in Kinesiology Major Requirements.

The Bachelor of Science Degree with a major in Kinesiology coursework includes:

1. General Education Core Requirements,
2. Kinesiology Major Requirements,
3. Special Emphasis Requirements, and

Beyond the General Education Core Requirements, students majoring in kinesiology must complete all courses in sections 2-4 above with a grade of “C” or better. Transfer credit hours into the kinesiology degree plans must adhere to the same grade standard.

EC-12 Physical Education Certification

Students seeking a certificate to teach EC-12 Physical Education must complete the Bachelor of Science Degree in Kinesiology and complete the College of Education and Human Development EC-12 Teacher Certification requirements. Information for students holding a degree and seeking certification may be obtained in the Certification Office.

Exercise Science – Strength & Conditioning Specialization

Students seeking a career in exercise science/strength and conditioning should complete the requirements for the Exercise Science – Strength & Conditioning Specialization of the kinesiology major. This specialization serves as an excellent program for students seeking careers as fitness
trainers, exercise specialists, and strength and conditioning coaches. The Exercise Science - Strength & Conditioning Specialization is also an exceptional preparatory program for students pursuing graduate study in Exercise Science (e.g. exercise physiology, kinesiology, biomechanics, measurement/evaluation). Graduates with a BS in Kinesiology with an Exercise Science – Strength & Conditioning Specialization will demonstrate knowledge of structural kinesiology, exercise physiology, biomechanics, sport psychology, and measurement and evaluation.

**Pre-Allied Health Professional Specialization**

Students seeking a career in allied health fields (e.g. Cardiac Rehabilitation, Dentistry, Medicine, Occupational Therapy, and Physical Therapy) should complete the requirements of the Pre-Allied Health Professional Specialization of the kinesiology major. This specialization serves as an excellent preparatory program for students pursuing graduate study in these fields as well as post baccalaureate study in exercise science. Graduates with a BS in Kinesiology with a Pre-Allied Health Professional Specialization will demonstrate knowledge of basic kinesiology theory and principles as they relate to the fields in allied health.

**Student Learning Outcomes**

**EC-12 Physical Education Certification**

Students will:

- create safe, equitable, developmentally-appropriate and enjoyable movement experiences which benefit the participant and encourage lifelong participation in movement;
- model a healthy, physically active lifestyle and model a life-long learner seeking opportunities to grow professionally;
- serve the community as a knowledgeable practitioner of the kinesiology profession who meets the needs of all students in a diverse society.

**Exercise Science – Strength & Conditioning Specialization**

Students will:

- apply the principles of exercise testing and prescription to safely and effectively assess fitness status and appropriately prescribe exercise training programs;
- apply the principles of biomechanics to assess the quantity and quality of human motion;
- apply the principles of sport psychology to enhance human performance;
- apply the principles of measurement and evaluation to collect, analyze, and interpret data.

**Pre-Allied Health Professional Specialization**

Students will:

- apply the principles of exercise physiology to prescribe safe and effective strength and conditioning programs;
- apply the principles of biomechanics to assess the quantity and quality of human motion;
- apply the principles of sport psychology to enhance human performance;
- apply the principles of measurement and evaluation to collect, analyze, and interpret data.

---

**General Requirements**

<table>
<thead>
<tr>
<th>EC-12 Physical Education Certification</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements</td>
<td></td>
</tr>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Kinesiology Major Requirements</td>
<td>26</td>
</tr>
<tr>
<td>Certification Requirements</td>
<td>16</td>
</tr>
<tr>
<td>Physical Education Certification Special Emphasis</td>
<td>15</td>
</tr>
<tr>
<td>Physical Education Certification Special Foundations</td>
<td>27</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>126-128</td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

2. Transfer students with 24 or more hours are exempt from First-Year Seminar.

**Exercise Science – Strength & Conditioning Specialization**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Kinesiology Major Requirements</td>
<td>26</td>
</tr>
<tr>
<td>Exercise Science Special Emphasis Requirements</td>
<td>28</td>
</tr>
<tr>
<td>Exercise Science Special Foundations</td>
<td>25</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>121-123</td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

2. Transfer students with 24 or more hours are exempt from First-Year Seminar.

**Pre-Allied Health Professional Specialization**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Kinesiology Major Requirements</td>
<td>26</td>
</tr>
<tr>
<td>Special Emphasis Requirements</td>
<td>30</td>
</tr>
<tr>
<td>Special Foundations</td>
<td>24</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>122-124</td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

2. Transfer students with 24 or more hours are exempt from First-Year Seminar.
Program Requirements

Full-time, First-Year Students

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td>1</td>
</tr>
</tbody>
</table>

Core Curriculum Program

If these courses are not taken in the University Core, they will still need to be completed, if required in the chosen specialization. These hours are listed in the Foundation Courses of the Degree Requirements:

- BIOL 2401  Anatomy and Physiology I
- BIOL 2402  Anatomy and Physiology II
- MATH 1442  Statistics for Life *^  
- PSYC 2301  General Psychology *

Kinesiology Major Requirements

- KINE 2313  Foundations of Kinesiology 3
- KINE 3312  Physiology of Exercise 3
- KINE 3112  Physiology of Exercise Lab 1
- KINE 3337  Sport and Exercise Psychology 3
- KINE 3338  Motor Development/Motor Learning 3
- KINE 4311  Measurement and Evaluation 3
- KINE 4325  Kinetic Anatomy 3
- KINE 4327  Biomechanics 3
- KINE 4127  Biomechanics Lab 1
- KINE 4329  Essentials of Strength and Conditioning 3

Certification or Specialization

Select one of the following: 53-58

- EC-12 Physical Education Certification (p. 113)
- Exercise Science – Strength & Conditioning Specialization (p. 113)
- Pre-Allied Health Professional Specialization (p. 114)

Total Hours 123-128

1 Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

2 Transfer students with 24 or more hours are exempt from First-Year Seminar.

EC-12 Physical Education Certification

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINE 1110</td>
<td>Individual/Dual/Lifetime Sports</td>
<td>1</td>
</tr>
<tr>
<td>KINE 2317</td>
<td>Re-inventing Games</td>
<td>3</td>
</tr>
<tr>
<td>KINE 2325</td>
<td>Physiological Aspects of Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>KINE 2375</td>
<td>Nutrition for Human Performance</td>
<td>3</td>
</tr>
<tr>
<td>KINE 3339</td>
<td>Elementary Physical Education Programs ^</td>
<td>3</td>
</tr>
<tr>
<td>KINE 3341</td>
<td>Secondary Physical Education Programs ^</td>
<td>3</td>
</tr>
</tbody>
</table>

Special Emphasis

Select a minimum of 15 hours in a second emphasis area 15

Special Foundations

Select 27 semester hours 27

Total Hours 58

^ Blended offering

Special Emphasis

Students completing the EC-12 Physical Education Certification must complete five courses (a minimum of 15 semester hours) in a special emphasis area (second emphasis area) approved by their faculty mentor. Students must pass these courses with a grade of “C” or better. It is strongly recommended that students take at least one additional course beyond the required five in this discipline to better prepare for the TEES certification test taken after state issuance of initial teaching certificate in EC-12 Physical Education.

Special Foundations

(See “College of Education and Human Development Certification Requirements” in this catalog for the EDUC courses required for teacher certification). Prior to being admitted into the Field-based block course, students pursuing EC-12 Certification must complete KINE 3339 Elementary Physical Education Programs (3 sch) and KINE 3341 Secondary Physical Education Programs (3 sch). Students must have a minimum grade point average of 2.75 on all academic work taken in Kinesiology prior to being admitted into the Teacher Education Program.

Exercise Science – Strength & Conditioning Specialization

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINE 1106</td>
<td>Weight Training</td>
<td>1</td>
</tr>
<tr>
<td>KINE 2326</td>
<td>Essentials of Professional Fitness Training</td>
<td>3</td>
</tr>
<tr>
<td>KINE 2375</td>
<td>Nutrition for Human Performance</td>
<td>3</td>
</tr>
<tr>
<td>KINE 3318</td>
<td>Prevention and Care of Athletic Injuries</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 3335</td>
<td>Legal Issues in Sport                   ^</td>
<td>3</td>
</tr>
<tr>
<td>KINE 4340</td>
<td>Exercise Testing and Prescription ^</td>
<td>3</td>
</tr>
<tr>
<td>KINE 4693</td>
<td>Professional Field Experience I ^</td>
<td>6</td>
</tr>
<tr>
<td>KINE 4694</td>
<td>Professional Field Experience II ^</td>
<td>6</td>
</tr>
</tbody>
</table>

Special Foundations ^

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>KINE 3320</td>
<td>Introduction to Therapeutic Interventions</td>
<td>3</td>
</tr>
<tr>
<td>KINE 4329</td>
<td>Essentials of Strength and Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 2314</td>
<td>Introduction to Sport Management</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 3330</td>
<td>Promotion of Sport</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 3366</td>
<td>Managing Sport and Leisure Services</td>
<td>3</td>
</tr>
</tbody>
</table>

^ Blended offering
* Online offering

See “Core Curriculum Program” in this catalog. It is recommended that Kinesiology students take the following courses when fulfilling the Life & Physical Sciences, Math, and Social Sciences requirements of the University Core Curriculum depending on specialization. Please consult your faculty mentor or academic advisor for specific details. These hours are listed in the Foundation Courses of the Degree Requirements.

1 See “Core Curriculum Program” in this catalog. It is recommended that Kinesiology students take the following courses when fulfilling the Life & Physical Sciences, Math, and Social Sciences requirements of the University Core Curriculum depending on specialization. Please consult your faculty mentor or academic advisor for specific details. These hours are listed in the Foundation Courses of the Degree Requirements.

2 See “Core Curriculum Program” in this catalog. It is recommended that Kinesiology students take the following courses when fulfilling the Life & Physical Sciences, Math, and Social Sciences requirements of the University Core Curriculum depending on specialization. Please consult your faculty mentor or academic advisor for specific details. These hours are listed in the Foundation Courses of the Degree Requirements.
SMGT 4308  
Sport Facilities and Event Management  3
SMGT 4309  
Finance Management in Sport  3

**Total Hours**  53

1. To enroll in the Professional Field Experiences students must have departmental approval as well as an overall and Kinesiology GPA of 2.75.

2. Students must pass these courses with a grade of “C” or better.

### Blended offering

### Pre-Allied Health Professional Specialization

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINE 2326</td>
<td>Essentials of Professional Fitness Training</td>
<td>3</td>
</tr>
<tr>
<td>KINE 2375</td>
<td>Nutrition for Human Performance</td>
<td>3</td>
</tr>
<tr>
<td>KINE 3318</td>
<td>Prevention and Care of Athletic Injuries</td>
<td>3</td>
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<td>KINE 3320</td>
<td>Introduction to Therapeutic Interventions</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 3335</td>
<td>Legal Issues in Sport</td>
<td>3</td>
</tr>
<tr>
<td>KINE 4340</td>
<td>Exercise Testing and Prescription</td>
<td>3</td>
</tr>
<tr>
<td>KINE 4693</td>
<td>Professional Field Experience I</td>
<td>6</td>
</tr>
<tr>
<td>KINE 4694</td>
<td>Professional Field Experience II</td>
<td>6</td>
</tr>
</tbody>
</table>

### Special Foundations

Select a minimum of 24 hours of advisor-approved courses  24

**Total Hours**  54

1. To enroll in the Professional Field Experiences students must have departmental approval as well as an overall and Kinesiology GPA of 2.75.

   Although a 2.75 GPA is the minimum standard for the Professional Field Experiences I and II, students should take note that most allied health graduate programs are extremely competitive. A 3.5 or higher GPA is mostly needed to position themselves for acceptance. This is especially true for Physical Therapy graduate programs that a 3.7 or higher GPA is essential.

2. Students must pass these courses with a grade of “C” or better.

### Course Sequencing

#### EC-12 Physical Education Certification

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>POLS 2306</td>
<td>State and Local Government</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1301</td>
<td>Art and Society (or from Core List)</td>
<td>3</td>
</tr>
<tr>
<td>KINE 2313</td>
<td>Foundations of Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td>16</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>COMM 1311</td>
<td>Foundation of Communication</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1301</td>
<td>U.S. History to 1865</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2301</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

| Second Year|                                                 |       |
| Fall       |                                                 |       |
| BIOL 2401  | Anatomy and Physiology I                         | 4     |
| POLS 2305  | U.S. Government and Politics                     | 3     |
| KINE 2317  | Re-inventing Games                               | 3     |
| University Core Curriculum |                             | 3     |
| ENGL 2316  | Literature and Culture                           | 3     |
| or ENGL 2332 | or Literature of the Western World: From the Classics to the Renaissance | 3     |
| or ENGL 2333 | or Literature of the Western World: From the Enlightenment to the Present | 3     |
|          | **Total Hours**                                  | 16    |
| Spring    |                                                 |       |
| BIOL 2402  | Anatomy and Physiology II                        | 4     |
| University Core Curriculum |                             | 3     |
| HIST 1302  | U.S. History Since 1865                         | 3     |
| KINE 3338  | Motor Development/Motor Learning                 | 3     |
| SPECIAL EMPHASIS |                     | 3     |
|          | **Total Hours**                                  | 16    |

| Third Year|                                                 |       |
| Fall      |                                                 |       |
| KINE 3339  | Elementary Physical Education Programs           | 3     |
| KINE 3312  | Physiology of Exercise                           | 3     |
| KINE 3112  | Physiology of Exercise Lab                       | 1     |
| KINE 4325  | Kinetic Anatomy                                  | 3     |
| KINE 3337  | Sport and Exercise Psychology                    | 3     |
| SPECIAL EMPHASIS |                     | 3     |
|          | **Total Hours**                                  | 16    |
| Spring    |                                                 |       |
| KINE 3341  | Secondary Physical Education Programs            | 3     |
| KINE 4311  | Measurement and Evaluation                       | 3     |
| KINE 4327  | Biomechanics                                    | 3     |
| KINE 4127  | Biomechanics Lab                                | 1     |
| KINE 4339  | Special Populations in Kinesiology               | 3     |
| SPECIAL EMPHASIS |                     | 3     |
|          | **Total Hours**                                  | 15    |
| Summer    |                                                 |       |
| READ 3353  | Content Area Reading for Secondary Students     | 3     |
| EDUC 3311  | School and Society                              | 3     |
|          | **Total Hours**                                  | 6     |

| Fourth Year|                                                 |       |
| Fall       |                                                 |       |
| EDUC 4311  | Classroom Management                             | 3     |
| EDUC 4605  | Planning, Teaching, Assessment and Technology    | 6     |
| SPECIAL EMPHASIS |                     | 3     |
| SPECIAL EMPHASIS |                     | 3     |
|          | **Total Hours**                                  | 15    |
Courses

**KINE 1106  Weight Training**
1 Semester Credit Hour (1 Lab Hour)
The study and practice of physiological principles related to training programs for the development of muscular strength and endurance.

**KINE 1108  Strength Conditioning for Women**
1 Semester Credit Hour (1 Lab Hour)
The study and practice of physiological principles relating to training programs for the development of muscular strength and endurance for women.

**KINE 1110  Individual/Dual/Lifetime Sports**
1 Semester Credit Hour (1 Lab Hour)
Instruction, participation, and practice in a variety of individual, dual, and lifetime sports.

**KINE 1112  Personal Self Defense**
1 Semester Credit Hour (1 Lab Hour)
Instruction and practice of contemporary techniques of self protection.

**KINE 1116  Ranger Leadership Laboratory**
1 Semester Credit Hour (1 Lab Hour)
Practical leadership and teamwork training in rappelling, rope bridges, weapons firing, map reading and land navigation, water safety, patrolling, and other ranger skills. Includes a weekend field trip where the techniques learned will be applied in competitive events. Cross listed with MSCI 1172.

**KINE 1131  Yoga**
1 Semester Credit Hour (1 Lecture Hour)
Instruction and practice of Yoga postures, breathing, meditation and relaxation.

**KINE 1133  Tai Chi**
1 Semester Credit Hour (1 Lab Hour)

**KINE 1135  Army Physical Fitness Training**
1 Semester Credit Hour (3 Lab Hours)
Instruction and practice of the skills, techniques and fitness activities that are germane to typical Army training.

**KINE 1136  Pilates**
1 Semester Credit Hour (3 Lab Hours)
Instruction and practice in the skills, techniques, and principles of Pilates with emphasis on the Classical Pilates matwork.

**KINE 2215  First Aid and Safety**
2 Semester Credit Hours (2 Lecture Hours)
Basic CPR and first aid instruction leading to American Red Cross certification.

**KINE 2225  Sports Conditioning**
2 Semester Credit Hours (2 Lecture Hours)
This course addresses the principles and practice of sports conditioning from a coaching perspective. Topics will include athletic needs evaluation, exercise programming, and program implementation. Issues regarding resistance exercise, speed, endurance, explosiveness training, and agility will be addressed.

**KINE 2313  Foundations of Kinesiology**
3 Semester Credit Hours (3 Lecture Hours)
An overview of the field of physical education which includes the history, philosophy, principles, current concepts of physical education and career options. For kinesiology majors this course must be taken prior to any senior level (4000) kinesiology courses.

**TCCNS: PHED 1301**

**KINE 2317  Re-inventing Games**
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to introduce a framework for the development of games, sports, and activities through an inclusive and developmentally appropriate process of change, challenge, and choice. A wide array of sports, sports-related games and activities are introduced, deconstructed for their current exclusivity and then reconstructed through a framework which seeks to change the existing exclusivity of the rules, to challenge participating students of all cognitive and physical abilities, and then build in a choice component into the activity. This course is recommended prior to enrolling in KINE 3339 and KINE 3341.

**KINE 2325  Physiological Aspects of Kinesiology**
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the fundamental principles of human physiology and their application to kinesiology.

**KINE 2326  Essentials of Professional Fitness Training**
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide theoretical knowledge and practical skills in preparation for a national certification exam in personal training. Topics include guidelines for instructing safe, effective, and purposeful exercise, essentials of the client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming.

**KINE 2375  Nutrition for Human Performance**
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the physiological, anatomical, and psychological aspects of nutrition in relation to human performance and optimal health. Special emphasis is placed on sport and fitness enhancement and achievement of peak training levels, through proper nutrient ingestion.

**KINE 3112  Physiology of Exercise Lab**
1 Semester Credit Hour (1 Lecture Hour)
The required laboratory course with KINE 3312. Demonstration and hands-on learning will introduce students to the scientific basis, techniques, and methods used in exercise physiology. Lab activities will complement lecture materials from KINE 3312. KINE 3112 must be taken concurrently with KINE 3312.

**KINE 3301  Outdoor Adventure Programs**
3 Semester Credit Hours (3 Lecture Hours)
An introduction to a variety of outdoor adventure activities and basic outdoor skills. In addition to skill acquisition and assessment, this course covers such topics as: history and philosophy of outdoor adventure programs, risk and legal liability and trip planning.
KINE 3312  Physiology of Exercise  
3 Semester Credit Hours (3 Lecture Hours)  
This course is an application of anatomy and physiology that allows for the understanding of the effects of various forms of exercise and the environment on the body systems and performance. Lab activities will complement lecture materials.  
Prerequisite: (KINE 2325 or BIOL 2401) and (KINE 1320 or 2313) and (KINE 3112).  
* May be taken concurrently.

KINE 3318  Prevention and Care of Athletic Injuries  
3 Semester Credit Hours (3 Lecture Hours)  
Provides the general knowledge and general application of theory, principles, and skills used in the prevention, care, and rehabilitation of athletic injuries.

KINE 3320  Introduction to Therapeutic Interventions  
3 Semester Credit Hours (3 Lecture Hours)  
The purpose, scope and techniques of test construction. Development of statistical techniques necessary for manipulation and interpretation of physical performance data.  
Prerequisite: KINE 1320 or 2313.

KINE 3325  Kinetic Anatomy  
3 Semester Credit Hours (3 Lecture Hours)  
Provides the student with the general knowledge of current theory and application of various therapeutic interventions used in the treatment of musculoskeletal injuries, including thermal therapy, cryotherapy, manual therapy, and therapeutic exercises.  
Prerequisite: KINE 3318.

KINE 3337  Sport and Exercise Psychology  
3 Semester Credit Hours (3 Lecture Hours)  
Study of the psychological factors that are associated with participation and performance in sport, exercise, and other types of physical activity with emphasis on motivational techniques, personality dynamics, and mental health serving as focal points.

KINE 3338  Motor Development/Motor Learning  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the fundamental principles related to human motor development and the scientific principles related to motor learning.

KINE 3339  Elementary Physical Education Programs  
3 Semester Credit Hours (3 Lecture Hours)  
The application of the fundamental principles related to human motor development, physical fitness, locomotor skills, non-locomotor skills, manipulative skills, and rhythmic activities with children at the elementary school level. Recommended  
Prerequisite: KINE 2317 and 3338.

KINE 3341  Secondary Physical Education Programs  
3 Semester Credit Hours (3 Lecture Hours)  
The application of the fundamental principles related to human motor development, physical fitness, sports related activities and dance with children at the secondary school level. Recommended  
Prerequisite: KINE 3338 and 3339.

KINE 4127  Biomechanics Lab  
1 Semester Credit Hour (1 Lab Hour)  
The required laboratory course with KINE 4327. The demonstration and application of mechanical factors and principles affecting human motion. Qualitative and quantitative analysis of human motion with emphasis on sport and fitness activities. KINE 4127 must be taken concurrently with KINE 4327.  
Prerequisite: KINE 4327.  
* May be taken concurrently.

KINE 4311  Measurement and Evaluation  
3 Semester Credit Hours (3 Lecture Hours)  
Use and function of the various tests used in kinesiology together with the purpose, scope and techniques of test construction. Development of statistical techniques necessary for manipulation and interpretation of physical performance data.  
Prerequisite: KINE 1320 or 2313.

KINE 4325  Kinetic Anatomy  
3 Semester Credit Hours (3 Lecture Hours)  
An analysis of the skeletal, muscular, and neurological structure and functional aspects of human movement with emphasis on sport and fitness activities.  
Prerequisite: KINE 2325 or BIOL 2401 and KINE 1320 or 2313.

KINE 4327  Biomechanics  
3 Semester Credit Hours (3 Lecture Hours)  
An analysis of the mechanical factors and principles influencing human motion with emphasis on sport and fitness activities. Recommended  
Prerequisite: (KINE 2325 or BIOL 2401) and (KINE 1320 or 2313) and KINE 4127.  
* May be taken concurrently.

KINE 4329  Essentials of Strength and Conditioning  
3 Semester Credit Hours (3 Lecture Hours)  
This course is designed to provide a comprehensive overview of strength and conditioning. Emphasis is placed on the exercise sciences (including anatomy, exercise physiology, and biomechanics) and nutrition, exercise technique, program design, organization and administration, and testing and evaluation. Additionally, this course is designed to prepare students for either the nationally accredited Certified Strength and Conditioning Specialist (CSCS) or the NSCA Certified Personal Trainer (CPT) exams.  
Prerequisite: (BIOL 2401, 2402, KINE 4312 and 4327).

KINE 4339  Special Populations in Kinesiology  
3 Semester Credit Hours (3 Lecture Hours)  
A course designed to direct kinesiology educators toward meeting the program needs of the exceptional individual in physical education or kinesiology professional setting. Practical teaching application with exceptional individuals is stressed.  
Prerequisite: KINE 2313.

KINE 4340  Exercise Testing and Prescription  
3 Semester Credit Hours (3 Lecture Hours)  
This course provides classroom and hands on experience addressing all facets of exercise testing and prescription ranging from health appraisal, physical fitness testing, principles of exercise prescription, clinical exercise physiology, and special populations.

KINE 4390  Seminar in Exercise and Sport  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Contemporary issues in Exercise and Sport; topics vary with the individual. May be repeated for credit when topic varies.

KINE 4693  Professional Field Experience I  
6 Semester Credit Hours (6 Lecture Hours)  
This course is a field-based experience (minimum of 200 hours) to provide the student the opportunity to apply knowledge and theory related to the student’s specialization in kinesiology (e.g. Exercise Science, Pre-Allied Health Professional, Sport Management). Students must enroll in both KINE 4693 and KINE 4694 at the same time. To enroll students must have departmental approval as well as an overall and kinesiology GPA of 2.75. The field experience is for seniors only and they should enroll during their last semester. Students are allowed to enroll in other coursework but not to exceed the 18-hour university limit.
KINE 4694  Professional Field Experience II  
6 Semester Credit Hours
This course is in conjunction with Professional Field Experience I. A minimum of 200 hours is required for this portion of the internship for a total of 400 hours. Students must enroll in both KINE 4693 and KINE 4694 at the same time. All of the requisites and limitations of KINE 4693 apply to this course as well.

KINE 4696 Directed Individual Study  
1-6 Semester Credit Hours
Investigative study on selected problems by students with particular needs through special permission of the Department Chair and Dean. May be repeated for credit when topic varies.

Teacher Certifications
- Elementary, Teacher Certification (p. 117)
- Elementary Education, BS - Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/)
- Secondary/EC-12, Teacher Certification (p. 117)

Elementary, Teacher Certification

Program Description
Students who complete the requirements for the Bachelor of Science degree and who successfully pass the appropriate TExES tests will fulfill simultaneously all requirements for either EC-6 Core Subjects with a Reading Specialization, EC-6 Core Subjects-Bilingual, 4-8 Mathematics or EC-12 Special Education teacher certification.

Secondary/EC-12, Teacher Certification

Program Description
Students seeking certification to teach in the secondary schools of Texas, or at all levels in the fields of art, music, physical education, Spanish, and theatre must:

1. major in an approved teaching field and complete all major study and related requirements for a baccalaureate degree in that field, and
2. comply with teacher certification requirements.

Requirements to establish a major field of study are located within the individual college sections of the catalog.

In addition to these requirements, students seeking a certificate to teach in the secondary schools of Texas must complete:

1. The baccalaureate degree with an academic major.
2. The University's General Education requirements, including the Core Curriculum Program. (See “General Education Requirements” in the “Undergraduate Programs (p. 43)” section of this catalog; see also “Core Curriculum Program (p. 556)”)
3. Three semester hours of reading; READ 3353 Content Area Reading for Secondary Students (3 sch).
4. Either secondary or EC-12 course work
5. A passing score on the appropriate TExES tests

Program Requirements
Select either Secondary or EC-12 course work as listed below:

### Secondary

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<tr>
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<td></td>
<td><strong>Professional Education</strong></td>
<td></td>
</tr>
<tr>
<td>EDUC 3311</td>
<td>School and Society</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Field Base</strong></td>
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<tr>
<td>EDUC 4605</td>
<td>Planning, Teaching, Assessment and Technology</td>
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<tr>
<td>EDUC 4311</td>
<td>Classroom Management</td>
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<tr>
<td></td>
<td><strong>Student Teaching</strong></td>
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<tr>
<td>EDUC 4321</td>
<td>Instructional Design for Special Populations</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4995</td>
<td>Clinical Teaching</td>
<td>9</td>
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### EC-12

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<td></td>
<td><strong>Student Teaching</strong></td>
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<td>EDUC 4995</td>
<td>Clinical Teaching</td>
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^ Blended offering

Courses

EDUC 2307  Schooling in a Democracy  3 Semester Credit Hours
A course to enable citizens, parents, and prospective professional educators to synthesize their general education experiences/courses with current issues and practices related to teaching and learning in the United States. Career opportunities and personal commitments to the teaching profession will be explored. The systematic process of admission to the teacher education program will be initiated. Field observations in communities and schools will be required.

TCCNS: EDUC 1301

EDUC 3311  School and Society  3 Semester Credit Hours (3 Lecture Hours)
The characteristics, organization, and management of the American School System including: The history of the development of American schools, legal and ethical issues, teaching as a profession, influence of cultural background on instruction of students, characteristics and needs of special populations, and adapting curriculum and instruction for students from special populations. A student interview with Department of Teacher Education faculty will be required. Field experiences required.
EDUC 4311 Classroom Management
3 Semester Credit Hours (3 Lecture Hours)
A study of classroom organization and management as related to basic principles of human development and learning. Preventative discipline techniques utilizing both group and individual processes are emphasized. This course is to be taken concurrently with Planning, Teaching, Assessment and Technology.

EDUC 4312 Classroom Management: Grades 7-12
3 Semester Credit Hours (3 Lecture Hours)
A study of classroom organization and management as related to basic principles of human development and learning. Preventative discipline techniques utilizing both group and individual processes are emphasized. This course is to be taken concurrently with Planning, Teaching, Assessment and Technology for Grades 7-12 Teachers.

EDUC 4313 Classroom Management: Grades 4-8
3 Semester Credit Hours (3 Lecture Hours)
A study of classroom organization and management as related to basic principles of human development and learning. Preventative discipline techniques utilizing both group and individual processes are emphasized. This course is to be taken concurrently with Planning, Teaching, Assessment and Technology for Grades 4-8 Teachers.

EDUC 4314 Classroom Management: Grades EC-6
3 Semester Credit Hours (3 Lecture Hours)
A study of classroom organization and management as related to basic principles of human development and learning. Preventative discipline techniques utilizing both group and individual processes are emphasized. This course is to be taken concurrently with Planning, Teaching, Assessment and Technology for Grades EC-6 Teachers.

EDUC 4321 Instructional Design for Special Populations
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with clinical teaching.

EDUC 4322 Instructional Design for Special Populations: Grades 7-12
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with student teaching.

EDUC 4323 Instructional Design for Special Populations: Grades 4-8
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with student teaching.

EDUC 4324 Instructional Design for Special Populations: Grades EC-6
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with student teaching.

EDUC 4390 Special Topics
1-3 Semester Credit Hours (1-3 Lecture Hours)
Topics in Curriculum and Pedagogy will be explored at the request of participants or faculty with the approval of the Department Chair, Dean, and Curriculum Coordinating Committee (CCC).

EDUC 4392 Student Teaching: EC-Grade 6
3 Semester Credit Hours (3 Lecture Hours)
Laboratory experiences and directed teaching in grades EC-Grade 6.

EDUC 4393 Student Teaching: Grades 7-12
3 Semester Credit Hours (3 Lecture Hours)
Laboratory experiences and directed teaching in grades 7-12.

EDUC 4394 Student Teaching: EC-Grade 6
3 Semester Credit Hours (3 Lecture Hours)
Laboratory experiences and directed teaching in grades EC-Grade 6.
Prerequisite: EDUC 4693.
*May be taken concurrently.

EDUC 4605 Planning, Teaching, Assessment and Technology
6 Semester Credit Hours (6 Lecture Hours)
A study of planning, teaching, assessment and technology as they relate to teaching. Lesson planning, teaching, reflection, observation, and collaboration with site professors and cooperating teachers in the field are integral parts of the course.

EDUC 4606 Planning, Teaching, Assessment and Technology for Grades 7-12 Teachers
6 Semester Credit Hours
A study of planning, teaching, assessment and technology as they relate to teaching in grades 7-12. Planning will include general curriculum issues, the lesson cycle, multiple intelligences, learning styles and resources. Teaching will include methods and strategies for delivery of instruction and classroom environment. Assessment will focus on traditional and authentic alternative assessment. Technology will cover media and techniques from transparencies to computer technology, and will incorporate the skills and knowledge for using the microcomputer to plan and develop presentations, instructional materials, and learning activities in the public school curriculum. Observation and collaboration with professional teachers in the field, as well as journal writing, will be integral parts of the course. Two full days per week are required at a partner school site. A student may enroll in this course for a maximum of 2 times only; and it must be completed during the Fall or Spring semesters in order to successfully complete all requirements.
EDUC 4607 Planning, Teaching, Assessment and Technology for Grades 4-8 Teachers
6 Semester Credit Hours
A study of planning, teaching, assessment and technology as they relate to teaching in grades 4-8. Planning will include general curriculum issues, the lesson cycle, multiple intelligences, learning styles and resources. Teaching will include methods and strategies for delivery of instruction and classroom environment. Assessment will focus on traditional and authentic alternative assessment. Technology will cover media and techniques from transparencies to computer technology, and will incorporate the skills and knowledge for using the microcomputer to plan and develop presentations, instructional materials, and learning activities in the public school curriculum. Observation and collaboration with professional teachers in the field, as well as journal writing, will be integral parts of the course. Two full days per week are required at a partner school site. A student may enroll in this course for a maximum of 2 times only; and it must be completed during the Fall or Spring semesters in order to successfully complete all requirements.

EDUC 4608 Planning, Teaching, Assessment and Technology for Grades EC-6 Teachers
6 Semester Credit Hours
A study of planning, teaching, assessment and technology as they relate to teaching in grades EC-6. Planning will include general curriculum issues, the lesson cycle, multiple intelligences, learning styles and resources. Teaching will include methods and strategies for delivery of instruction and classroom environment. Assessment will focus on traditional and authentic alternative assessment. Technology will cover media and techniques from transparencies to computer technology, and will incorporate the skills and knowledge for using the microcomputer to plan and develop presentations, instructional materials, and learning activities in the public school curriculum. Observation and collaboration with professional teachers in the field, as well as journal writing, will be integral parts of the course. Two full days per week are required at a partner school site. A student may enroll in this course for a maximum of 2 times only; and it must be completed during the Fall or Spring semesters in order to successfully complete all requirements.

EDUC 4693 Student Teaching: Grades 7-12
9 Semester Credit Hours (9 Lecture Hours)
Laboratory experiences and directed teaching in grades 7-12 in the student's teaching field(s).

EDUC 4694 Student Teaching: EC-grade 6
9 Semester Credit Hours (9 Lecture Hours)
Laboratory experiences and directed teaching in grades EC-Grade 6.

EDUC 4695 Clinical Teaching
9 Semester Credit Hours
Laboratory experiences and directed teaching in student's certification area(s).

Minors
- Education, Minor (p. 119)
- Kinesiology, Minor (p. 121)
- Military Science (p. 124)
- Military Science, Minor (p. 126)

Education, Minor
Program Description
The College of Education and Human Development minor is designed to provide foundational and experiential knowledge of the pedagogy and professional responsibilities of teaching in grades 4-8 and 7-12. There are career avenues beyond the public or private PK-12 education setting for which integrated coursework in Education offers excellent preparation and opportunity. For example, College of Business graduates often require teaching and communication skills in the private and nonprofit sectors of management and training. Others graduating with degrees in content areas like Mathematics, Chemistry, Physics, English or Sociology often seek graduate degrees in Education so that they may eventually become instructors in community colleges and professors at the university or college level. Persons who select the minor must declare the minor with a College of Education and Human Development academic advisor.

Undergraduates seeking a minor in Teacher Education may not qualify for the ASCENT program.

Program Requirements
The minor will consist of 18 hours in education. A minimum grade point average of 2.0 (“C”) on a 4-point scale is required in all courses for successful completion of the minor. The minor will consist of the following course work:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
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<tr>
<td>EDUC 3311</td>
<td>School and Society</td>
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<td>READ 3353</td>
<td>Content Area Reading for Secondary Students</td>
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<td>IDET 3310</td>
<td>Technology Applications for Teachers</td>
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<td>EDUC 4311</td>
<td>Classroom Management</td>
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</tr>
<tr>
<td>EDUC 4605</td>
<td>Planning, Teaching, Assessment and Technology</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Hours 18
Courses

EDUC 2307 Schooling in a Democracy
3 Semester Credit Hours
A course to enable citizens, parents, and prospective professional educators to synthesize their general education experiences/courses with current issues and practices related to teaching and learning in the United States. Career opportunities and personal commitments to the teaching profession will be explored. The systematic process of admission to the teacher education program will be initiated. Field observations in communities and schools will be required.

TCCNS: EDUC 1301

EDUC 3311 School and Society
3 Semester Credit Hours (3 Lecture Hours)
The characteristics, organization, and management of the American School System including: The history of the development of American schools, legal and ethical issues, teaching as a profession, influence of cultural background on instruction of students, characteristics and needs of special populations, and adapting curriculum and instruction for students from special populations. A student interview with Department of Teacher Education faculty will be required. Field experiences required.

EDUC 4311 Classroom Management
3 Semester Credit Hours (3 Lecture Hours)
A study of classroom organization and management as related to basic principles of human development and learning. Preventative discipline techniques utilizing both group and individual processes are emphasized. This course is to be taken concurrently with Planning, Teaching, Assessment, and Technology (6 sch) during the Fall or Spring semester only.

Prerequisites required for the EDUC 4605 Planning, Teaching, Assessment and Technology (6 sch) course include Criminal Background check and TB Screening; and a minimum grade point average of 2.75 on all academic work attempted in the student’s teaching field(s), area of specialization or delivery system or a 2.75 on the last 60 hours attempted.

^ Blended offering

Please note that many teaching certificate areas (i.e. History, English, Science and others) may require above the minimum GPA of 2.75 and may not accept grades below "C". Students are to check the undergraduate catalog section that pertains to the certificate area for required GPA’s.

EDUC 4394 Classroom Management: Grades EC-6
3 Semester Credit Hours (3 Lecture Hours)
A study of classroom organization and management as related to basic principles of human development and learning. Preventative discipline techniques utilizing both group and individual processes are emphasized. This course is to be taken concurrently with Planning, Teaching, Assessment and Technology for Grades EC-6 Teachers.

EDUC 4321 Instructional Design for Special Populations
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with clinical teaching.

EDUC 4322 Instructional Design for Special Populations: Grades 7-12
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with student teaching.

EDUC 4323 Instructional Design for Special Populations: Grades 4-8
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with student teaching.

EDUC 4324 Instructional Design for Special Populations: Grades EC-6
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with student teaching.

EDUC 4390 Special Topics
1-3 Semester Credit Hours (1-3 Lecture Hours)
Topics in Curriculum and Pedagogy will be explored at the request of participants or faculty with the approval of the Department Chair, Dean, and Curriculum Coordinating Committee (CCC).

EDUC 4392 Student Teaching: EC-Grade 6
3 Semester Credit Hours (3 Lecture Hours)
Laboratory experiences and directed teaching in grades EC-Grade 6.

EDUC 4393 Student Teaching: Grades 7-12
3 Semester Credit Hours (3 Lecture Hours)
Laboratory experiences and directed teaching in grades 7-12.

EDUC 4394 Student Teaching: EC-Grade 6
3 Semester Credit Hours (3 Lecture Hours)
Laboratory experiences and directed teaching in grades EC-Grade 6.

Prerequisite: EDUC 4693^.

^ May be taken concurrently.
EDUC 4605 Planning, Teaching, Assessment and Technology
6 Semester Credit Hours (6 Lecture Hours)
A study of planning, teaching, assessment and technology as they relate to teaching. Lesson planning, teaching, reflection, observation, and collaboration with site professors and cooperating teachers in the field are integral parts of the course.

EDUC 4606 Planning, Teaching, Assessment and Technology for Grades 7-12 Teachers
6 Semester Credit Hours
A study of planning, teaching, assessment and technology as they relate to teaching in grades 7-12. Planning will include general curriculum issues, the lesson cycle, multiple intelligences, learning styles and resources. Teaching will include methods and strategies for delivery of instruction and classroom environment. Assessment will focus on traditional and authentic alternative assessment. Technology will cover media and techniques from transparencies to computer technology, and will incorporate the skills and knowledge for using the microcomputer to plan and develop presentations, instructional materials, and learning activities in the public school curriculum. Observation and collaboration with professional teachers in the field, as well as journal writing, will be integral parts of the course. Two full days per week are required at a partner school site. A student may enroll in this course for a maximum of 2 times only; and it must be completed during the Fall or Spring semesters in order to successfully complete all requirements.

EDUC 4607 Planning, Teaching, Assessment and Technology for Grades 4-8 Teachers
6 Semester Credit Hours
A study of planning, teaching, assessment and technology as they relate to teaching in grades 4-8. Planning will include general curriculum issues, the lesson cycle, multiple intelligences, learning styles and resources. Teaching will include methods and strategies for delivery of instruction and classroom environment. Assessment will focus on traditional and authentic alternative assessment. Technology will cover media and techniques from transparencies to computer technology, and will incorporate the skills and knowledge for using the microcomputer to plan and develop presentations, instructional materials, and learning activities in the public school curriculum. Observation and collaboration with professional teachers in the field, as well as journal writing, will be integral parts of the course. Two full days per week are required at a partner school site. A student may enroll in this course for a maximum of 2 times only; and it must be completed during the Fall or Spring semesters in order to successfully complete all requirements.

EDUC 4608 Planning, Teaching, Assessment and Technology for Grades EC-6 Teachers
6 Semester Credit Hours
A study of planning, teaching, assessment and technology as they relate to teaching in grades EC-6. Planning will include general curriculum issues, the lesson cycle, multiple intelligences, learning styles and resources. Teaching will include methods and strategies for delivery of instruction and classroom environment. Assessment will focus on traditional and authentic alternative assessment. Technology will cover media and techniques from transparencies to computer technology, and will incorporate the skills and knowledge for using the microcomputer to plan and develop presentations, instructional materials, and learning activities in the public school curriculum. Observation and collaboration with professional teachers in the field, as well as journal writing, will be integral parts of the course. Two full days per week are required at a partner school site. A student may enroll in this course for a maximum of 2 times only; and it must be completed during the Fall or Spring semesters in order to successfully complete all requirements.

EDUC 4693 Student Teaching: Grades 7-12
6 Semester Credit Hours (6 Lecture Hours)
Laboratory experiences and directed teaching in grades 7-12 in the student’s teaching field(s).

EDUC 4694 Student Teaching: EC-Grade 6
6 Semester Credit Hours (6 Lecture Hours)
Laboratory experiences and directed teaching in grades EC-Grade 6.
Prerequisite: EDUC 4393.
* May be taken concurrently.

EDUC 4696 Directed Individual Study
1-6 Semester Credit Hours
Programs will be designed for individual cases through special permission of the Department Chair and Dean. May be repeated for credit when the topic varies.

EDUC 4699 Teaching Internship
6 Semester Credit Hours
An internship designed for inservice teachers seeking certification under the post baccalaureate program. Grade assigned will be "credit" (CR) or "no credit" (NC).

EDUC 4992 Student Teaching: Grades 4-8
9 Semester Credit Hours
Laboratory experiences and directed teaching in grades 4-8 in the student’s teaching field(s).

EDUC 4993 Student Teaching: Grades 7-12
9 Semester Credit Hours
Laboratory experiences and directed teaching in grades 7-12.

EDUC 4994 Student Teaching: EC-grade 6
9 Semester Credit Hours (9 Lecture Hours)
Laboratory experiences and directed teaching in an EC-Grade 6 classroom.

EDUC 4995 Clinical Teaching
9 Semester Credit Hours
Laboratory experiences and directed teaching in student's certification area(s).

Kinesiology, Minor
Program Description
The department allows minors in the 3 specializations (EC-12 Physical Education Certification, Exercise Science, and Sport Management).

EC-12 PE Certification Minor
The minor is designed to serve education students that have or are pursuing a major in another teaching discipline and aspire to achieve an additional certification in Physical Education after issuance of initial teaching certificate. However, non-teaching majors who are interested in supplementing their major area of study with an added knowledge of physical education may also pursue this minor. A minimum of twelve hours must be taken at Texas A&M University-Corpus Christi. For additional information, contact an academic advisor in the College of Education and Human Development.

Exercise Science Minor
The minor is designed to serve students who are interested in supplementing their major area of study with an added knowledge of exercise science. A minimum of twelve hours must be taken at Texas A&M University-Corpus Christi. For additional information, contact an academic advisor in the College of Education and Human Development.
Sport Management Minor
The minor is designed to serve students who are interested in supplementing their major area of study with an added knowledge of sport management. A minimum of twelve hours must be taken at Texas A&M University-Corpus Christi. For additional information, contact an academic advisor in the College of Education and Human Development.

Program Requirements
EC-12 PE Certification Minor

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<td>KINE 2375</td>
<td>Nutrition for Human Performance</td>
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<tr>
<td>KINE 3338</td>
<td>Motor Development/Motor Learning</td>
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<tr>
<td>KINE 3339</td>
<td>Elementary Physical Education Programs^</td>
<td>3</td>
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<tr>
<td>KINE 3341</td>
<td>Secondary Physical Education Programs^</td>
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<tr>
<td>KINE 4339</td>
<td>Special Populations in Kinesiology</td>
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Total Hours: 18

^ Blended offering

Exercise Science Minor

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<td>KINE 2375</td>
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<tr>
<td>KINE 3337</td>
<td>Sport and Exercise Psychology</td>
<td>3</td>
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<td>KINE 4325</td>
<td>Kinetic Anatomy</td>
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<td>KINE 4327</td>
<td>Biomechanics</td>
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<td>KINE 4127</td>
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<td>KINE 4311</td>
<td>Measurement and Evaluation</td>
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<td>KINE 3312</td>
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<td>KINE 3112</td>
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Total Hours: 20

Sport Management Minor

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<td>SMGT 3330</td>
<td>Promotion of Sport</td>
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<td>SMGT 3335</td>
<td>Legal Issues in Sport</td>
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<td>SMGT 3366</td>
<td>Managing Sport and Leisure Services</td>
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<td>SMGT 4309</td>
<td>Finance Management in Sport</td>
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<td>SMGT Elective</td>
<td>Select one of the following:</td>
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<td>SMGT 3320</td>
<td>Sport Communication</td>
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<td>SMGT 3325</td>
<td>Governance and Ethics in Sport</td>
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<tr>
<td>SMGT 3367</td>
<td>Sport Tourism</td>
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<td>SMGT 4308</td>
<td>Sport Facilities and Event Management</td>
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<tr>
<td>SMGT 4351</td>
<td>Sport Entrepreneurship</td>
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<tr>
<td>SMGT 4365</td>
<td>Managing Personnel in Sport Organizations</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours: 18

^ Blended offering

Courses

KINE 1106 Weight Training
1 Semester Credit Hour (1 Lab Hour)
The study and practice of physiological principles related to training programs for the development of muscular strength and endurance.

KINE 1108 Strength Conditioning for Women
1 Semester Credit Hour (1 Lab Hour)
The study and practice of physiological principles relating to training programs for the development of muscular strength and endurance for women.

KINE 1110 Individual/Dual/Lifetime Sports
1 Semester Credit Hour (1 Lab Hour)
Instruction, participation, and practice in a variety of individual, dual, and lifetime sports.

KINE 1112 Personal Self Defense
1 Semester Credit Hour (1 Lab Hour)
Instruction and practice of contemporary techniques of self protection.

KINE 1116 Ranger Leadership Laboratory
1 Semester Credit Hour (1 Lab Hour)
Practical leadership and teamwork training in rappelling, rope bridges, weapons firing, map reading and land navigation, water safety, patrolling, and other ranger skills. Includes a weekend field trip where the techniques learned will be applied in competitive events. Cross listed with MSCI 1172.

KINE 1131 Yoga
1 Semester Credit Hour (1 Lecture Hour)
Instruction and practice of Yoga postures, breathing, meditation and relaxation.

KINE 1133 Tai Chi
1 Semester Credit Hour (1 Lab Hour)

KINE 1135 Army Physical Fitness Training
1 Semester Credit Hour (3 Lab Hours)
Instruction and practice of the skills, techniques and fitness activities that are germane to typical Army training.

KINE 1136 Pilates
1 Semester Credit Hour (3 Lab Hours)
Instruction and practice in the skills, techniques, and principles of Pilates with emphasis on the Classical Pilates matwork.

KINE 2215 First Aid and Safety
2 Semester Credit Hours (2 Lecture Hours)
Basic CPR and first aid instruction leading to American Red Cross certification.

KINE 2225 Sports Conditioning
2 Semester Credit Hours (2 Lecture Hours)
This course addresses the principles and practice of sports conditioning from a coaching perspective. Topics will include athletic needs evaluation, exercise programming, and program implementation. Issues regarding resistance exercise, speed, endurance, explosiveness training, and agility will be addressed.
KINE 2313 Foundations of Kinesiology
3 Semester Credit Hours (3 Lecture Hours)
An overview of the field of physical education which includes the history, philosophy, principles, current concepts of physical education and career options. For kinesiology majors this course must be taken prior to any senior level (4000) kinesiology courses.
TCCNS: PHED 1301

KINE 2317 Re-inventing Games
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to introduce a framework for the development of games, sports, and activities through an inclusive and developmentally appropriate process of change, challenge, and choice. A wide array of sports, sports-related games and activities are introduced, deconstructed for their current exclusivity and then reconstructed through a framework which seeks to change the existing exclusivity of the rules, to challenge participating students of all cognitive and physical abilities, and then build in a choice component into the activity. This course is recommended prior to enrolling in KINE 3339 and KINE 3341.

KINE 2325 Physiological Aspects of Kinesiology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the fundamental principles of human physiology and their application to kinesiology.

KINE 2326 Essentials of Professional Fitness Training
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide theoretical knowledge and practical skills in preparation for a national certification exam in personal training. Topics include guidelines for instructing safe, effective, and purposeful exercise, essentials of the client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming.

KINE 2375 Nutrition for Human Performance
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the physiological, anatomical, and psychological aspects of nutrition in relation to human performance and optimal health. Special emphasis is placed on sport and fitness enhancement and achievement of peak training levels, through proper nutrient ingestion.

KINE 3112 Physiology of Exercise Lab
1 Semester Credit Hour (1 Lecture Hour)
The required laboratory course with KINE 3312. Demonstration and hands-on learning will introduce students to the scientific basis, techniques, and methods used in exercise physiology. Lab activities will complement lecture materials from KINE 3312. KINE 3112 must be taken concurrently with KINE 3312.

KINE 3301 Outdoor Adventure Programs
3 Semester Credit Hours (3 Lecture Hours)
An introduction to a variety of outdoor adventure activities and basic outdoor skills. In addition to skill acquisition and assessment, this course covers such topics as: history and philosophy of outdoor adventure programs, risk and legal liability and trip planning.

KINE 3312 Physiology of Exercise
3 Semester Credit Hours (3 Lecture Hours)
This course is an application of anatomy and physiology that allows for the understanding of the effects of various forms of exercise and the environment on the body systems and performance. Lab activities will complement lecture materials.
Prerequisite: (KINE 2325 or BIOL 2401) and (KINE 1320 or 2313) and (KINE 3112).  
* May be taken concurrently.

KINE 3318 Prevention and Care of Athletic Injuries
3 Semester Credit Hours (3 Lecture Hours)
Provides the general knowledge and general application of theory, principles, and skills used in the prevention, care, and rehabilitation of athletic injuries.

KINE 3320 Introduction to Therapeutic Interventions
3 Semester Credit Hours (3 Lecture Hours)
Provides the student with the general knowledge of current theory and application of various therapeutic interventions used in the treatment of musculoskeletal injuries, including thermal therapy, cryotherapy, manual therapy, and therapeutic exercises.
Prerequisite: KINE 3318.

KINE 3337 Sport and Exercise Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course provides general knowledge of the psychological factors that are associated with participation and performance in sport, exercise, and other types of physical activity with emphasis on motivational techniques, personality dynamics, and mental health serving as focal points.

KINE 3338 Motor Development/Motor Learning
3 Semester Credit Hours (3 Lecture Hours)
A study of the fundamental principles related to human motor development and the scientific principles related to motor learning.

KINE 3339 Elementary Physical Education Programs
3 Semester Credit Hours (3 Lecture Hours)
The application of the fundamental principles related to human motor development, physical fitness, locomotor skills, non-locomotor skills, manipulative skills, and rhythmical activities with children at the elementary school level. Recommended
Prerequisite: KINE 2317 and 3338.

KINE 3341 Secondary Physical Education Programs
3 Semester Credit Hours (3 Lecture Hours)
The application of the fundamental principles related to human motor development, physical fitness, sports related activities and dance with children at the secondary school level. Recommended
Prerequisite: KINE 3338 and 3339.

KINE 4317 Biomechanics Lab
1 Semester Credit Hour (1 Lab Hour)
The required laboratory course with KINE 4327. The demonstration and application of mechanical factors and principles affecting human motion. Qualitative and quantitative analysis of human motion with emphasis on sport and fitness activities. KINE 4127 must be taken concurrently with KINE 4327.
Prerequisite: KINE 4327*.
* May be taken concurrently.

KINE 4311 Measurement and Evaluation
3 Semester Credit Hours (3 Lecture Hours)
Use and function of the various tests used in kinesiology together with the purpose, scope and techniques of test construction. Development of statistical techniques necessary for manipulation and interpretation of physical performance data.
Prerequisite: KINE 1320 or 2313.

KINE 4325 Kinetic Anatomy
3 Semester Credit Hours (3 Lecture Hours)
An analysis of the skeletal, muscular, and neurological structure and functional aspects of human movement with emphasis on sport and fitness activities.
Prerequisite: KINE 2325 or BIOL 2401 and KINE 1320 or 2313.
KINE 4327 Biomechanics
3 Semester Credit Hours (3 Lecture Hours)
An analysis of the mechanical factors and principles influencing human motion with emphasis on sport and fitness activities. Recommended Prerequisite: (KINE 2325 or BIOL 2401) and (KINE 1320 or 2313) and KINE 4127.*
* May be repeated for credit when topic varies.

KINE 4329 Essentials of Strength and Conditioning
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide a comprehensive overview of strength and conditioning. Emphasis is placed on the exercise sciences (including anatomy, exercise physiology, and biomechanics) and nutrition, exercise technique, program design, organization and administration, and testing and evaluation. Additionally, this course is designed to prepare students for either the nationally accredited Certified Strength and Conditioning Specialist (CSCS) or the NSCA Certified Personal Trainer (CPT) exams. Prerequisite: (BIOL 2401, 2402, KINE 4312 and 4327).

KINE 4339 Special Populations in Kinesiology
3 Semester Credit Hours (3 Lecture Hours)
A course designed to direct kinesiology educators toward meeting the program needs of the exceptional individual in physical education or kinesiology professional setting. Practical teaching application with exceptional individuals is stressed. Prerequisite: KINE 2313.

KINE 4340 Exercise Testing and Prescription
3 Semester Credit Hours (3 Lecture Hours)
This course provides classroom and hands-on experience addressing all facets of exercise testing and prescription ranging from health appraisal, physical fitness testing, principles of exercise prescription, clinical exercise physiology, and special populations.

KINE 4390 Seminar in Exercise and Sport
1-3 Semester Credit Hours (1-3 Lecture Hours)
Contemporary issues in Exercise and Sport; topics vary with the individual. May be repeated for credit when topic varies.

KINE 4693 Professional Field Experience I
6 Semester Credit Hours (6 Lecture Hours)
This course is a field-based experience (minimum of 200 hours) to provide the student the opportunity to apply knowledge and theory related to the student’s specialization in kinesiology (e.g., Exercise Science, Pre-Allied Health Professional, Sport Management). Students must enroll in both KINE 4693 and KINE 4694 at the same time. To enroll students must have departmental approval as well as an overall and kinesiology GPA of 2.75. The field experience is for seniors only and they should enroll during their last semester. Students are allowed to enroll in other coursework but not to exceed the 18-hour university limit.

KINE 4694 Professional Field Experience II
6 Semester Credit Hours
This course is in conjunction with Professional Field Experience I. A minimum of 200 hours is required for this portion of the internship for a total of 400 hours. Students must enroll in both KINE 4693 and KINE 4694 at the same time. All of the requisites and limitations of KINE 4693 apply to this course as well.

KINE 4696 Directed Individual Study
1-6 Semester Credit Hours
Investigative study on selected problems by students with particular needs through special permission of the Department Chair and Dean. May be repeated for credit when topic varies.

Military Science
Program Description
A four-year ROTC program includes instruction for freshman and sophomore students as well as advanced students. As stated in the introduction of the College of Education and Human Development Handbook, a minor in Military Science is offered, giving the student academic credit for the leadership, critical thinking and military skills training received. At least 19 credit hours are required to receive credit for a minor.

The Advanced Military Science Program
The Advanced Military Science Program at Texas A&M University-Corpus Christi allows qualified students to earn commissions as Second Lieutenants in the active Army, the Army Reserve, or the National Guard.

Entry into the program is restricted to students who have demonstrated scholastic ability, excellent character, and leadership potential. Qualification is based on successful accomplishment of any one of the following:

1. Honorable military service.
2. Completion of the U.S. Army Cadet Command Camp (a 4 week summer compression program).
3. Completion of the first two years of the ROTC four-year program at another institution.

The two-year curriculum is centered on developing leadership and management skills. Training exercises aimed at increasing the students’ confidence are practiced throughout the program.

Graduates of this program are appointed in entry management positions in the Army depending upon their preferences, academic majors, and demonstrated leadership.

Program Requirements
Basic Military Science

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>MSCI 1170</td>
<td>Introduction to the Army</td>
<td>1</td>
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<td>MSCI 1171</td>
<td>Foundations of Leadership</td>
<td>1</td>
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<td>MSCI 2270</td>
<td>Leadership and Ethics</td>
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<td>MSCI 2271</td>
<td>Army Doctrine and Decision Making</td>
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The Advanced Military Science Program

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<tr>
<td>MSCI 3403</td>
<td>Training Management and the Warfighting Functions</td>
<td>4</td>
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<td>MSCI 3404</td>
<td>Applied Leadership in Small Unit Operations</td>
<td>4</td>
</tr>
<tr>
<td>MSCI 4403</td>
<td>The Army Officer</td>
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</tr>
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<td>MSCI 4404</td>
<td>Company Grade Leadership</td>
<td>4</td>
</tr>
<tr>
<td>HIST 4335</td>
<td>The Military and United States History</td>
<td>3</td>
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<tr>
<td>or MSCI 3301</td>
<td>American Military History</td>
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<td>Total Hours</td>
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Courses

MSCI 1170 Introduction to the Army
1 Semester Credit Hour (1 Lecture Hour)
MSCI 1170/MSL 101 Focuses on introduction to the Army and critical thinking. It introduces Cadets to the Army and the Profession of Arms. Students will examine the Army Profession and what it means to be a professional in the U.S. Army. The overall focus is on developing basic knowledge and comprehension of the Army Leadership Requirements Model while gaining a complete understanding of the Reserve Officers' Training Corps (ROTC) program, its purpose in the Army, and its advantages for the student. Cadets also learn how resiliency and fitness support their development as an Army leader. Includes a weekly lab facilitated by MS III Cadets and supervised by ROTC Cadre.

MSCI 1171 Foundations of Leadership
1 Semester Credit Hour (1 Lecture Hour, 1 Lab Hour)
MSCI 1171/MSL 102 Introduces Cadets to the personal challenges and competencies are critical for effective leadership. Cadets learn the personal development of life skills such as critical thinking, time management, goal setting, and communication. Cadets learn the basics of the communications process and the importance for leaders to develop the essential skills to effectively communicate in the Army. Cadets will begin learning the basics of squad level tactics that will be reinforced during a weekly lab facilitated by MS III Cadets and supervised by ROTC Cadre.

MSCI 1172 Ranger Leadership Laboratory
1 Semester Credit Hour (1 Lab Hour)
RANGER LEADERSHIP LABORATORY Practical leadership and teamwork training in rappelling, rope bridges, weapons firing, map reading and land navigation, water safety, patrolling, and other ranger skills. Includes a weekend field trip where the techniques learned will be applied in competitive events. Cross listed with KINE 1116. May be repeated for credit.

MSCI 2270 Leadership and Ethics
2 Semester Credit Hours (1 Lecture Hour, 1 Lab Hour)
MSCI 2270/MSL 201 Focuses on leadership and decision making. The outcomes are demonstrated through Critical and Creative Thinking and the ability to apply Troop Leading Procedures (TLP) Innovative Solutions to Problems. The Army Profession is also stressed through leadership forums and a leadership self-assessment. Students are then required to apply their knowledge outside the classroom in a hands-on performance-oriented environment during a weekly lab facilitated by MSL III Cadets and supervised by Cadre.

MSCI 2271 Army Doctrine and Decision Making
2 Semester Credit Hours (1 Lecture Hour, 1 Lab Hour)
MSCI 2271/MSL 202 Focuses on Army doctrine and team development. The course begins the journey to understand and demonstrate competencies as they relate to Army doctrine. Army Values, Teamwork, and Warrior Ethos and their relationship to the Law of Land Warfare and philosophy of military service are also stressed. The ability to lead and follow is also covered through Team Building exercises at squad level. Students are then required to apply their knowledge outside the classroom in a hands-on performance-oriented environment during a weekly lab facilitated by MSL III Cadets and supervised by Cadre.

MSCI 3301 American Military History
3 Semester Credit Hours (3 Lecture Hours)
A comprehensive, but brief account of the U.S. Army from past to present. Integrates the basic knowledge of American military history into the future officer's education. This is an Army standardized, mandatory course that is a part of pre-commissioning training for contracted U.S. Army ROTC cadets. Employs American military history as a tool for studying military professionalism and applying critical-thinking skills and decision-making skills to military problems. Analyzes the definition of Military History, the theory and practice of war, and the American Military System as an intellectual framework for applying critical-thinking skills and problem-solving skill to the study of historical, military problems. Prerequisite: (MSCI 1170, 1171, 2271 and 2270).

MSCI 3403 Training Management and the Warfighting Functions
4 Semester Credit Hours (4 Lecture Hours)
MSCI 3304/MSL 301 Focuses on training management and the warfighting functions. It is an academically challenging course where the Cadet will develop the essential skills to effectively communicate in the Army. The Cadet will be capable of planning, preparing, and executing training for a squad, conducting small unit tactics. Includes a lab per week using peer facilitation overseen by MSL IVs, supervised by ROTC Cadre.

MSCI 3404 Applied Leadership in Small Unit Operations
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
MSCI 3404/MSL 302 Focuses on applied leadership in small unit operations. It is an academically challenging course where the cadet will study, practice, and apply the fundamentals of direct-level leadership and small unit tactics at the platoon level. At the conclusion of this course, the Cadet will be capable planning, preparing, coordinating, navigating, motivating, and leading a platoon in the execution of a mission. Includes a lab per week using peer facilitation overseen by MSL IVs, supervised by ROTC cadre. Successful completion of this course will help prepare for the Cadet Summer Training Advance Camp to be attended in the summer at Fort Knox, KY.

MSCI 3499 Leadership Development Assessment Course (LDAC)
4 Semester Credit Hours (4 Lecture Hours)
Four weeks of instruction and practical application in field training, demonstration of leadership capabilities, and leadership opportunities of problem analysis, decision making, and troop-leading. CR/NC only. Prerequisite: MSCI 3303 and 3304.

MSCI 4305 Advanced Problem Solving
3 Semester Credit Hours (3 Lecture Hours)
Military Science special problems course designed for individual study in modern day military structure and policies.

MSCI 4403 The Army Officer
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
MSCI 4403/MSL 401 Focuses on development of the Army Officer. It is an academically challenging course where the Cadet will develop knowledge, skills, and abilities to plan, resource, and assess training at the small unit level. The Cadet will also learn about Army programs that support counseling subordinates and evaluating performance, values and ethics, career planning, and legal responsibilities. At the conclusion of this course, the Cadet will be familiar with how to plan, prepare, execute, and continuously assess the conduct of training at the company or field grade officer level. Includes a lab per week overseeing MSL III lesson facilitation and supervised by ROTC Cadre.
MSCI 4404 Company Grade Leadership
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
MSCI 4404/MSL 402 An academically challenging course where the Cadet will develop knowledge, skills, and abilities required of junior officers pertaining to the Army in Unified Land Operations and Company Grade Officer roles and responsibilities. This course includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam, and an Oral Practicum as the final exam. The Oral Practicum explores the knowledge of how well the Cadet will be prepared for the 20 Army Warfighting Challenges (AWFC) covered throughout the ROTC Advanced Course. Successful completion of this course will assist in preparing for the BOLC B course and is a mandatory requirement for commissioning. Includes a lab per week overseeing MSL III lesson facilitation and supervised by ROTC Cadre.

MSCI 4696 Military Science Directed Individual Study
1-6 Semester Credit Hours
Programs will be designed for individual cases through special permission of the Department Chair and Dean. May be repeated for credit when the topic varies.

Military Science, Minor
Program Requirements

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<tr>
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Total Hours: 19

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MSCI 1171/MSL 102 Introduces Cadets to the personal challenges and competencies critical for effective leadership. Cadets learn the personal development of life skills such as critical thinking, time management, goal setting, and communication. Cadets learn the basics of the communications process and the importance for leaders to develop the essential skills to effectively communicate in the Army. Cadets will begin learning the basics of squad level tactics that will be reinforced during a weekly lab facilitated by MS III Cadets and supervised by ROTC Cadre.

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MSCI 3403  Training Management and the Warfighting Functions
4 Semester Credit Hours (4 Lecture Hours)
MSCI 3304/MSL 301 Focuses on training management and the warfighting functions. It is an academically challenging course where you will study, practice, and apply the fundamental of Training Management and how the Army operates through the Warfighting functions. At the conclusion of this course, the Cadet will be capable of planning, preparing, and executing training for a squad, conducting small unit tactics. Includes a lab per week using peer facilitation overseen by MSL IVs, supervised by ROTC Cadre.

MSCI 3404  Applied Leadership in Small Unit Operations
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
MSCI 3404/MSL 302 Focuses on applied leadership in small unit operations. It is an academically challenging course where the cadet will study, practice, and apply the fundamentals of direct-level leadership and small unit tactics at the platoon level. At the conclusion of this course, the Cadet will be capable of planning, coordinating, navigating, motivating, and leading a platoon in the execution of a mission. Includes a lab per week using peer facilitation overseen by MSL IVs, supervised by ROTC cadre. Successful completion of this course will help prepare for the Cadet Summer Training Advance Camp to be attended in the summer at Fort Knox, KY.

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MSCI 4696  Military Science Directed Individual Study
1-6 Semester Credit Hours
Programs will be designed for individual cases through special permission of the Department Chair and Dean. May be repeated for credit when the topic varies.

College of Liberal Arts

The College of Liberal Arts offers undergraduate and graduate study in the humanities, the social sciences, and the visual and performing arts. The College strives to prepare students for productive lives in a diverse and engaging world by developing intellectual and creative, communication, and critical thinking skills. It provides majors and minors in specialized subjects in the arts, humanities, and social sciences. Teaching provides advanced knowledge and skills in a setting that emphasizes interaction among students and faculty. The College seeks to develop habits of learning and a commitment to lifelong inquiry and intellectual growth.

College of Liberal Arts

- Our college values learning that results from purposeful relationships within vibrant and dynamic communities.
- Our college values learning that affects the whole individual through all aspects of our humanity (from the emotive to the rational).
- Our college values learning that produces responsible citizens who engage in the communities around them.
- Our college values learning that engages in research and produces scholarship which extends knowledge and, through this, our regional, national, and global reputations.

School of Arts, Media, and Communication (SAMC)

The mission of the School of Arts, Media & Communication is to develop and promote collaboration, innovation, and creation among students and faculty in visual arts, music, theatre, dance, media, and communication. SAMC students engage in experiential learning, develop leadership, teamwork, and organizational skills, and apply 21st century technology in service of expressing and understanding human experience. SAMC offers cultural enrichment and collaborative opportunities to all university students and members of the South Texas community. To support this mission, the School of Arts, Media & Communication subscribes to the highest academic, artistic, and ethical standards.

Pre-Law

Pre-law students should consult with a pre-law advisor about the proper selection of a major and of elective courses. Students may choose to minor in pre-law, but it is not a requirement to obtain pre-law advising. Advising includes providing information about law schools, admission requirements, and the Law School Admissions Test (LSAT).

Specialized Accreditation and Approval

The Texas A&M University-Corpus Christi music program is an accredited institutional member of the National Association of Schools of Music.

Baccalaureate Degree Requirements

Total Hours

A minimum of 120 semester hours of credit is required for the baccalaureate degree. Some curricula or combinations of fields require more. No remedial coursework may apply toward the degree.
Upper-Division Hours
A minimum of 45 semester hours of upper-division credit (junior- and senior-level course hours) is required for the baccalaureate degree.

Major-Study Requirements
A student must attain a minimum of 30 semester hours in the major field of study, not including any coursework taken as part of the Core Curriculum Program. At least 18 of these 30 hours must be upper-division (numbered 3000 or above) courses. Some curricula or combinations of fields require more. Specific course and major-study hour requirements for each discipline are given in the discipline course listing section of this catalog. Please consult that section for specific requirements that must be met for each disciplinary major. The BA and BS in University Studies and the BAAS degree do not have these requirements.

Minor-Study Requirements
To attain a minor in the College of Liberal Arts, a student must complete the program designed for that minor. Each minor consists of a minimum of 18 semester hours, at least 12 semester hours of which must be at the upper-division level. Some specific fields may require more. Only 6 semester hours that count towards a major may be applied to a minor or certificate. At least 9 semester hours in the minor must be taken in residence at A&M-Corpus Christi. The student must have an overall GPA of 2.0 in the minor field. Specific course and major-study hour requirements for each discipline are given in the discipline course listing section of this catalog. Please consult that section for specific requirements that must be met for each disciplinary minor. Requirements for interdisciplinary minors are listed in this section of the catalog.

Course Requirements
Students are expected to meet all course requirements indicated in the course syllabus.

Residence Requirement
The term “residence” is here defined as “coursework completed at the degree granting institution.” To be granted a baccalaureate degree from A&M-Corpus Christi, a student must successfully complete at least 30 semester hours of upper-division coursework from this university. A minimum of 12 hours of these 30 must be in the major. Hours earned by credit by examination may not be used to fulfill the residence requirement. Hours earned through credit by examination at another institution will likewise not affect the residence requirement calculation.

Grade-Point Average
A minimum grade-point average of 2.0 (“C”) on a 4-point scale in all work taken at this University is required for graduation. Additionally, a minimum grade-point average of 2.0 (“C”) is required in all courses applied to the student’s declared major field of study, and in all courses applied to any declared minor field of study for conferral of degree. Individual disciplinary fields, however, may set higher standards than the College minimum for their majors and minors.

Activity Courses
A maximum of 4 semester hours of Kinesiology activity coursework may be included as elective credit in the BA, BM, BFA and BS degree programs.

General Education Requirement
Students must meet the University’s General Education requirements, which include the 42 hour core curriculum (see sections entitled "Undergraduate Programs (p. 43)” and “Core Curriculum Program (p. 556)” and First-Year Seminars.

College Language Requirement
All students majoring in degree programs offered by this college, other than the BFA in Art, the BM in Music, the BAAS degree, and the BA and BS in University Studies, are required to take 6 college-level hours of a second language. Placement in a language course will be at the student’s proficiency level as determined by an assessment test, if available at the College of Liberal Arts. Students may also obtain credit by any of the alternative means described below. Language means a language in the traditional sense; i.e., a language with a culture, such as Spanish or French. American Sign Language is accepted. Language does not include artificial or computer languages.

One may satisfy this requirement in one of two ways:

1. earning a CLEP, AP, or ACTFL test score equivalent to one year of language study at A&M-Corpus Christi;
2. successfully completing two semesters of a single foreign language at the University.

If students decide to meet this requirement by taking two semesters in Spanish at this university, an assessment test must be taken prior to registering in order to enroll in the appropriate language course. Information about the Spanish Placement Test can be obtained from the College of Liberal Arts or by visiting its web site.

All ARAB, CHIN, FREN, GERM, and SPAN courses will meet this requirement.

Foreign students who have successfully taken the Test of English as a Foreign Language (TOEFL) may elect to choose English as their second language. English is considered to be the first language for all other students. Additionally, international and naturalized students who have provided proof of completion of high school in a foreign language (their native language) and who have successfully completed the English Composition and Oral Communication components of the University Core Curriculum Program may choose English as their second language to meet this requirement. English is considered to be the first language for all other students.

Degree Plan
The degree plan is the formal statement of requirements that must be completed before a degree will be granted. When the student is prepared to declare a major program of study within a particular discipline, the student should prepare a formal degree plan. It is recommended that the student have decided on a major program of study and prepare a degree plan no later than the second semester of the sophomore year. If the student is transferring into the University at a point after the second semester of the sophomore year, it is recommended that a degree plan be prepared during the student’s first semester of residence.

Degree plans are prepared in the CLA Academic Advising Center. The University uses an online Degree Audit system. Any amendment must be approved by the Department Chair and the Office of the Dean. All courses and requirements specified in the final degree plan audit must be completed before a degree will be granted.

Interdisciplinary Minors
In order to fulfill the general objectives of Liberal Arts, the College offers a number of interdisciplinary minors. Minors require a minimum of 18
Professional Development:
certification programs require the following in general education and
In addition to the academic specializations discussed above, teacher
Education and Human Development.
information regarding teacher certification, please consult the
Major study and course requirements for teacher certification are:
Teacher Certification Programs
Students seeking certification in secondary fields or in all levels in
art, music, Spanish or theatre must major in an approved teaching
field and complete all major study and related requirements for a
baccalaureate degree in that field. Students must also meet teacher
certification requirements as stipulated by the College of Education
and Human Development. Students are urged to consult the Certification
Office of the College of Education and Human Development for complete
and current information about teacher certification requirements.

Major study programs in the College of Liberal Arts offering teacher
certification are:

• Art
  • Art - Grades EC-12
• English
  • English Language Arts/Reading - Grades 7-12
  • English Language Arts/Reading - Grades 4-8
• History
  • History Grades 7-12
  • Social Studies Grades 7-12
  • Social Studies Grades 4-8
• Music
  • Music Grades EC-12
• Spanish
  • Spanish Grades EC-12
• Theatre
  • Theatre Arts Grades EC-12

Major study and course requirements for teacher certification are
detailed in the discipline course listing sections of this catalog. For more
information regarding teacher certification, please consult the College of
Education and Human Development (p. 97) section of this catalog.

In addition to the academic specializations discussed above, teacher
certification programs require the following in general education and
professional development:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>Core Curriculum Program</td>
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<td>42 hrs</td>
</tr>
<tr>
<td>First-Year Seminar (if required)</td>
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<td>0-2 hrs</td>
</tr>
</tbody>
</table>

Please see the Certification Office in the College of Education and
Human Development for Professional Development courses needed for
certifications.

Grade Point Average
A minimum grade point average of 2.75 in all academic work or last 60
hours of 2.75 attempted and no grade below "C" in education courses
within the professional education block of courses is required. (See
College of Education and Human Development, “Admission to Teacher
Education” and “Admission to Student Teaching” for other requirements.)
Specific disciplines may require a higher GPA in the field of study
than a 2.75. Please refer to the specific certification discipline for GPA
requirement in the subject of field.

Certification Examination
Upon satisfactory completion of all subject field and professional
development courses, a student may register for the subject field
certification examination, called TExES (Texas Examinations of Educator
Standards). A student wishing to take the TExES prior to program
completion must satisfy the following:
1. Make pre-specified acceptable scores on TExES practice tests, or
departmental equivalent, and participate in practice test review and
analysis session.
2. Provide official permit with signature of Program Coordinator
or designated person for each teaching field on the student’s
certification plan.

Alteration of a Certification Plan
Any amendment to a degree plan originally filed must be approved by the
student’s academic advisor, the Department Chair, and the Certification
Officer of the College of Education and Human Development for the
degree to be granted.

Special Courses
Cross-Listed Courses
Some courses may be cross-listed by two or more disciplines. Such
courses may be counted as part of the required hours for a particular
major by registration for the appropriate course prefix. Cross-listed
courses may not be repeated under another prefix for additional credit.

Topics Courses (1-3 sem. hrs.)
Undergraduate topics courses are offered in most areas of study in
the College under the 4390 number. The subject of study varies and is
announced in the Semester Schedule. These courses may be repeated for
credit when topics vary.

Individual Study Courses
Directed Individual Study (DIS) 4396 1-3 sem. hrs.

Directed Individual Study is a carefully planned special study on
an academic topic not offered as part of the regular undergraduate
curriculum. DIS is carried out as a tutorial under the direction of,
evaluated by, a regular member of the faculty of the College of
Liberal Arts. Enrollment is restricted to advanced students who have
demonstrated both academic ability and the capacity for independent
work. Enrollment is by application only, and must be approved by the
instructor and Department Chair in advance of registration. Completed
applications must be received in the Dean’s Office by the last class day of the semester preceding intended enrollment. Prerequisites: 1) At least 6 semester hours of classroom coursework in the field at Texas A&M University-Corpus Christi. 2) A minimum GPA of 3.0 on all work in the field at Texas A&M University-Corpus Christi. 3) At least one previous classroom course with the supervising instructor. A maximum of 6 semester hours of 4396 credit may be counted towards the baccalaureate degree.

Applied Experience 4398 3 sem. hrs.

Applied Experience is a practical work experience related to the student’s major area of study and career goals. It is intended to provide an opportunity for a student to gain first-hand experience in an unfamiliar field. Consequently, Applied Experience credit may not be granted for a student’s regular work assignment or for previous work experience. Registration is by application. The application must include a clearly written description of the duties and responsibilities involved in the Applied Experience project, and be signed by the student, the on-site supervisor, and the faculty supervisor. Completed applications must be received in the Dean’s Office by the last class day of the semester preceding intended registration. This course is graded “credit” or “no credit.” No more than three semester hours of Applied Experience credit may be counted toward the baccalaureate degree. Undergraduate Applied Experience course will include no less than one hundred hours and no more than 150 hours of work experience per semester.

Workshop Courses (1-6 sem. hrs.)

Undergraduate workshop courses are offered in many areas of study in the College ending in a 0099 series number. The subjects vary and are announced in the semester schedule. These courses may be repeated when topics vary.

Undergraduate Courses

All course descriptions are located in Courses A-Z (p. 558).

Programs

- Bachelor Degree Programs (p. 131)
  - Applied Arts and Sciences, BAAS (http://catalog.tamucc.edu/undergraduate/liberal-arts/bachelors/applied-arts-sciences-baas/)
  - Criminal Justice, BS (p. 131)
  - English, BA (p. 135)
  - History, BA (p. 142)
  - Philosophy, BA (p. 147)
  - Political Science, BA (p. 150)
  - Psychology, BA (p. 154)
  - Sociology, BA (p. 158)
  - Spanish, BA (p. 162)
  - University Studies, BA (http://catalog.tamucc.edu/undergraduate/liberal-arts/bachelors/university-studies-ba/)
  - University Studies, BS (http://catalog.tamucc.edu/undergraduate/liberal-arts/bachelors/university-studies-bs/)
- Bachelor Degree Programs - School of Arts, Media & Communication (p. 166)
  - Art, BA (p. 166)
  - Art, BFA (p. 171)
  - Communication Studies, BA (p. 176)
  - Graphic Design, BA (p. 180)
  - Media Arts, BA (p. 186)
  - Music, BA (p. 191)
  - Performance (Instrumental), BM (p. 201)
  - Performance (Voice), BM (p. 211)
  - Theatre, BA (p. 219)
- Teacher Certifications (p. 225)
  - English, BA with Secondary Teacher Certification in English Language Arts (Grades 7-12) (p. 225)
  - English, BA with Teacher Certification in English Language Arts (Grades 4-8) (p. 232)
  - History and Social Studies, Teacher Certification (http://catalog.tamucc.edu/undergraduate/liberal-arts/teacher-certifications/history-social-studies-teacher-certification/)
  - Spanish, Teaching Certification EC-12 (p. 238)
- Certificate Programs - School of Arts, Media & Communication (p. 263)
  - Art, BFA with Teacher Certification (p. 263)
  - Music, BM with EC-12 Teacher Certification (p. 268)
  - Theatre Arts, Teacher Certification (p. 277)
- Certificate Programs (p. 241)
  - Advanced TESOL, Certificate (p. 241)
  - Spanish/English Translation, Certificate (p. 247)
  - TESOL, Certificate (p. 250)
  - Writing for Non-Profits, Certificate (p. 255)
- Certificate Programs - School of Arts, Media & Communication (p. 261)
  - Dance, Certificate (p. 261)
- Minors (p. 281)
  - Creative Writing, Minor (p. 281)
  - Criminal Justice, Minor (p. 287)
  - History, Minor (p. 289)
  - Latin American Studies, Minor (p. 292)
  - Literary Studies, Minor (p. 298)
  - Mexican American Studies, Minor (p. 303)
  - Philosophy, Minor (p. 308)
  - Political Science, Minor (p. 310)
  - Pre-Law, Minor (p. 312)
  - Psychology, Minor (p. 316)
  - Social Work, Minor (p. 318)
  - Sociology, Minor (p. 319)
  - Spanish, Minor (p. 320)
  - Technical and Professional Writing, Minor (p. 323)
  - Women, Gender, and Sexuality Studies, Minor (p. 329)
- Minors - School of Arts, Media & Communication (p. 329)
  - Art History, Minor (p. 330)
  - Communication Studies, Minor (p. 333)
  - Dance, Minor (p. 335)
  - Digital Journalism, Minor (p. 337)
  - Music Industry, Minor (p. 339)
  - Music, Minor (p. 340)
  - Public Relations, Minor (p. 343)
Bachelor Degree Programs

- Applied Arts and Sciences, BAAS
- Criminal Justice, BS
- English, BA
- History, BA
- Philosophy, BA
- Political Science, BA
- Psychology, BA
- Sociology, BA
- Spanish, BA
- University Studies, BA
- University Studies, BS

Criminal Justice, BS

Program Description

The Criminal Justice Program leads to a Bachelor of Science Degree in Criminal Justice and supports the Bachelor of Applied Arts and Sciences Degree with courses applicable to the Criminal Justice, Community and Mental Health, and Legal Studies tracks. The program has two main objectives: to provide an advanced understanding of the criminal justice system and its components and to provide either a concentration of knowledge and application of skills in a specialized subfield of study or a broad exploration of the discipline based on individual student needs through the selection of disciplinary electives.

The curriculum is planned to offer preparation for a professional career by integrating a core of Criminal Justice courses into a general program of the arts, sciences, humanities and social sciences. The student in consultation with faculty will determine the most desirable course offerings from core courses and recommended electives to achieve his or her particular educational goals. The program may be used as preparation for entry into graduate work or law school. Criminal Justice courses are recommended as social science electives for non-majors.

Student Learning Outcomes

Students will:

- Demonstrate an understanding of the operation and purposes of the major components of the criminal justice system (police, courts, and corrections)
- Demonstrate the ability to critically analyze the criminal justice system and its aims and objectives
- Demonstrate the ability to apply professional standards of writing and research to criminal justice issues

Program Requirements

The Criminal Justice major requires a minimum of 45 semester hours, 27 semester hours of which must be at the upper-division level. Supporting courses related to essential skills totaling 3 hours are also required. Criminal Justice majors are encouraged to take MATH 1442 Statistics for Life (4 sch) to satisfy the Mathematics Core Curriculum Program requirement. Students who do not take MATH 1442 Statistics for Life (4 sch) in the Core Curriculum will be required to do so to fulfill the supporting coursework requirement for majors. The College of Liberal Arts also requires students in Criminal Justice to take at least 6 hours of a second language.

Students seeking the Bachelor of Science in Criminal Justice are expected to develop a breadth of knowledge of the component parts of the criminal justice system. Through their choice of disciplinary electives, students may concentrate on Criminal Justice subfields or broadly explore the discipline and its career options. Students should select a majority of their upper-division elective hours from disciplines which support their choice of specialization.

Students may also register for CRIJ 4398 Applied Experience (3 sch) and participate in the Applied Experience Program to earn course credit while gaining practical work experience in Criminal Justice or a related field. Registration is by application. Interested students should contact the Criminal Justice Applied Experience Coordinator.

Every candidate for the BS in Criminal Justice must complete the CRIJ 4085 Major Field Test (0 sch) in Criminal Justice during their final long semester prior to graduation. The details as to the date and time of administration of the Major Field Test in Criminal Justice are announced at the beginning of each Fall and Spring semester.

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
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<tr>
<td>Criminal Justice Major Requirements</td>
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<tr>
<td>University Electives</td>
<td>24</td>
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<td>Foreign Language Requirements</td>
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<td>Required Supporting Courses</td>
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<tr>
<td>Major Field Test in Criminal Justice Completion</td>
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<tr>
<td><strong>Total Credit Hours</strong></td>
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</table>

1 Full-time, first time in college students are required to take the first-year seminars.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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<tr>
<td>Core Curriculum Program</td>
<td>University Core Curriculum</td>
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<td>Students who do not take the following in the Core Curriculum will be required to do so for the major.</td>
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</tr>
<tr>
<td>MATH 1442</td>
<td>Statistics for Life</td>
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<tr>
<td>Criminal Justice Major Requirements</td>
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<tr>
<td>CRIJ 1301</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
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<tr>
<td>CRIJ 1306</td>
<td>Court Systems and Processes</td>
<td>3</td>
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</table>
CRIJ 1310  Fundamentals of Criminal Law  3
CRIJ 2313  Correctional Systems & Practices  3
CRIJ 2328  Police Systems and Practices  3
CRIJ 4085  Major Field Test  0
CRIJ 4335  Criminology  3
CRIJ 4345  Research Methods in Criminal Justice  3

**Advanced Understanding in Criminal Justice**

**Theoretical Perspectives**
- CRIJ 4325  Diversity in Criminal Justice  3
  - or CRIJ 4331  Juvenile Delinquency

**Corrections**
Select one of the following:  3
- CRIJ 3325  Community-Based Corrections
- CRIJ 4320  Offender Rehabilitation
- CRIJ 4321  American Prisons and Prisoners

**Courts**
- CRIJ 4312  Law and Evidence  3
  - or CRIJ 4313  Criminal Procedure

**Law Enforcement**
- CRIJ 3302  Police and Society  3
  - or CRIJ 4351  POLICE SUPERVISION AND MANAGEMENT

**Criminal Justice Electives**
Select 12 hours of the following or any other upper-level Criminal Justice course listed above that is not counting towards required major hours in another area:  12
- CRIJ 3313  The Juvenile Justice System
- CRIJ 3340  Comparative Criminal Justice
- CRIJ 3341  Terrorism
- CRIJ 3360  Organized Crime
- CRIJ 3361  Drugs, the Drug War, and Criminal Justice
- CRIJ 3365  Sex Crimes
- CRIJ 3370  Crime in the Media
- CRIJ 3375  Applied Statistics in Criminal Justice
- CRIJ 4324  Women and Criminal Justice
- CRIJ 4360  Intimate Relationship Violence
- CRIJ 4365  White Collar Crime *
- CRIJ 4390  Topics in Criminal Justice
- CRIJ 4396  Directed Individual Study
- CRIJ 4398  Applied Experience *

**Required Supporting Course**
- ENGL 3301  Technical and Professional Writing  3

**University Electives**
Select 24 hours of university electives.  24

**Foreign Language Requirements**
See the College of Liberal Arts for the college language requirement.  6

**Total Hours**  122

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1 Students may choose to concentrate their Criminal Justice Electives in a subfield of Theoretical Perspectives, Corrections, Courts, or Law Enforcement. For more information please contact a Criminal Justice Faculty or the Academic Advisor for Criminal Justice majors.

* Blended offering

## Course Sequencing

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td><strong>First Year</strong></td>
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<td><strong>Fall</strong></td>
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<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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<td>CRIJ 1301</td>
<td>Introduction to Criminal Justice</td>
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<tr>
<td>CRIJ 1310</td>
<td>Fundamentals of Criminal Law</td>
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<td>MATH 1442</td>
<td>Statistics for Life</td>
<td>4</td>
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<td>Court Systems and Processes</td>
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<td>CRIJ 2313</td>
<td>Correctional Systems &amp; Practices</td>
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<td>CRIJ 2328</td>
<td>Police Systems and Practices</td>
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<td>SPAN 1312</td>
<td>Spanish II</td>
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<td>Technical and Professional Writing</td>
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<td>CRIJ 3302</td>
<td>Police and Society</td>
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<td>Upper Divisional Elective</td>
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<tr>
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<td><strong>Spring</strong></td>
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<td>CRIJ 4335</td>
<td>Criminology</td>
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<tr>
<td>CRIJ 4321</td>
<td>American Prisons and Prisoners</td>
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Fourth Year

Fall
CRIJ 4325 Diversity in Criminal Justice 3
CRIJ 4313 Criminal Procedure 3
CRIJ 4XXX/Upper Divisional CRIJ Elective 3
Upper Divisional Elective 3

Spring
CRIJ 4345 Research Methods in Criminal Justice 3
CRIJ 4XXX/Upper Divisional CRIJ Elective 3
CRIJ 4XXX/Upper Divisional CRIJ Elective 3
CRIJ 4085 Major Field Test 0
Upper Divisional Elective 3

Total Hours 12

Courses

CRIJ 1301 Introduction to Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
History and philosophy of criminal justice. Overview of criminal justice system: police, prosecution and defense, courts, trial process, and corrections as they affect the individual, as well as their impact on society. The definition, nature, and impact of crime. The functions of criminal justice agencies will be examined in relation to common analytical themes such as ethics and discretion.
TCCNS: CRIJ 1301

CRIJ 1306 Court Systems and Processes
3 Semester Credit Hours (3 Lecture Hours)
Examination of the civil and criminal legal systems and the roles played by political, social and economic factors in the administration of justice. Consideration of the roles and interests of litigants, defendants, police, attorneys, and the judiciary in the process.
TCCNS: CRIJ 1306

CRIJ 1310 Fundamentals of Criminal Law
3 Semester Credit Hours (3 Lecture Hours)
The course will introduce students to the study of criminal law. Major topics include the sources of criminal law, the operation of the criminal courts, constitutional limitations on criminal law, the elements of criminal liability, and the classification of and punishments for different types of criminal offenses. Defenses to criminal liability will also be explored.
TCCNS: CRIJ 1310

CRIJ 2313 Correctional Systems & Practices
3 Semester Credit Hours (3 Lecture Hours)
This course is a survey of institutional and non-institutional corrections. Emphasis will be placed on the organization and operation of correctional systems; treatment and rehabilitation; populations served; Constitutional issues; and current and future issues.
TCCNS: CRIJ 2313

CRIJ 2328 Police Systems and Practices
3 Semester Credit Hours (3 Lecture Hours)
The history and development of police in America. Topics examined include: the police profession, organization of law enforcement systems, the policing role, police discretion, ethics, police-community interaction, current and future issues, and research findings.
TCCNS: CRIJ 2328

CRIJ 3302 Police and Society
3 Semester Credit Hours (3 Lecture Hours)
Examination of policing in a democratic society. A critical review of various professional and community influences on police behavior, together with a consideration of social problems created by such forces, and potential remedial actions.

CRIJ 3310 THE JUDICIAL PROCESS
3 Semester Credit Hours (3 Lecture Hours)
Examination of the civil and criminal legal systems and the roles played by political, social and economic factors in the administration of justice. Consideration of the roles and interests of litigants, defendants, police, attorneys, and the judiciary in the process.

CRIJ 3313 The Juvenile Justice System
3 Semester Credit Hours (3 Lecture Hours)
The administration of the juvenile justice process. Historical and philosophical origins of the juvenile justice system. A systematic analysis of problems and procedures at each stage of the process.

CRIJ 3315 Crime Prevention
3 Semester Credit Hours (3 Lecture Hours)

CRIJ 3320 Issues in Corrections
3 Semester Credit Hours (3 Lecture Hours)
Analysis of contemporary developments, controversies and management concerns in the field of corrections. Includes examination of theoretical foundations of correctional policy.

CRIJ 3325 Community-Based Corrections
3 Semester Credit Hours (3 Lecture Hours)
Examination of the correctional strategies and facilities available in community settings including diversion programs, probation, parole, half-way houses, boot camps, and restitution centers.

CRIJ 3340 Comparative Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
Comparison of the police in selected countries with the U.S. criminal justice system. Particular emphasis on social, political, and economic factors in the development and change in law enforcement.

CRIJ 3341 Terrorism
3 Semester Credit Hours (3 Lecture Hours)
An examination of political violence from criminological, legal, and political perspectives. Application to contemporary events is emphasized. The sociology, psychology, and organization of terrorist groups are also explored as well as counter-terrorism strategies, methods, and dilemmas.

CRIJ 3360 Organized Crime
3 Semester Credit Hours (3 Lecture Hours)
The course analyzes and discusses how criminal organizations carry out their illegal activities while laundering money through legal enterprises. It discusses why people belong to organized crime syndicates despite the risks of death and imprisonment. The linkages of poverty, lack of education, social and economic inequalities, and the glorification of capitalist ideology by the phenomenon of organized crime are examined.
CRIJ 3361 Drugs, the Drug War, and Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course is an analysis and discussion of drugs, the war on drugs, and how these two phenomena impact the criminal justice system in American society. There is a review of the common assumptions about drugs and its social implications. An examination of the sociocultural interconnections of the nature of drugs, drug use, drug trafficking, and drug policy from a justice perspective is presented.

CRIJ 3365 Sex Crimes
3 Semester Credit Hours (3 Lecture Hours)
This course analyzes the nature, etiology, and theories related to sex offenses and sex offenders. It explores the history and current practices employed by the criminal justice systems to deal with sex offending. The course also examines multiple types of sexual offenses, perpetrators and victims, as well as the legal consequences of sexual offenses and its sociocultural ramifications to grasp the complexity of these crimes.

CRIJ 3370 Crime in the Media
3 Semester Credit Hours (3 Lecture Hours)
This course will cover the portrayal of crime, criminals, the criminal justice system, and criminal justice practitioners in the media. Specifically, the course will address the goals of the media and how those affect their coverage of crime and the CJ system.

CRIJ 3375 Applied Statistics in Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course will teach students the step-by-step process for using statistical techniques that are most applicable in the field of criminal justice. It will teach them when, where, and why each statistical analysis is necessary and/or useful, and it will help students learn those skills by applying them to an actual project.

CRIJ 3380 Victimology
3 Semester Credit Hours (3 Lecture Hours)
is the scientific study of crime victims and focuses on the physical, emotional, and financial harm victims suffer due to crime. The purpose of this course is to examine victim-offender relationships, the interactions between victims and the criminal justice system, and the connections between victims and other institutions (such as the media, advocacy groups, and government). In exploring these connections, students will address the theory, research, legislation, and policy implications related to victimization.
Prerequisite: CRIJ 1301.

CRIJ 4085 Major Field Test
0 Semester Credit Hours
The Major Field Test (MFT) in Criminal Justice is a national examination given in the Fall and Spring semesters only. It is a graduation requirement for all Criminal Justice majors. Students enroll in this course during the semester that they plan to take the MFT. This should be the semester of graduation or the spring semester for those planning a summer graduation. There is no cost to the student for either this course or for the MFT. Admission is limited to students who have completed 90 or more semester credit hours. Graded: CR/NC

CRIJ 4310 Constitutional Law
3 Semester Credit Hours (3 Lecture Hours)
A case study of American constitutional law based on the leading decisions of the U.S. Supreme Court. Examination of the evolution of judicial review and the development of due process and the protection of individual rights.

CRIJ 4312 Law and Evidence
3 Semester Credit Hours (3 Lecture Hours)
A detailed examination of the use, admissibility, and presentation of evidence. Issues and problems dealing with the rules of evidence and the theories on which those rules are based.

CRIJ 4313 Criminal Procedure
3 Semester Credit Hours (3 Lecture Hours)
A detailed examination of the legal constraints on investigation and prosecution of criminal offenses. Analysis of the Texas Code of Criminal Procedure and of Search and Seizure Law under the Fourth Amendment, as well as other due process issues arising under the Fifth and Sixth Amendments.

CRIJ 4320 Offender Rehabilitation
3 Semester Credit Hours (3 Lecture Hours)
Theories of rehabilitation, treatment, and correction of criminal offenders. Includes analysis of the historical development of the rehabilitative ideal and contemporary controversies surrounding it, and a survey of therapeutic models and methods.

CRIJ 4321 American Prisons and Prisoners
3 Semester Credit Hours (3 Lecture Hours)
Analysis of the history, philosophy, and function of prisons. Examination of control and treatment of offenders in institutional settings. Focus is upon current developments, controversies and management problems.

CRIJ 4322 CRIME AND PUNISHMENT IN LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected literary classics that treat of crime and punishment. The works of literary artists from various cultures which describe experience with crime and the criminal justice system will be placed in historical and theoretical perspective.

CRIJ 4324 Women and Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
An historical and ideological analysis of the role of women in the criminal justice system as offenders, reformers, and professionals.

CRIJ 4325 Diversity in Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course is an investigation into the impact of social diversity (race, ethnicity, gender, sexual orientation, disability, and more) on crime and the criminal justice system. Students will examine the impact of these factors on both offenders and criminal justice system employees, and will discuss and critically examine historical trends, contemporary events, and criminal justice system policies and laws.

CRIJ 4330 Understanding Criminal Behavior
3 Semester Credit Hours (3 Lecture Hours)
This course examines various aspects of human behavior from a criminal justice perspective and is designed to give students a basic understanding of criminal behavior and psychological disorders which are encountered by criminal justice professionals.

CRIJ 4331 Juvenile Delinquency
3 Semester Credit Hours (3 Lecture Hours)
Examination of the nature and extent of juvenile crime today. Analysis of the history and theory of delinquency and society’s response to it. (Credit may not be given for both this course and SOCI 4331.) Cross listed with SOCI 4331.

CRIJ 4335 Criminology
3 Semester Credit Hours (3 Lecture Hours)
An examination of the major sociological explanations for crime, criminal behavior, and the social responses to crime. (Credit may not be given for both this course and SOCI 4335.) Cross listed with SOCI 4335.
English majors will choose an emphasis in Literary Studies or Writing Studies. The Literary Studies emphasis provides students with the skills to interpret and write about texts, including literary and filmic, within a range of historical and cultural contexts. The Writing Studies emphasis allows students to develop their abilities to use writing in a variety of contexts and for a variety of purposes, and to develop an understanding of how writing operates in the world, through studies in rhetoric, literacy, and writing. Both tracks give students skills as critical thinkers and communicators that will prepare them for a variety of different career paths, including law, business, teaching, and the sciences, as well as for graduate study.¹

¹ Students can also earn certificates in TESOL and Writing for Non-Profits. The coursework necessary for both can be found under the “Certificates” section of the catalog.

### Student Learning Outcomes

At the end of the program, students will be able to:

- Analyze the characteristics of language in terms of literary or discourse genres, conventions, and linguistic features.
- Apply effective and appropriate literary/rhetorical/linguistic methods and strategies in writing and/or in analyzing texts (spoken, written, and multimodal).
- Demonstrate understanding of literary/rhetorical traditions, as well as the historical and cultural contexts important to those traditions.
- Demonstrate foundational understanding of language systems, language development, and language in use.
- Apply and/or integrate appropriate critical terms and theoretical concepts and perspectives in writing and analyzing texts.
- Demonstrate ability to choose and use appropriate strategies to produce texts in a variety of genres to most effectively achieve specific purposes with specific audiences.
- Demonstrate the ability to locate, select, assess, and analyze information sources, both print and digital, and to integrate and document appropriately those sources in their own work.
- Demonstrate understanding of community and social relations, diverse, multicultural histories; and what it means to live in a global society.

The undergraduate English program offers a major in English, curricula for secondary English certification, minors in Literary Studies and Creative Writing and certificates in Writing for Non-Profits and TESOL. It also participates in the interdisciplinary minors of Technical and Professional Writing and Women and Gender Studies (see descriptions under “Interdisciplinary Minors”). Upper-level courses in writing studies, linguistics, and literature may satisfy requirements for other disciplines and serve as electives for non-majors who wish to improve their analytic, writing, and technical skills and to broaden their experiences in the liberal arts.

### General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)¹</td>
<td>0-2</td>
</tr>
<tr>
<td>English Major Requirements</td>
<td>48</td>
</tr>
<tr>
<td>Supporting Coursework²</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>21</td>
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</tbody>
</table>

¹ Students can also earn certificates in TESOL and Writing for Non-Profits. The coursework necessary for both can be found under the “Certificates” section of the catalog.

² Supporting Coursework includes electives and may vary depending on the student's emphasis.
Foreign Language Requirements 6

Total Credit Hours 120-122

1. First-Year Seminars or Electives
2. All English majors not seeking secondary teaching certification must successfully complete one semester of either HIST 2311 Western Civilization I (3 sch) or HIST 2312 Western Civilization II (3 sch).

### Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td></td>
<td><strong>Core Curriculum Program</strong></td>
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<tr>
<td></td>
<td>University Core Curriculum</td>
<td>42</td>
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<tr>
<td></td>
<td><strong>English Major Requirements</strong></td>
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<tr>
<td></td>
<td>Select one Emphasis from the following:</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Literary Studies Emphasis (p. 136)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Writing Studies Emphasis (p. 136)</td>
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</table>

#### Total Hours 90

### Literary Studies Emphasis

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td></td>
<td><strong>Core Courses</strong></td>
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</tr>
<tr>
<td>ENGL 2370</td>
<td>Introduction to Literary Studies</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4305</td>
<td>Major Authors</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4351</td>
<td>Senior Capstone: Literature and Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4380</td>
<td>CRITICAL APPROACHES TO LITERATURE AND CULTURE</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Literary History

Select 9 hours of the following: 9

- ENGL 3341 British Literature before 1800
- ENGL 3345 British Literature since 1800
- ENGL 3354 American Literatures before 1900
- ENGL 3355 American Literatures since 1900
- ENGL 4390 Topics in Literary Studies

#### Conventions, Forms, and Genres

Select 6 hours of the following: 6

- ENGL 3323 Young Adult Fiction
- ENGL 3325 Interdisciplinary Approaches to Literature
- ENGL 3348 Drama
- ENGL 3349 Poetry
- ENGL 4340 The Novel
- ENGL 4362 Texts and Contexts (when applicable)
- ENGL 4390 Topics in Literary Studies (when applicable)

#### Literary and Cultural Studies

Select 6 hours of the following: 6

- ENGL 3321 Film and Literature
- ENGL 3330 Current Events and Literature
- ENGL 4300 Technologies and Cultures of the Book
- ENGL 4360 Gender, Sexuality and Literature
- ENGL 4361 Race and Ethnicity in Literature
- ENGL 4362 Texts and Contexts (when applicable)
- ENGL 4390 Topics in Literary Studies (when applicable)

#### Linguistics

ENGL 3339 Introduction to Linguistics 3

Select one of the following: 3

- ENGL 3340 Grammar
- ENGL 3365 Second Language Acquisition
- ENGL 3366 Language in Society
- ENGL 3369 Topics in Linguistics

#### Writing Studies Emphasis

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
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<td><strong>Core Courses</strong></td>
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<tr>
<td>ENGL 2303</td>
<td>Introduction to Writing Studies</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3301</td>
<td>Technical and Professional Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3302</td>
<td>Techniques of Creative Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3363</td>
<td>Foundations of Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4352</td>
<td>Capstone in Writing Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 18 hours of the following (two courses must be 3000-level and two courses must be at the 4000-level): 18

- ENGL 2371 Exploring Social Media
- ENGL 3360 CURRENT APPROACHES TO COMPOSITION AND LITERATURE
- ENGL 3361 STRATEGIES AND GENRES OF ADVANCED WRITING
- ENGL 3362 Creative Writing Workshop: Survey and Practice of Genres
- ENGL 3364 Strategies of Writing Creative Nonfiction
- ENGL 3378 Document Design and Publishing
- ENGL 3379 Writing for the Web
- ENGL 3380 Visual Rhetoric
- ENGL 4320 Professional Writing Workshop
- ENGL 4321 Grants and Proposals
- ENGL 4322 Writing in the Nonprofit Agencies
- ENGL 4325 Writing Across Cultures and Contexts
- ENGL 4335 Creative Writing Studio: Development of Craft
- ENGL 4345 Rhetorics, Literacies, and Writing
- ENGL 4350 Studies in Poetics: Theory, Form, and Practice
- ENGL 4385 Studies in Creative Writing
- ENGL 4391 Topics in Writing Studies
- ENGL 4398 Applied Experience

#### Linguistics

ENGL 3339 Introduction to Linguistics 3

Select one of the following: 3

- ENGL 3340 Grammar
- ENGL 3365 Second Language Acquisition
- ENGL 3366 Language in Society
- ENGL 3369 Topics in Linguistics

#### Literary Studies

1 course from Conventions, Forms, and Genres 3

1 course from Literary History 3
Courses

ENGL 0001 Grammar I
0 Semester Credit Hours (3 Lecture Hours)
Grammatical structures that enable students to better comprehend and use academic English are the focus of the course. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0002 Listening and Speaking I
0 Semester Credit Hours (3 Lecture Hours)
This course provides short and focused activities to help students improve their English listening and speaking skills. It includes practice in both mastering the larger message and key words, phrases and specific sounds to assist students in developing better speaking and comprehension skills. Students will practice giving academic presentations as well as practice speaking in small groups and individually.

ENGL 0003 Reading I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will develop the reading skills essential for academic learning and inquiry in the context of authentic academic reading tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive reading tasks of increasing complexity. Contemporary academic and literary texts will be used to develop students' critical reading and vocabulary, writing, listening, and speaking skills.

ENGL 0004 Writing I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the writing skills essential for academic success including sentence, paragraph, and basic essay writing. This course is aimed at students planning to study, or are already studying, at university level in English.

ENGL 0005 Recitation I
0 Semester Credit Hours (3 Lecture Hours)
This course provides students with a structured, scheduled academic environment providing the opportunity to complete assignments and work closely with their language instructor. Instructors utilize materials from student courses to facilitate activities and discussions that will increase comprehension of academic material and further students' abilities to work independently in academic settings. Each week, the course will focus on the language skills and vocabulary needed for the students' courses. Additionally, there will be a focus on study skills and time management needed for success in academic settings. Students will leave the course better equipped for university level academic course work and a thorough understanding of time management and appropriate study habits for the university.

ENGL 0011 Grammar II
0 Semester Credit Hours (3 Lecture Hours)
This course will focus on high-intermediate grammatical structures that enable students to better comprehend and use academic English. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0012 Listening and Speaking II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the listening, note-taking, and presentation skills essential for academic learning, inquiry, and communication in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminars will be used to develop students' critical thinking skills.

ENGL 0013 Reading II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will study texts across several different academic disciplines in order to deepen their understanding of the rhetorical styles and conventions used and applied within the English language. Students will practice identifying audience, purpose, theme, main ideas, and details within several different genres of writing. Students will also develop a variety of strategies to improve their reading comprehension and efficiency, including annotation, vocabulary-building, and discussions regarding written materials.

ENGL 0014 Writing II
0 Semester Credit Hours
In this course, students will develop a foundation in the writing skills critical to academic success. Students will apply knowledge of audience, purpose, voice, arrangement, and style in varied writing tasks by writing across several different genres. Genres practiced in this course may include, but are not limited to: emails, newsletters, personal narratives, fiction, academic essays, and magazine/news articles. Students will learn grammar and vocabulary conventions as they apply to different genres and apply these skills in writing tasks of increasing complexity throughout the semester.

ENGL 0022 Listening and Speaking III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will learn and apply listening, note-taking, and presentation skills essential for academic learning, inquiry, and discourse in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminar will be used to develop students' critical thinking skills.

ENGL 0023 Reading and Writing III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will improve upon and apply the reading skills essential for academic learning, inquiry, and discourse in the context of authentic academic reading tasks. Students will build vocabulary through extensive and intensive reading tasks of increasing complexity. Contemporary academic tests about writing will be used to develop students' critical reading, academic vocabulary, and complex writing skills. There will be a number of in-class written tasks and prompts that will stimulate free writing practice and introduce students to various styles of writing. Students will also use these written tasks to develop editing skills through the writing process. The final project will be a collection of these written tasks in the form of a portfolio.
ENGL 0036  US Culture
0 Semester Credit Hours (3 Lecture Hours)
This course will offer English Language Learners a means for analyzing and evaluating the complex social and moral issues that are specific to the social and moral landscape of the United States. As students examine their own cultures and compare them with others, culture shock and cultural conflict may be lessened and appreciation for cultural differences may be strengthened. Students will engage in interactive tasks, including researching and case analysis of topics and social, academic and professional issues, especially those suggested by the extensive reading component of this course. Through the process of reading, discussion, analysis and writing students in this class will enrich their understanding of today's global society while at the same time they are sharpening their academic English skills.

ENGL 0037  Critical Thinking
0 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to develop the critical thinking skills needed to interpret and assess arguments and information. This course will highlight the language skills essential for critically analyzing and discussing the quality of the information and opinions presented in authentic texts and listening selections. The course will concentrate on detecting errors of reasoning in short and long passages, evaluating evidence in written and verbal arguments, detecting logical inconsistencies, removing vagueness and ambiguity through word choice and phrasing, and identifying the point or purpose of someone's remarks. Through examining these topics, students will be able to thoughtfully respond to others' opinions in a clear, logical, and informed way. Students will leave the course better prepared to collect, synthesize, and evaluate information and feel more confident in presenting their perspectives in an academic setting.

ENGL 0099  Integrated Reading and Writing Non-Course Based Development
0 Semester Credit Hours
ENGL 0099 is designed to develop student's critical reading and academic writing skills on an individualized basis through tutoring. The course fulfills TSI requirements for reading and writing. TSI compliance staff will approve each student for this course. Approval is based on test score and/or by academic standing.

ENGL 0399  Integrated Reading and Writing
3 Semester Credit Hours (3 Lecture Hours)
A portfolio-based course with required tutoring (lab) time focused on the writing and reading processes, including strategies for invention, revision, and editing, and techniques of active reading, such as analysis, inference, summary, and evaluating texts. Students will enter ENGL 0399 through Texas Success Initiative (TSI) mandated remediation. (Not counted toward graduation)

ENGL 1301  Composition I
3 Semester Credit Hours (3 Lecture Hours)
Principles, techniques, and processes of written composition, textual analysis, and critical thinking.

TCCNS: ENGL 1301

ENGL 1302  Writing and Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to writing studies, rhetoric, and academic research (information literacy). Students will read, apply, and reflect on the current research and scholarship in writing studies, especially threshold concepts, kinds of knowledge about writing, and rhetoric. Students will learn how to transfer, deepen, and extend their ability to use writing in various contexts.
Prerequisite: ENGL 1301.
TCCNS: ENGL 1302

ENGL 2303  Introduction to Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course will review current scholarship on writing studies, including threshold concepts, activity theory, and genre studies. It will consider various perspectives on the uses of writing to provide students with an intellectual and practical understanding of writing. This course provides a starting point for the more specific studies of writing that occur in other writing studies courses.

ENGL 2316  Literature and Culture
3 Semester Credit Hours (3 Lecture Hours)
Introduction to literatures that raise aesthetic, cultural, social, and/or political issues that affect and reflect the human condition across regions, cultures, and nations. Sample topics: Crossing Borders, The City in Literature, Islands and Islanders, Science and Fiction.

TCCNS: ENGL 2331

ENGL 2332  Literature of the Western World: From the Classics to the Renaissance
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Ancient World to the Renaissance.

TCCNS: ENGL 2332

ENGL 2333  Literature of the Western World: From the Enlightenment to the Present
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Enlightenment to the present.

TCCNS: ENGL 2333

ENGL 2370  Introduction to Literary Studies
3 Semester Credit Hours
An introduction to literary analysis and scholarship for the intermediate writer. Emphasis placed on genres of literature, literary research, and expository and analytical composition. Familiarizes students with the various disciplines and related conversations within English Studies. Should be taken by sophomore-level English majors in the Literary Studies emphasis, and by Literary Studies and Creative Writing minors.
Prerequisite: ENGL 1302.

ENGL 2371  Exploring Social Media
3 Semester Credit Hours (3 Lecture Hours)
In this course we will examine and discuss current issues related to social media within a rhetorical framework. We will use different social media platforms to share and discuss in order to provide hands-on experience in these environments. Social media will be explored at the micro level as students will review their online social media presence to better understand how readers view them online. From the macro level we will identify current topics that affect the design and use of social media platforms and applications.
ENGL 3167  English as a Second/Foreign Language Tutoring  
1 Semester Credit Hour  
Students pursuing the Advanced TESOL Certificate will supplement ENGL 3367 (TESOL Seminar: Methods) with practical experience tutoring English learners. Students will write reflectively about those experiences. As needed, students will undergo site-specific training.  
Co-requisite: ENGL 3367.

ENGL 3301  Technical and Professional Writing  
3 Semester Credit Hours  
A course designed to help students gain practical experience in finding and interpreting information and writing reports and documents for specialized audiences in the technical and professional world. ENGL 3301 will be held in a computer-assisted classroom.

ENGL 3302  Techniques of Creative Writing  
3 Semester Credit Hours (3 Lecture Hours)  
Introduces students to the theoretical knowledge and practical experience used in creative writing. Focuses on poetry, creative nonfiction, and short fiction. For all majors.

ENGL 3310  Technical and Professional Writing for Computer Science  
3 Semester Credit Hours (3 Lecture Hours)  
Designed specifically for computer science majors, this course focuses on developing students ability to (1) use writing to communicate effectively with a range of audiences about technology; (2) identify, analyze, and appropriately integrate relevant information in their writing; (3) make informed judgments about their uses of writing based on ACM’s and IEEE’s code of ethics; and (4) develop their ability to function effectively individually and as members of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.

ENGL 3321  Film and Literature  
3 Semester Credit Hours (3 Lecture Hours)  
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.  
Prerequisite: ENGL 1302 and 2332 or ENGL 2333, 2334 or 2335.

ENGL 3323  Young Adult Fiction  
3 Semester Credit Hours (3 Lecture Hours)  
Literary study of young adult literature through analysis, discussion, and interpretation. The course emphasizes literary issues connected with society, culture, history, and genre.

ENGL 3325  Interdisciplinary Approaches to Literature  
3 Semester Credit Hours (3 Lecture Hours)  
In recent decades, it has become common to study literature in light of other disciplinary perspectives-and to study other disciplines as they are depicted in literature. From these interdisciplinary approaches has emerged a distinct mode of analysis that examines texts within their broader social and cultural milieu. In this course students will earn to use cross-disciplinary methods to interpret literature and culture. Topics will vary, but may include Religion, Medicine, and American Literature, Disability Narratives in the Eighteenth Century, Trauma and the City in Twentieth-Century Literature.

ENGL 3330  Current Events and Literature  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines literature in the context of current issues and events. Students will place literature in conversation with social, political, and cultural trends as a means of engaging with and understanding these trends and the debates associated with them. Using reading, writing, and discussion as modes of critical inquiry, students will discover the critical role that literature plays in representing, responding to, and shaping current events.

ENGL 3339  Introduction to Linguistics  
3 Semester Credit Hours (3 Lecture Hours)  
Introductory survey course covering phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3340  Grammar  
3 Semester Credit Hours (3 Lecture Hours)  
Presents a general descriptive overview of English grammar and provides a structural framework for analyzing English sentences.

ENGL 3341  British Literature before 1800  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of poetry, drama, and prose before 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).  
* May be taken concurrently.

ENGL 3345  British Literature since 1800  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of British poetry, drama, and prose since 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).  
* May be taken concurrently.

ENGL 3348  Drama  
3 Semester Credit Hours (3 Lecture Hours)  
A genre-oriented study of dramatic literature, using a wide range of texts. Variable content.

ENGL 3349  Poetry  
3 Semester Credit Hours (3 Lecture Hours)  
A genre-oriented study of poetry using a wide range of texts. Variable content.

ENGL 3354  American Literatures before 1900  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of American poetry, drama, and prose from the country’s pre-European beginnings to 1900 with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 2303) or (ENGL 3303).  
* May be taken concurrently.

ENGL 3355  American Literatures since 1900  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of American poetry, drama, and prose from 1900 to the present with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 2303) or (ENGL 3303).  
* May be taken concurrently.
ENGL 3360 CURRENT APPROACHES TO COMPOSITION AND LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
Prepares prospective teachers to create developmentally appropriate learning environments and tasks that enable student success in writing and the study of literature in Language Arts and English courses. Prepares students to meet the increased writing and reading expectations in all subject areas, including their own writing.

ENGL 3361 STRATEGIES AND GENRES OF ADVANCED WRITING
3 Semester Credit Hours (3 Lecture Hours)
Students will practice-writing in situated contexts (such as their majors, careers, and/or other professional interests) and across genres to develop more advanced and reflective writing strategies. By studying theories of writing; engaging in writing as a craft; and drafting, revising, and editing texts; students will refine and become more reflective in their writing processes.

ENGL 3362 Creative Writing Workshop: Survey and Practice of Genres
3 Semester Credit Hours (3 Lecture Hours)
Develops students’ skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3363 Foundations of Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
This course will study the historical and theoretical development of rhetoric through the works of principal thinkers. Students will analyze rhetorical concepts in their relation to civic, cultural, political, and pedagogical developments and the construction of knowledge and will use rhetorical concepts to produce logical, ethical, and moral arguments.

ENGL 3364 Strategies of Writing Creative Nonfiction
3 Semester Credit Hours (3 Lecture Hours)
Explores the uses of creative nonfiction through reading and writing about published works of experienced writers and scholars in the field and practicing a variety of creative nonfiction techniques and genres (e.g. literary journalism, memoir, and the personal narrative).

ENGL 3365 Second Language Acquisition
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to second language acquisition. The course is designed to be accessible to students from a wide variety of backgrounds and no basic knowledge of the linguistic structure of English will be assumed. This course will address issues related to how second language is learned by both children and adults.

ENGL 3366 Language in Society
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of language as a function of several societal variables. Introduces basic concepts of language such as linguistic varieties, dialect, speech communities, and linguistic attitudes.

ENGL 3367 TESOL Seminar
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to and a critique of current and traditional methodologies of teaching English to speakers of other languages, with emphasis on aural comprehension; speaking, reading, and writing skills; testing and assessment; and linguistic-cultural differences. This course is open to all majors, but is required for students seeking the Certificate in TESOL.
Prerequisite: ENGL 3365.

ENGL 3369 Topics in Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Exploration of topics such as second language acquisition, language assessment, history of English, and contrastive analysis. May be repeated when topics vary.

ENGL 3370 Document Design and Publishing
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the integration of text and visual rhetoric, such as graphics, for all kinds of professional publications including technical documents, media, public relations pieces, and advertisements.

ENGL 3371 Writing for the Web
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes practical concepts related to writing and communication on the internet and the World Wide Web. Attention is given to finding and analyzing information; analyzing and designing WWW sites and other digital, hypertextual environments; and analyzing and composing hypertext-hypermedia materials for digital, networked environments. For all majors.

ENGL 3370 Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123 Nonprofit Writing Project
1 Semester Credit Hour
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students’ professor in the regular course will be the instructor of record for the projects course.

ENGL 3379 Writing for the Web
3 Semester Credit Hours (3 Lecture Hours)
Develops students’ skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3380 Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123 Nonprofit Writing Project
1 Semester Credit Hour
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students’ professor in the regular course will be the instructor of record for the projects course.

ENGL 3380 Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123 Nonprofit Writing Project
1 Semester Credit Hour
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students’ professor in the regular course will be the instructor of record for the projects course.

ENGL 3380 Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123 Nonprofit Writing Project
1 Semester Credit Hour
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students’ professor in the regular course will be the instructor of record for the projects course.

ENGL 3380 Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.
ENGL 4322 Writing in the Nonprofit Agencies
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the specific kinds writing of professionals in the nonprofit world do, including internal communication in an agency, writing for the public, document creation, fund raising, board relations, and other relevant topics.

ENGL 4324 Editing & Style
3 Semester Credit Hours (3 Lecture Hours)
Practice in methods, tools, and principles of editing for nonfiction and technical publications. Emphasis on a rhetorical understanding of levels of editing, managing the editorial process, and grammar and style.

ENGL 4325 Writing Across Cultures and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Through writing, students will study how groups perceive, understand, and communicate with and about each other. The course may focus on a specific type of writing (cross cultural expository writing, travel writing, cross cultural writing in industry), or on the linguistic and rhetorical practices of a cross-cultural community (latino/a rhetoric, African-American rhetorics, etc).

ENGL 4335 Creative Writing Studio: Development of Craft
3 Semester Credit Hours (3 Lecture Hours)
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a studio setting. Guides students to focus on a major project in one genre with sustained practice of techniques and revision. Open to students of all levels, from the novice to the advanced. For all majors.

ENGL 4340 The Novel
3 Semester Credit Hours (3 Lecture Hours)

ENGL 4345 Rhetorics, Literacies, and Writing
3 Semester Credit Hours (3 Lecture Hours)
This course examines the history and major theories of rhetoric, literacy, and composition, and explores how they influence contemporary cultural productions.

ENGL 4350 Studies in Poetics: Theory, Form, and Practice
3 Semester Credit Hours (3 Lecture Hours)
Develops students' theoretical knowledge of poetics and practical experience of writing in traditional forms, from the Anglo-American tradition to the culturally diverse movements and innovation of form. Focusing on works written by poets about poetry and poetics primarily from the 19th to the 21st centuries. For all majors.

ENGL 4351 Senior Capstone: Literature and Writing
3 Semester Credit Hours (3 Lecture Hours)
A study of literature in English for graduating seniors in the Literary Studies Emphasis. Emphasis is placed on genre, research, and analytical expository writing.
Prerequisite: ENGL 2370, 3303 or 2303.

ENGL 4352 Capstone in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course is the culminating experience for the Writing Studies emphasis in English. Students review, reflect on, integrate, and apply their learning from previous courses and experiences. Students create digital portfolios for career and publishing opportunities, emphasizing selection, revision, reflection, and presentation. In addition, students identify, evaluate, and annotate texts and resources to include in a curated digital collection/publication that will be available for students in future Writing Studies courses.

ENGL 4360 Gender, Sexuality and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to literature that explores issues of gender and sexuality. It focuses on relevant literary periods and conventions, as well as on the historical, social, and cultural contexts of artistic productions. Sample topics: women's literature, queer literature, literature and masculinity.

ENGL 4361 Race and Ethnicity in Literature
3 Semester Credit Hours (3 Lecture Hours)
Topics focus on a variety of cross-cultural issues in historical and/or contemporary texts by Caribbean, British Indian, Native American, African American, Chicano/a, and/or other underrepresented authors.

ENGL 4362 Texts and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Study of literary and cultural texts that raise issues of community and social relations, diversity, multiculturalism, and/or globalization. Sample topics: Medicine and Religion in American Literature, Traveling Histories, the Global City, and Literary Regionalism in Transnational Context. May be repeated once for credit when topics vary.

ENGL 4370 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or THEA 4323.)

ENGL 4380 CRITICAL APPROACHES TO LITERATURE AND CULTURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected perspectives and critical approaches to literature and culture, including an examination of some of the theoretical assumptions upon which they are based, as well as their implications for the way we think about literature, human identity, and the power of language.
Prerequisite: ENGL 2370.

ENGL 4385 Studies in Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Students will focus on the craft of a specific genre or type of writing through reading experts' advice, reading and analyzing examples written by practitioners, and engaging in peer-response workshops with classmates. Attention will be paid to publication opportunities available for writers in that genre.

ENGL 4390 Topics in Literary Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4391 Topics in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

ENGL 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description.
ENGL 4399  TESOL Practicum
3 Semester Credit Hours
Practical experience teaching English to second language learners. Students will observe, plan, and teach ESL lessons. Instructional support provides opportunities to discuss and reflect upon teaching experiences and help students connect theory, methods, and practice. This course enhances the TESOL Certification, but is not required for it. Cannot be repeated for credit.

History, BA

Program Description
The history curriculum offers courses that provide all University students with the opportunity to deepen their understanding and appreciation of the development of the United States, Latin America, Asia, and Europe. These courses also assist students in refining their reading, listening, critical thinking, writing, communication, and research skills. The history curriculum offers integrated perspectives on political, social, economic, cultural, and military factors, which have shaped the city, the state, the nation, the region, Asia, Europe, and Latin America.

The history major is designed for students seeking a greater understanding of the past, teaching certification for grades 4-8 and secondary education, or preparation for careers in public history and graduate-level studies in the humanities and law. Drawing upon the holdings of the Special Collections and Archives Department as well as other library resources, the program also offers graduate courses for students enrolled in the Master of Arts in History program.

Students majoring in history choose one of two tracks, Historical Studies or Public History. With minor exceptions, both tracks share a common core but have different emphases in their upper-division electives. Both require a minimum of 33 semester hours of history coursework, at least 27 of which must be at the upper-division level. Six additional hours of lower-division United States history are required as part of the Core Curriculum Program. The College of Liberal Arts also requires students in history to take at least 6 hours of a second language. Students planning to pursue graduate study should elect additional courses which help achieve proficiency in foreign languages and/or statistics.

Student Learning Outcomes
Students will:

• think critically, read analytically, and write clearly;
• conduct independent research, handle primary sources, and construct an original historical thesis;
• and understand the social, economic, cultural, and political dimensions of historical development.

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
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<tr>
<td>First-Year Seminars (when</td>
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<td>applicable)¹</td>
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<td>History Major Requirements</td>
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<td>Electives</td>
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<td>Foreign Language Requirements</td>
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¹ First-Year Seminars or Electives

Program Requirements

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<tr>
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<td>42</td>
</tr>
<tr>
<td>History Core Requirements</td>
<td></td>
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</tr>
</tbody>
</table>

See the Core Curriculum Program for information on the requirements for American History. In addition to satisfying these requirements, students in all History B.A. tracks must take six semester credit of English in the core curriculum program, including ENGL 1302 and three hours of Core English Literature.

History Tracks

Select one of the following Tracks: 33
Historical Studies Track (p. 142)
Public History Track (p. 143)

Note:
Students must take at least 3 hours of History ethnicity or gender classes. These classes can be used to satisfy the requirements of other clusters. They include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 4336</td>
<td>Mexican American History</td>
</tr>
<tr>
<td>HIST 4337</td>
<td>United States Women’s History</td>
</tr>
<tr>
<td>HIST 4340</td>
<td>European Women’s History</td>
</tr>
<tr>
<td>HIST 4347</td>
<td>The History of Sexuality in the West</td>
</tr>
<tr>
<td>HIST 4352</td>
<td>Mexican American Women’s History</td>
</tr>
<tr>
<td>HIST 4390</td>
<td>Topics in History ¹</td>
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</tbody>
</table>

Total Hours 75

¹ When topic is approved for cluster—see S.A.I.L. or advisor for further information.

* Online offering

Historical Studies Track

<table>
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<tr>
<td>HIST 3385</td>
<td>The Art and Practice of History</td>
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<tr>
<td>HIST 4385</td>
<td>Historical Research and Writing</td>
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Lower-division Surveys

Select two of the following: 6

<table>
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<tbody>
<tr>
<td>HIST 2311</td>
<td>Western Civilization I</td>
</tr>
<tr>
<td>HIST 2312</td>
<td>Western Civilization II</td>
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<tr>
<td>HIST 2322</td>
<td>World History Since 1500</td>
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</table>

Upper-division Surveys

Select one of the following: 3

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<tr>
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<tbody>
<tr>
<td>HIST 3303</td>
<td>Colonial Latin America ¹</td>
</tr>
<tr>
<td>HIST 3304</td>
<td>Modern Latin America ¹</td>
</tr>
<tr>
<td>HIST 3340</td>
<td>Modern Asia ¹</td>
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<td>HIST 4336</td>
<td>Mexican American History ¹</td>
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U.S. History

Select two of the following: 6

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<tbody>
<tr>
<td>HIST 2301</td>
<td>Texas History</td>
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<tr>
<td>HIST 3320</td>
<td>Colonial and Revolutionary U.S.</td>
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<tr>
<td>HIST 3321</td>
<td>The Early American Republic</td>
</tr>
<tr>
<td>HIST 3323</td>
<td>Civil War and Reconstruction</td>
</tr>
<tr>
<td>Code</td>
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<tr>
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<tr>
<td>HIST 3324</td>
<td>U.S. Gilded Age and Progressive Era</td>
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<tr>
<td>HIST 3325</td>
<td>Emergence of Modern U.S.</td>
</tr>
<tr>
<td>HIST 3326</td>
<td>U.S. Since 2nd World War</td>
</tr>
<tr>
<td>HIST 3335</td>
<td>The U.S. Urban Experience</td>
</tr>
<tr>
<td>HIST 3345</td>
<td>America by Nature</td>
</tr>
<tr>
<td>HIST 3370</td>
<td>Introduction to Public History</td>
</tr>
<tr>
<td>HIST 3373</td>
<td>Oral History and Podcasting</td>
</tr>
<tr>
<td>HIST 4320</td>
<td>U.S. Cultural Experience</td>
</tr>
<tr>
<td>HIST 4327</td>
<td>U.S. Modern Popular Culture</td>
</tr>
<tr>
<td>HIST 4335</td>
<td>The Military and United States History</td>
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<td>HIST 4336</td>
<td>Mexican American History</td>
</tr>
<tr>
<td>HIST 4337</td>
<td>United States Women's History</td>
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<tr>
<td>HIST 4349</td>
<td>Transnational Histories of Asia and the Pacific</td>
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<td>HIST 4350</td>
<td>Narratives of World War II in the Pacific</td>
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<td>HIST 4352</td>
<td>Mexican American Women's History</td>
</tr>
<tr>
<td>HIST 4390</td>
<td>Topics in History</td>
</tr>
</tbody>
</table>

### European and World History

Select two of the following: 6

- HIST 3301 History of World Religions
- HIST 3303 Colonial Latin America
- HIST 3304 Modern Latin America
- HIST 3307 The Ancient World
- HIST 3315 Europe 1750?1815
- HIST 3317 Europe 1815?1914
- HIST 3319 Europe 1914 to the Present
- HIST 3340 Modern Asia
- HIST 3350 Dictators and Dirty Wars in Latin America
- HIST 4340 European Women's History
- HIST 4342 The Holocaust
- HIST 4345 European Thought and Culture, 1750-present
- HIST 4346 The Search for Modern China: From 1600 to the Present
- HIST 4347 The History of Sexuality in the West
- HIST 4350 Narratives of World War II in the Pacific
- HIST 4374 Mexico: the National Period
- HIST 4375 Cold War Kids: Youth in Modern Latin America
- HIST 4390 Topics in History

### History Electives

Select 6 hours of upper division HIST courses not required for the major

- HIST 3301 History of World Religions
- HIST 3303 Colonial Latin America
- HIST 3304 Modern Latin America
- HIST 3307 The Ancient World
- HIST 3315 Europe 1750?1815
- HIST 3317 Europe 1815?1914
- HIST 3319 Europe 1914 to the Present
- HIST 3340 Modern Latin America
- HIST 3350 Dictators and Dirty Wars in Latin America
- HIST 4340 European Women's History
- HIST 4342 The Holocaust
- HIST 4345 European Thought and Culture, 1750-present
- HIST 4346 The Search for Modern China: From 1600 to the Present
- HIST 4347 The History of Sexuality in the West
- HIST 4349 Transnational Histories of Asia and the Pacific
- HIST 4350 Narratives of World War II in the Pacific
- HIST 4374 Mexico: the National Period
- HIST 4375 Cold War Kids: Youth in Modern Latin America

### Total Hours

33

1 May not be used to satisfy requirements in more than one cluster.
2 When topic is approved for cluster—see S.A.I.L. or advisor for further information.
### Public History Requirements

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>HIST 3370</td>
<td>Introduction to Public History</td>
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<td>HIST 4399</td>
<td>Internship</td>
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**Public History Electives**

Select two of the following:

<table>
<thead>
<tr>
<th>Course</th>
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<td>HIST 3335</td>
<td>The U.S. Urban Experience</td>
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<tr>
<td>HIST 3360</td>
<td>Introduction to Museum Studies</td>
<td>1</td>
</tr>
<tr>
<td>HIST 3373</td>
<td>Oral History and Podcasting</td>
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<tr>
<td>HIST 4350</td>
<td>Narratives of World War II in the Pacific</td>
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<tr>
<td>HIST 4390</td>
<td>Topics in History 2</td>
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<tr>
<td>HIST 4399</td>
<td>Internship</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 4321</td>
<td>Grants and Proposals</td>
<td>3</td>
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</table>

**Total Hours**

6

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1 May not be used to satisfy requirements in more than one cluster.

2 When topic is approved for cluster—see S.A.I.L. or advisor for further information.

### Course Sequencing

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<td>HIST 1301</td>
<td>U.S. History to 1865</td>
<td>3</td>
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<td>Language Requirement</td>
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<td>Spring</td>
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<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
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<td>Hours</td>
<td></td>
<td>16</td>
</tr>
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</table>

| Second Year     |                                                  |       |
| Fall            |                                                  |       |
| HIST 2311       | Western Civilization I                           | 3     |
| University Core Curriculum |                                             | 3     |
| University Core Curriculum |                                             | 3     |
| University Core Curriculum |                                             | 3     |
| HIST 2314       |                                                 | 3     |
| Hours           |                                                  | 15    |
| Spring          |                                                  |       |
| HIST 2312       | Western Civilization II                          | 3     |
| University Core Curriculum |                                             | 3     |
| University Core Curriculum |                                             | 3     |
| University Core Curriculum |                                             | 3     |
| Hours           |                                                  | 15    |

### Courses

**HIST 1301 U.S. History to 1865**

3 Semester Credit Hours (3 Lecture Hours)

A survey of the political, social, economic, military, cultural and intellectual history of the United States from 1492 to 1865.

**TCCNS:** HIST 1301

**HIST 1302 U.S. History Since 1865**

3 Semester Credit Hours (3 Lecture Hours)

A survey of the political, social, economic, military, cultural and intellectual history of the United States from 1865 to the present.

**TCCNS:** HIST 1302

**HIST 2301 Texas History**

3 Semester Credit Hours (3 Lecture Hours)

Spanish colonial period, Mexican statehood, independence, the development of the Republic, annexation and growth as a state.

**TCCNS:** HIST 2301
HIST 2311 Western Civilization I
3 Semester Credit Hours (3 Lecture Hours)
Survey of the cultures and civilizations of the Ancient Mediterranean world and the political, social, economic, military, cultural, and intellectual influences shaping the emergence and development of Europe to 1500.

TCCNS: HIST 2311

HIST 2312 Western Civilization II
3 Semester Credit Hours (3 Lecture Hours)
A survey of the political, social, economic, military, cultural, and intellectual development of Europe from 1500 to the present.

TCCNS: HIST 2312

HIST 2322 World History Since 1500
3 Semester Credit Hours (3 Lecture Hours)
examines major global issues over the past 500 years. Topics may include European expansion and colonialism, the integration of the Americans into world economic systems, changes in science and technology, decolonization, and modern environmental problems. This course will help students understand historical events within a global framework.

HIST 3301 History of World Religions
3 Semester Credit Hours (3 Lecture Hours)
Surveys the key beliefs, practices, rituals, figures, and historical developments of the world's major religious traditions, including Hinduism, Buddhism, Confucianism, Judaism, Christianity, Islam, and New Age religions. Gives particular attention to their encounter with modernity and their complicated place in today's global, diverse, post-modern world.

HIST 3303 Colonial Latin America
3 Semester Credit Hours (3 Lecture Hours)
An overview of Latin American history from pre-Columbian times until Independence.

HIST 3304 Modern Latin America
3 Semester Credit Hours (3 Lecture Hours)
A study of the major political, economic and cultural processes that marked the development of modern Latin America.

HIST 3307 The Ancient World
3 Semester Credit Hours (3 Lecture Hours)
This course examines the ancient history of the human race. It begins with the evolution of Homo sapiens in Africa and continues through approximately the 4th century CE. Topics examined include the formation of cultures, societies, states, and empires around the world including those in Egypt, Southwest Asia, India, China, and the Mediterranean.

HIST 3315 Europe 1750?1815
3 Semester Credit Hours (3 Lecture Hours)
Explores the processes which contributed to the establishment of a new political, economic, and social order in Europe. The course includes an in-depth focus upon the causes and consequences of the French Revolution as well as an examination of the European response to Napoleon.

HIST 3317 Europe 1815?1914
3 Semester Credit Hours (3 Lecture Hours)
The evolution of European industrial society from the Congress of Vienna to the outbreak of World War I. Themes include changes in the nature of work and family life, urbanization, and the emergence and growth of liberalism, socialism, nationalism, and romanticism as competing ideologies.

HIST 3319 Europe 1914 to the Present
3 Semester Credit Hours (3 Lecture Hours)
Political, social, economic and cultural developments since 1914: includes the impact of World War I, the Russian Revolution, Fascism, the origins of the Cold War, the tension between European unification and growing ethnic tensions and the dissolution of the Soviet empire.

HIST 3320 Colonial and Revolutionary U.S.
3 Semester Credit Hours (3 Lecture Hours)
Traces regional economic, social, and political change in the Americas from 1607 to the end of the Revolution.

HIST 3321 The Early American Republic
3 Semester Credit Hours (3 Lecture Hours)
This course examines American history from the end of the revolutionary war to 1850. Political, economic, and social issues including, but not limited to, the creation of the Constitution, the development of the first and second party systems, the market revolution, antebellum reform, the Old South, and westward expansion.

HIST 3322 Civil War and Reconstruction
3 Semester Credit Hours (3 Lecture Hours)
Background and causes of the Civil War; military, political, diplomatic, and economic developments during the War; Reconstruction and post-war adjustments.

HIST 3324 U.S. Gilded Age and Progressive Era
3 Semester Credit Hours (3 Lecture Hours)
An examination of the dramatic period when the United States definitively settled the remaining portions of the continent and decisively moved towards becoming an industrial, urban nation with world-wide economic and political influence.

HIST 3325 Emergence of Modern U.S.
3 Semester Credit Hours (3 Lecture Hours)
Study of American life from World War I through World War II. Topics include America's rise to a world power, the social, cultural, and political effects of corporate enterprise, urbanization, and immigration, women's suffrage, the Twenties, and the New Deal.

HIST 3326 U.S. Since 2nd World War
3 Semester Credit Hours (3 Lecture Hours)
A study of American life and development as a world power since World War II.

HIST 3335 The U.S. Urban Experience
3 Semester Credit Hours (3 Lecture Hours)
A general survey of the social, cultural, and political history of the American city, with particular emphasis on Corpus Christi and the ways our city illustrates these larger trends.

HIST 3340 Modern Asia
3 Semester Credit Hours (3 Lecture Hours)
This course will examine Asia from 1600 to the present. Topics include politics, the nation state, colonialism, empire, war, nationalism, the Cold War and revolution, all in a historical context.

HIST 3345 America by Nature
3 Semester Credit Hours (3 Lecture Hours)
Examines the role of nature in the nation's past, looking beyond more traditional historical topics to discover how the environment has shaped society and the ways in which humans, in turn, have shaped nature throughout American history. Community-engaged learning component.
HIST 3350  Dictators and Dirty Wars in Latin America
3 Semester Credit Hours (3 Lecture Hours)
Explores the rise of dictatorships and military regimes in twentieth century Latin America. Focuses on human rights struggles and popular movements in Mexico, Central America and the Southern Cone.

HIST 3356  Introduction to Museum Studies
3 Semester Credit Hours (1.5 Lecture Hours)
In this cross-disciplinary class, students of history, sciences, the arts, and more will be introduced to the different departments of a museum and gain experience in programming, exhibits, research, public engagement, and other various aspects of museum management through their participation in a real working museum (Corpus Christi Museum of Science and History).

HIST 3370  Introduction to Public History
3 Semester Credit Hours (3 Lecture Hours)
A Project-centered class that examines public history practices and debates, including the changing field over time, the relationship between history and memory, and the interpretive and sometimes controversial nature of historical sites and exhibits. Students will also learn methods and practices of museums, archives, oral history, digital history, and more. Includes community-engaged learning, workshops, local field trips.

HIST 3373  Oral History and Podcasting
3 Semester Credit Hours (3 Lecture Hours)
A project-based course designed to teach students oral history, audio recording, and editing. Topics include oral history theory and methods, the role of testimony and memory in constructing historical narratives, interview techniques, archival practices, and the technical aspects of audio production, audio storytelling, and podcasting.

HIST 3375  The Art and Practice of History
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the most significant historiographical problems that face historians, focusing on recent and current controversies that have shaken the profession and been the subject of public and political debate. Provides examples of how historians think about and do history. Prerequisite: (HIST 1301, 1302 and 2311) or (HIST 2312).

HIST 4320  U.S. Cultural Experience
3 Semester Credit Hours (3 Lecture Hours)
Explores ways that the myriad groups who have made up American society from the colonial period to the “information age” understood and expressed themselves and related to each other. (The chronological scope of this course may vary.)

HIST 4327  U.S. Modern Popular Culture
3 Semester Credit Hours (3 Lecture Hours)
The historical development of modern popular culture—including television, movies, fiction, newspapers, music and consumption—and its effect on the structure and experience of U.S. society and work from the nineteenth century to the present.

HIST 4335  The Military and United States History
3 Semester Credit Hours (3 Lecture Hours)
The development of U.S. military strategy and policy from the Colonial Wars through Vietnam.

HIST 4337  United States Women's History
3 Semester Credit Hours (3 Lecture Hours)
Themes include transformations in the notion of womanhood and of sexual differences, changes in the structure, function, and concept of "family" and "household," and historical factors that have shaped women's role in the work force and public life.

HIST 4340  European Women's History
3 Semester Credit Hours (3 Lecture Hours)
Study of the experiences of European women from the 18th to the 20th centuries. Also addresses the role that gender has played in the development of modern European societies. Some topics covered are women and the French Revolution, gender and class in industrial Europe, feminism and suffrage, and women and fashion.

HIST 4342  The Holocaust
3 Semester Credit Hours (3 Lecture Hours)
Examines the Holocaust by exploring the role of racism and anti-Semitism, the rise of Nazi policies, Jewish responses and resistance to them, deportation and genocide, the role of war, and the aftermath and memory of an event “beyond human imagination.”

HIST 4345  European Thought and Culture, 1750-present
3 Semester Credit Hours (3 Lecture Hours)
Survey of the major European intellectual and cultural movements from the Enlightenment to the present. Broader than a traditional course in intellectual history, special attention will be given to the emergence and development of the concepts of “modernity” and the challenges of “postmodernism.”

HIST 4346  The Search for Modern China: From 1600 to the Present
3 Semester Credit Hours (3 Lecture Hours)
This course surveys modern Chinese history from the late Ming dynasty to the present, with an emphasis on the late 19th and 20th centuries. Topics include empire, colonialism, nationalism, the nation state, modernization, revolution and the Cold War, all in a historical context.

HIST 4347  The History of Sexuality in the West
3 Semester Credit Hours
This course will examine how ideas about sexuality as well as sexual practices and identities have evolved over time and in different places; how the categories of homosexuality and heterosexuality were created and how they have been perceived. The course will focus on the 19th and 20th centuries in Europe and the United States, and address the themes of gender, body, race, class, image, representation, and the law.

HIST 4349  Transnational Histories of Asia and the Pacific
3 Semester Credit Hours (3 Lecture Hours)
Explores the transnational relations of Asia and the Pacific with the West from the 19th century to the present day. Themes include colonialism and imperialism, diaspora and migration, labor and economy, war and displacement. Topics include the Opium Wars, Immigration and Exclusion, Atomic Bombing of Hiroshima, Military War Brides, Third World Radicalism, Transnational Adoption Complex, and Environmentalism and Globalization.

HIST 4350  Narratives of World War II in the Pacific
3 Semester Credit Hours (3 Lecture Hours)
Examines how the relations between history, memory, and contemporary politics in post-WWII U.S. and Asia-Pacific have shaped the meaning of various contentious issues related to the Pacific War-such as war origins and responsibility, atrocities, racism, reparations, and nationalism-in textbooks, monuments, literature, art, films, political debates, exhibits, commemorative events, and scholarly works in different social and temporal contexts.
**HIST 4352  Mexican American Women’s History**  
3 Semester Credit Hours (3 Lecture Hours)  
Examines the broad political, economic, social, and cultural trends in the lives of Mexican American women since 1848.

**HIST 4374  Mexico: the National Period**  
3 Semester Credit Hours (3 Lecture Hours)  
Traces economic, social, and political change in Mexico from independence to the present.

**HIST 4375  Cold War Kids: Youth in Modern Latin America**  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of the experiences of Latin American youth in modern Latin America. Special emphasis on the role of young people in the revolutions and rebellions that marked the Cold War period.

**HIST 4385  Historical Research and Writing**  
3 Semester Credit Hours (3 Lecture Hours)  
The study and writing of history, with emphasis on historical analysis, research, and writing. Designed as the capstone course for history majors and prospective social science teachers. This course will feature a senior research paper, and should be taken during the student’s final year of undergraduate study.  
Prerequisite: HIST 3385 or READ 3353.

**HIST 4390  Topics in History**  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant periods, countries, regions, or themes in history. May be repeated when topics vary.

**HIST 4396  Directed Individual Study**  
1-3 Semester Credit Hours  
See College description.

**HIST 4398  Applied Experience**  
3 Semester Credit Hours  
See College description.

**HIST 4399  Internship**  
3 Semester Credit Hours  
Best practices and methods in digital archives, museums, and/or public history through field work at a local organization or museum. Offered on application. Repeatable up to 6 hours.

**Philosophy, BA**

**Program Description**

Philosophy involves rigorous, persistent reflection on a wide range of issues, such as how one ought to live, the existence of God and the problem of evil, the relation between mind and body, and the ways in which beliefs may be justified. Students in philosophy courses learn to:

- understand important periods, themes, movements, and figures in the history of philosophy;
- apply ethical theories to major social issues;
- analyze arguments using the principles and methods of logic;
- develop their own philosophical views and arguments;
- evaluate responses to problems in metaphysics, epistemology, and other areas of philosophy.

The study of philosophy can have a significant impact on one’s beliefs and values, and it helps develop a variety of intellectual skills and abilities which students can put to use in their lives, whatever they choose to do after they graduate. Among those skills and abilities are the capacities to engage in thinking that is critical, disciplined and creative; to express oneself effectively and appreciate the ideas and perspectives of others; to uncover and examine assumptions; to understand, construct, and evaluate arguments on different sides of issues; and to deal reasonably with questions to which there are no easy answers.

Studying philosophy also prepares students well for professional careers in such fields as law, ministry, psychology, business, and medicine, and for postgraduate work in philosophy. In recent years, philosophy majors have achieved exceptionally high scores on admissions tests to law schools and business schools (the LSAT and the GMAT) and on the GRE. They have been extremely successful in gaining admission to law schools and medical schools.

Students may select philosophy as a major or as a minor. Philosophy courses are also offered as electives for students in all fields of study.

**Program Requirements**

Students majoring in philosophy must complete a minimum of 30 semester hours of philosophy course work, at least 21 of which must be at the upper-division level.

**General Requirements**

**Requirements**  
Credit Hours

- Core Curriculum Program (p. 556)  
  42
- First-Year Seminars (when applicable)  
  0-2
- Philosophy Major Requirements  
  30
- University Electives  
  42
- Foreign Language Requirements  
  6

Total Credit Hours  
120-122

1  First-Year Seminars or Electives

**Code**  
**Title**  
**Hours**

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<th>Hours</th>
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<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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<td>Core Curriculum Program</td>
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<td>University Core Curriculum</td>
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<td>Philosophy Major Requirements</td>
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<td>PHIL 1301</td>
<td>Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 2303</td>
<td>Introduction to Logic and Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 2306</td>
<td>Introduction to Ethics</td>
<td>3</td>
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**History of Philosophy**

Select 6 hours of the following:  

- PHIL 3306  History of Eastern Philosophy I  
- PHIL 3307  History of Eastern Philosophy II  
- PHIL 3327  American Philosophy  
- PHIL 4321  Ancient Philosophy  
- PHIL 4322  Modern Philosophy  
- PHIL 4323  Contemporary Philosophy

**Metaphysics and Epistemology**

Select 6 hours of the following:  

- PHIL 3327  American Philosophy  
- PHIL 4303  Minds and Machines  
- PHIL 4304  Metaphysics
PHIL 4305  Truth, Knowledge, and Justification  3
PHIL 4321  Ancient Philosophy  3
PHIL 4322  Modern Philosophy  3
PHIL 4323  Contemporary Philosophy  3
PHIL 4330  Philosophy and History of Science and Technology
PHIL 4331  Issues in Philosophy of Religion

Values and Society
Select 3 hours of the following:
PHIL 3342  Philosophy of Love and Sex  3
PHIL 3343  Philosophy of Law
PHIL 3344  Social and Political Philosophy
PHIL 3345  The Meaning of Life
PHIL 3348  Ethics, War, and Terrorism
PHIL 4332  Moral Issues in Contemporary Medicine
PHIL 4333  Environmental Ethics
PHIL 4335  Moral Philosophy

Prescribed Electives
Select 6 hours of the following or any other upper-level Philosophy courses not used to satisfy the requirements of the groups listed above:
PHIL 3346  Elementary Formal Logic
PHIL 3347  Philosophy and Science Fiction
PHIL 4336  Advanced Seminar in Philosophy
PHIL 4337  Philosophy of Language
PHIL 4390  Topics in Philosophy
PHIL 4396  Directed Individual Study

Total Hours  74

1  May not be taken for both Philosophy credit and Core Curriculum credit. Students who take the course for Core Curriculum credit must take an upper level Philosophy course to meet this Basic Philosophy Course requirement.

2  Students are encouraged to take PHIL 1301 Introduction to Philosophy (3 sch) and PHIL 2303 Introduction to Logic and Critical Thinking (3 sch) as early as possible in their pursuit of the major.

3  May count towards either the History of Philosophy requirement or the Metaphysics and Epistemology requirement (but cannot be counted towards both requirements).

Course Sequencing

Course  Title  Hours
First Year  
Fall  
PHIL 1301  Introduction to Philosophy  3
University Core Curriculum  3
University Core Curriculum  3
University Core Curriculum  3
Language Requirement  3
UNIV 1101  First-Year Seminar I  1
Hours  16
Spring  
PHIL 2303  Introduction to Logic and Critical Thinking  3
University Core Curriculum  3
University Core Curriculum  3
University Core Curriculum  3

Second Year  
Fall  
PHIL 2306  Introduction to Ethics  3
University Core Curriculum  3
University Core Curriculum  3
University Core Curriculum  3
University Core Curriculum  3
Hours  15
Spring  
University Core Curriculum  3
University Core Curriculum  3
University Core Curriculum  3
University Core Curriculum  3
Lower Divisional Elective  3
Hours  15

Third Year  
Fall  
PHIL 3344  Social and Political Philosophy  3
PHIL 4304  Metaphysics  3
PHIL 4323  Contemporary Philosophy  3
Upper Divisional Elective  3
Upper Divisional Elective  3
Hours  15
Spring  
PHIL 3342  Philosophy of Love and Sex  3
PHIL 4303  Minds and Machines  3
PHIL 4322  Modern Philosophy  3
Upper Divisional Elective  3
Upper Divisional Elective  3
Hours  15

Fourth Year  
Fall  
PHIL 4305  Truth, Knowledge, and Justification  3
PHIL 3327  American Philosophy  3
PHIL Upper Division Elective  3
Upper Divisional Elective  3
Upper Divisional Elective  3
Hours  15
Spring  
PHIL 3342  Philosophy of Love and Sex  3
PHIL 4303  Minds and Machines  3
PHIL 4306  3
PHIL Upper Division Elective  3
Upper Divisional Elective  3
Upper Divisional Elective  3
Hours  15
Total Hours  122
**Courses**

**PHIL 1301 Introduction to Philosophy**  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of major philosophical issues such as the existence of God, freedom and determinism, moral rights and obligations, and the nature and limits of human knowledge.  
TCCNS: PHIL 1301

**PHIL 2303 Introduction to Logic and Critical Thinking**  
3 Semester Credit Hours (3 Lecture Hours)  
Basic principles and techniques used in understanding, constructing, and evaluating arguments. Topics covered may include formal methods of analyzing arguments, informal fallacies, scientific reasoning, and moral arguments.  
TCCNS: PHIL 2303

**PHIL 2306 Introduction to Ethics**  
3 Semester Credit Hours  
This course includes a study of ethical theories and principles, and application of those theories and principles to ethical issues.  
TCCNS: PHIL 2306

**PHIL 3306 History of Eastern Philosophy I**  
3 Semester Credit Hours (3 Lecture Hours)  
An historical and critical examination of traditional Indian philosophical and religious systems (such as various versions of Hinduism, Jainism, and Buddhism) and their relevance for contemporary people and societies.

**PHIL 3307 History of Eastern Philosophy II**  
3 Semester Credit Hours (3 Lecture Hours)  
A historical and critical examination of some of the philosophical and religious systems developed in China, Tibet, and Japan (such as various schools of Mahayana Buddhism, Taoism, Confucianism, and Zen Buddhism).

**PHIL 3327 American Philosophy**  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to American philosophy and the influential movement known as Pragmatism. The course focuses on the works of C.S. Peirce, William James, John Dewey, and George Santayana. Issues addressed include skepticism, the rejection of foundationalism, the role of belief in inquiry, verification and meaning, and the nature of truth.

**PHIL 3342 Philosophy of Love and Sex**  
3 Semester Credit Hours (3 Lecture Hours)  
This course is a study of the ethics of human relationships. Topics include friendship, romance, marriage, sexual orientation, adultery, promiscuity, sexual consent, sexual harassment, rape, pornography, and prostitution.

**PHIL 3343 Philosophy of Law**  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to philosophical issues concerning the law, such as the nature of law, relations between law and morality, theories of legal responsibility, and the role of law in society.

**PHIL 3344 Social and Political Philosophy**  
3 Semester Credit Hours (3 Lecture Hours)  
A survey of classical and contemporary material in social and political philosophy, covering topics such as individual liberty and government intervention, the role of government, and social justice.

**PHIL 3345 The Meaning of Life**  
3 Semester Credit Hours (3 Lecture Hours)  
An exploration of a variety of views concerning the meaning of life. Three kinds of responses to the question of life's meaning will be examined: theistic responses; non-theistic responses focusing on the creation of personal meaning within a natural universe; and responses that challenge the intelligibility of the question regarding the meaning of life.

**PHIL 3346 Elementary Formal Logic**  
3 Semester Credit Hours (3 Lecture Hours)  
A course on technical methods and foundational issues in Philosophy, Computer Science, and Mathematics. Topics include the Propositional Calculus, First-Order Predicate Calculus, meta-theoretic results (such as consistency, soundness, completeness, and decidability), and Zermelo-Fraenkel Set Theory.

**PHIL 3347 Philosophy and Science Fiction**  
3 Semester Credit Hours (3 Lecture Hours)  
An exploration of issues in contemporary philosophy such as the nature of life, personhood and self, knowledge and skepticism, time travel, and obligations to the non-human world. The course combines the reading of purely philosophical works with an examination of contemporary works of science fiction (including novels, short stories, and films).

**PHIL 3348 Ethics, War, and Terrorism**  
3 Semester Credit Hours (3 Lecture Hours)  
Why is it wrong to kill? Is killing an innocent person ever justified? Under what conditions can we justify war? How should we respond to terrorist threats? The course explores ethical theories in application to these and similar issues.

**PHIL 4303 Minds and Machines**  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the relationship of the mental to the physical as it pertains to the foundations of psychology, artificial intelligence, and robotics.

**PHIL 4304 Metaphysics**  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of issues in contemporary metaphysics, such as freedom of the will and determinism, the nature of causation, the mind-body problem, and the existence of abstract and concrete entities.

**PHIL 4305 Truth, Knowledge, and Justification**  
3 Semester Credit Hours (3 Lecture Hours)  
In this course, we will discuss the following questions among others: What is the nature of truth? Should truth be understood as correspondence with reality? What is it to know something? Is knowledge of the external world possible at all? Can I conclusively rule out the possibility that I might be dreaming right now, or that I might be just a brain in a vat? Are there any privileged beliefs that can be said to constitute the foundation for all of our knowledge? Are the standards for rationality and justification absolute or rather relative to cultural norms? Can there be rational disagreement between equally intelligent people who share the same body of evidence?

**PHIL 4321 Ancient Philosophy**  
3 Semester Credit Hours (3 Lecture Hours)  
A survey of the ancient Western philosophical tradition, including the Presocratics, Plato, Aristotle, and the Hellenistic Philosophers.

**PHIL 4322 Modern Philosophy**  
3 Semester Credit Hours (3 Lecture Hours)  
A study of some of the major philosophical developments of the 17th-20th centuries, focusing on topics such as the relation between mind and body, religious belief and the problem of evil, rationalism and empiricism, and the limits of human knowledge.
PHIL 4323 Contemporary Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A course on important trends in contemporary philosophy beginning with the Fregean linguistic turn, and examining the major works of philosophers such as Frege, Russell, Wittgenstein, Quine, Davidson, Dummett, Putnam, Kripke, and Lewis.

PHIL 4330 Philosophy and History of Science and Technology
3 Semester Credit Hours (3 Lecture Hours)
An exploration of important issues concerning the natural and formal sciences from the standpoint of historical disputes and technological advances. Issues include the nature of science and of scientific progress, the justification of scientific theories, the possibility of objective knowledge of the world, the distinction between science and pseudo-science, and the relationship between faith and science.

PHIL 4331 Issues in Philosophy of Religion
3 Semester Credit Hours (3 Lecture Hours)
Standard philosophical methods will be used to explore issues such as the existence and nature of God, the problem of evil, and the relationship between morality and religion.

PHIL 4332 Moral Issues in Contemporary Medicine
3 Semester Credit Hours (3 Lecture Hours)
An examination of moral issues that arise in medicine, focusing on topics such as euthanasia, genetic interventions, medical research involving vulnerable subjects, and the distribution of medical resources.

PHIL 4333 Environmental Ethics
3 Semester Credit Hours (3 Lecture Hours)
An examination of our ethical obligations with respect to animals, plants, and environmental systems, and of the foundations of environmental law and policy. Can be cross listed with ESCI 4490, BIOL 4590 or BIMS 4590.

PHIL 4335 Moral Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A study of moral theories, and of moral issues such as whether morality is subjective, whether there are moral facts, and the justification of practices such as capital punishment and abortion.

PHIL 4336 Advanced Seminar in Philosophy
3 Semester Credit Hours (3 Lecture Hours)
In-depth exploration of philosophical topics, designed for philosophy majors, with emphasis on student research and presentations.

PHIL 4337 Philosophy of Language
3 Semester Credit Hours (3 Lecture Hours)
A philosophical investigation into the nature of language. Topics include meaning, truth, theories of mediated reference, theories of direct reference, and speech acts.

PHIL 4390 Topics in Philosophy
3 Semester Credit Hours (3 Lecture Hours)
Study of important philosophical themes and figures. May be repeated for credit when topics vary. Topics may include, for example, Minds and Machines, Eastern Philosophy, Ancient Philosophy, Environmental Ethics, American Philosophy, and Moral Issues in Contemporary Medicine.

PHIL 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

Political Science, BA

Program Description
Political science is the study of politics, government, and public policy at the local, state, national, and international levels. It is concerned with the struggle for power and the exercise of power in public institutions. Political science seeks to reveal the patterns of behavior associated with politics, to explain the functioning of political and governmental institutions, to appraise alternative public policies, and to assess government’s role in society.

Political science provides students with the broad-training necessary to become successful professionals in a variety of fields, as well as engaged democratic citizens. As such, the purpose of the political science program is to foster the development of vital skills such as critical thinking, communication, and analytical abilities in our students in order to prepare them for both a broad range of career choices and the pursuit of lifelong learning.

Student Learning Outcomes
Upon completion of the BA in political science, students will be able to:

1. Demonstrate critical thinking skills, to include: creative thinking, innovation, inquiry and analysis, evaluation, and synthesis of information.
2. Demonstrate communication skills, to include: the effective development, interpretation, and expression of ideas through written, oral, and visual communication.
3. Demonstrate empirical and quantitative skills, to include: the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Program Requirements
To earn a BA in political science, a student must complete a minimum of 33 semester hours of political science courses beyond the requirements of the Core Curriculum Program. Political science majors are advised to take MATH 1324 Mathematics for Business and Social Sciences (3 sch), MATH 1325 Calculus for Business & Social Sciences (3 sch), or MATH 1442 Statistics for Life (4 sch) to satisfy the Mathematics Core Curriculum Program requirement. Students who do not take MATH 1324 Mathematics for Business and Social Sciences (3 sch), MATH 1325 Calculus for Business & Social Sciences (3 sch), or MATH 1442 Statistics for Life (4 sch) to satisfy the core Math requirement will be required to take one to fulfill the requirements for the major. The department recommends taking MATH 1442 Statistics for Life (4 sch) to satisfy both the Core and major requirement. If students have any questions, they should visit with the social science academic advisor.

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)^1</td>
<td>0-2</td>
</tr>
<tr>
<td>Political Science Major Requirements</td>
<td>33</td>
</tr>
<tr>
<td>University Electives</td>
<td>39</td>
</tr>
<tr>
<td>Foreign Language Requirements</td>
<td>6</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>120-122</td>
</tr>
</tbody>
</table>

^1 Full-time, first time in college students are required to take the first-year seminars.

- UNIV 1101 First-Year Seminar I (1 sch)
- UNIV 1102 First-Year Seminar II (1 sch)
### Code | Title | Hours
---|---|---

#### Full-time, First Year Students

First year seminars 0-2
- UNIV 1101  First-Year Seminar I
- UNIV 1102  First-Year Seminar II

#### Core Curriculum Program

University Core Curriculum 42

Political Science majors must take the following as part of the University Core Curriculum
- POLS 2305  U.S. Government and Politics **
- POLS 2306  State and Local Government ***

#### Political Science Major Requirements

POLS 2304  Introduction to Political Science 3
- POLS 3303  Contemporary Political Analysis 2
- POLS 4303  Seminar in Political Science 3

#### Upper-division 4

**List 1: American Politics, Public Policy, and Public Administration**

Select at least three of the following: 9
- POLS 2311  Mexican American and Latinx Politics
- POLS 3311  Women and Politics
- POLS 3312  Campaigns and Elections
- POLS 3313  The Legislative Process
- POLS 3314  Public Opinion
- POLS 3315  Political Parties
- POLS 3316  The American Presidency
- POLS 3317  Judicial Politics
- POLS 3318  Interest Groups
- POLS 3341  Introduction to Public Administration
- POLS 3342  Introduction to Public Policy
- POLS 3351  U.S. Constitution and Federalism
- POLS 4311  Urban Politics
- POLS 4312  Government Budgeting and Finance
- POLS 4390  Topics in Political Science 3

**List 2: Comparative Politics, International Relations, and Political Theory**

Select at least three of the following: 9
- POLS 3319  Religion and Politics
- POLS 3321  Comparative Politics
- POLS 3331  International Relations
- POLS 3361  Western Political Theory
- POLS 3365  Political Theory and Ideologies
- POLS 4321  Comparative Politics of Developing Nations
- POLS 4322  Transitions to Democracy
- POLS 4325  Politics in Latin America
- POLS 4327  The Politics of War
- POLS 4361  American Political Thought
- POLS 4390  Topics in Political Science 3

#### Political Science Electives

Select 6 hours of unrestricted electives from any Political Science course including those above or
- POLS 4398  Applied Experience

#### University Electives

Select 39 hours of university electives. 39

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### Foreign Language Requirements

See the College of Liberal Arts for the college language requirement. 6

### Total Hours

120-122

1. Please see Core Curriculum Program (p. 556) for more details. Hours will depend on MATH course taken.
2. Pre-requisite for POLS 4303 Seminar in Political Science (3 sch)
3. When POLS 4390 Topics in Political Science (3 sch) courses are offered by faculty, the course description will indicate whether the course applies to List 1 or List 2. POLS 4390 Topics in Political Science (3 sch) will be applied to List 1 or List 2 as approved by department.
4. Students must take 18 upper-division hours from the following lists, with at least three courses from each list. The remaining 6 semester hours of unrestricted electives may be any political science course included in these lists or the internship experience (POLS 4398 Applied Experience (3 sch)).

* Online offering
^ Blended offering

### Course Sequencing

#### Course | Title | Hours
---|---|---

**First Year**

#### Fall

- POLS 2305  U.S. Government and Politics 3
- University Core Curriculum 3
- University Core Curriculum 3
- University Core Curriculum 3
- UNIV 1101  First-Year Seminar I 1
- Lower Divisional Elective 3

**Hours** 16

#### Spring

- POLS 2306  State and Local Government 3
- University Core Curriculum 3
- University Core Curriculum 3
- UNIV 1102  First-Year Seminar II 1
- MATH 1442  Statistics for Life 4

**Hours** 14

**Second Year**

#### Fall

- University Core Curriculum 3
- University Core Curriculum 3
- University Core Curriculum 3
- Lower Divisional Elective 3
- Language requirement 3

**Hours** 15

#### Spring

- University Core Curriculum 3
- University Core Curriculum 3
- University Core Curriculum 3
- Language requirement 3

**Hours** 15
### Third Year

#### Fall
- **POLS 3XXX (LIST 1)** 3
- **POLS 3XXX (LIST 2)** 3
- Upper Divisional Elective 3
- Upper Divisional Elective 3

**Hours** 15

#### Spring
- **POLS 3XXX (LIST 1)** 3
- **POLS 3XXX (LIST 2)** 3
- Upper Divisional Elective 3
- Upper Divisional Elective 3
- Upper Divisional Elective 3

**Hours** 15

### Fourth Year

#### Fall
- **POLS 3303** Contemporary Political Analysis 3
- **POLS 4XXX (LIST 1)** 3
- **POLS 4XXX (LIST 2)** 3
- **POLS 4XXX (ELECTIVE)** 3
- Upper Divisional Elective 3

**Hours** 15

#### Spring
- **POLS 4303** Seminar in Political Science 3
- **POLS 4XXX (ELECTIVE)** 3
- Upper Divisional Elective 3
- Upper Divisional Elective 3

**Hours** 15

**Total Hours** 120

### Courses

**POLS 2304** Introduction to Political Science  
3 Semester Credit Hours (3 Lecture Hours)  
Introductory survey of the discipline of political science focusing on the scope and methods of the field, and the substantive topics in the discipline including the theoretical foundations of politics, political interaction, political institutions and how political systems function.  
**TCCNS:** GOVT 2304

**POLS 2305** U.S. Government and Politics  
3 Semester Credit Hours (3 Lecture Hours)  
A basic survey of American government, including fundamental political institutions, with special attention to the United States and Texas Constitutions.  
**TCCNS:** GOVT 2305

**POLS 2306** State and Local Government  
3 Semester Credit Hours (3 Lecture Hours)  
The politics, government, and administration of American states, counties, cities, and special districts, with special emphasis on Texas.  
**TCCNS:** GOVT 2306

**POLS 2311** Mexican American and Latinx Politics  
3 Semester Credit Hours (3 Lecture Hours)  
The study of Mexican American and Latinx politics within the American political experience. Topics include historical, cultural, socioeconomic, and constitutional issues that pertain to the study of Mexican Americans and other Latinx populations in the United States. Other topics such as political participation, governmental institutions, electoral politics, political representation, demographic trends, and other contemporary public policy debates will also be addressed.  
**TCCNS:** GOVT 2311

**POLS 3303** Contemporary Political Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
Analysis of current problems in national and international politics. Emphasis is on methods of analysis, particularly the use of computers. Includes a segment on career opportunities for political science majors.

**POLS 3311** Women and Politics  
3 Semester Credit Hours (3 Lecture Hours)  
The course will examine public policies affecting women, political participation, women in public office, and political attitudes of women.

**POLS 3312** Campaigns and Elections  
3 Semester Credit Hours (3 Lecture Hours)  
A survey of the literature on campaigns and elections including theories of voter choice; effects of mass media and campaign finance regulations on the conduct and outcome of elections; effects of elections on policy; emphasis on U.S. national elections.

**POLS 3313** The Legislative Process  
3 Semester Credit Hours (3 Lecture Hours)  
Survey and description of the legislative process in the United States Congress with relevant comparisons to practices within the several states and foreign nations. Emphasis upon the law-making process explained in terms of structure, participants, groups, associations and power relationships.

**POLS 3314** Public Opinion  
3 Semester Credit Hours (3 Lecture Hours)  
An analysis of the kinds and distributions of opinions and attitudes in the mass public and the effects of those opinions on activities of policy makers, with special attention to problems of linking public opinion to public policy.

**POLS 3315** Political Parties  
3 Semester Credit Hours (3 Lecture Hours)  
Organization, history, and activities of political parties and functions they serve in national, state, and local politics in the United States and elsewhere.

**POLS 3316** The American Presidency  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the federal executive branch with an emphasis upon the American Presidency with its relationships to other American political institutions and processes.

**POLS 3317** Judicial Politics  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines the political factors that influence judicial selection, decision-making and the policy-making role of courts. Furthermore, attention is directed at the impact of court decisions and the structure of the judiciary.
POLS 3318 Interest Groups
3 Semester Credit Hours (3 Lecture Hours)
Role of interest groups in politics: types of groups and resources; internal dynamics; group strategies/tactics (including PACs); forms of indirect and direct lobbying; influence of groups in the political arena.

POLS 3319 Religion and Politics
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the intersection of religion and politics historically and during contemporary times with an emphasis on beliefs, behaviors, institutions, and policies.

POLS 3321 Comparative Politics
3 Semester Credit Hours (3 Lecture Hours)
Concepts, theories and analytical frameworks for comparing different types of political systems around the world. Emphasis is placed on learning about different political systems and using the comparative method to evaluate and develop a richer understanding of politics, political culture, political behavior, and political institutions.

POLS 3331 International Relations
3 Semester Credit Hours (3 Lecture Hours)
Examination of the structure and function of the international system focusing on the power relationships among states, international organizations, and the critical issues animating contemporary international relations.

POLS 3341 Introduction to Public Administration
3 Semester Credit Hours (3 Lecture Hours)
Study of organization and management theories and practices of public administration affecting federal and subnational governments. Bureaucratic structures and procedures will be examined for their effects on policy, program development and evaluation.

POLS 3342 Introduction to Public Policy
3 Semester Credit Hours (3 Lecture Hours)
A survey of the policy process in the United States. The course will examine factors affecting the development, implementation and impact of public policies as well as a discussion of policy alternatives and controversies.

POLS 3343 Bureaucracy
3 Semester Credit Hours (3 Lecture Hours)
Examines the concept of the political role of the bureaucracy and the impact of other government institutions on bureaucratic structures, functions and behavior. The role of bureaucracy in public policy making and the influence of politics on implementation is analyzed.

POLS 3351 U.S. Constitution and Federalism
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the development of the U.S. Constitution since 1789 through legal decisions and interpretations. The development, evolution, and interpretations of federalism are also addressed. (Note: This course will complete the Texas Teacher Certification requirement in government for those who already have three semester hours in U.S. Government and need three additional semester hours that include the government and constitution of Texas.)

POLS 3361 Western Political Theory
3 Semester Credit Hours (3 Lecture Hours)
The fundamental concepts and problems of political theory, as viewed by the major classical philosophers and contemporary theorists, including justice, power, authority, obligation, freedom, equality.

POLS 3365 Political Theory and Ideologies
3 Semester Credit Hours (3 Lecture Hours)
Major 19th and 20th Century political theorists and ideological movements. Includes a review of capitalism, socialism, fascism, and liberalism.

POLS 3366 Seminar in Political Science
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for political science majors, examines significant developments and issue in American politics as they are addressed in the professional literature of political science. Offers the opportunity of an intensive study of as selected topic. Emphasis on supervised research on selected topic.
Prerequisite: POLS 3303.

POLS 4311 Urban Politics
3 Semester Credit Hours (3 Lecture Hours)
The institutions, political processes and policy issues of urban areas of the United States.

POLS 4312 Government Budgeting and Finance
3 Semester Credit Hours (3 Lecture Hours)
Study of the politics and processes of governmental budgeting at local, state, and federal levels with emphasis on the interrelatedness of governmental units through budgeting.

POLS 4314 Media and Politics
3 Semester Credit Hours (3 Lecture Hours)
Impact of mass media coverage on American political institutions, the election process, and public opinion in general and the appropriate role of media and news in a society.

POLS 4320 The Politics of the European Union
3 Semester Credit Hours (3 Lecture Hours)
Examination of the institutional, economic and political forces that led to the creation and development of the European Union. Emphasis on the impact the European Union has had on world affairs.

POLS 4321 Comparative Politics of Developing Nations
3 Semester Credit Hours (3 Lecture Hours)
Analysis of contemporary issues within and amongst developing nations. Examines various institutions, political processes, and public policy debates in some or all of the following regions: Africa, Latin America, the Middle East, or Asia.

POLS 4322 Transitions to Democracy
3 Semester Credit Hours (3 Lecture Hours)
Analysis of transitions to democracy from authoritarian rule. Various stages of the transition process and theories of democratization are assessed. Emphasis will be placed on "third wave" transitions to democracy.

POLS 4325 Politics in Latin America
3 Semester Credit Hours (3 Lecture Hours)
Latin American governments and politics as related to such topical problems and processes as land reform and expropriation.

POLS 4327 The Politics of War
3 Semester Credit Hours (3 Lecture Hours)
This course will examine the politics of war from ancient times to the present. Included in this survey are great generals and military strategists, from Sun Tzu to Napoleon to generals of the American Civil War. Students will study concepts of international law, the law of nations, and the laws of war. The course further examines military strategy and tactics of the 20th century.
Psychology, BA

Program Description
Mission
In keeping with the University’s mission, the discipline of Psychology seeks to discover, communicate, and apply knowledge about human behavior in a complex and changing world. The specific mission of the undergraduate program is three-fold:

1. to provide a basic education within the field of psychology as a foundation for graduate work in a professional field of psychology, such as clinical or counseling psychology, cognitive psychology, social psychology, or developmental psychology;
2. to provide disciplinary knowledge through a broadly-based curriculum which can be applied to related careers such as human services, business, communications, and research; and
3. to contribute to the education of students majoring in other areas of study. An on-campus format provides a mix of face-to-face, blended and online courses.

An online format provides all psychology requirements via the web. The course schedule for the online BA in Psychology will differ from on campus offerings and may not include all course options available to on-campus students.

Student Learning Outcomes

- Knowledge Base of Psychology
  Students will demonstrate understanding of the concepts, theoretical perspectives, empirical findings, and historical trends in psychology.

- Research Methods in Psychology
  Students will understand and apply research methods in psychology, including research design, data analysis, and interpretation.

- Critical Thinking Skills in Psychology
  Students will use critical and creative thinking, skeptical inquiry, and the scientific approach to solve problems related to behavior and mental process.

Entry Requirements
Students may apply to be accepted into the fully online Psychology BA program after the completion of all University Core Curriculum requirements including the following courses or their equivalents:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 2301</td>
<td>General Psychology *</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1442</td>
<td>Statistics for Life **</td>
<td>4</td>
</tr>
</tbody>
</table>

* Online offering
** Blended offering

Program Requirements
The Bachelor of Arts degree with a major in psychology requires a minimum of 37 semester hours in psychology, including General Psychology. At least 25 of these hours must be at the upper-division level. The College of Liberal Arts also requires students in Psychology to take at least 6 hours of a second language.

To earn a degree with a major in psychology, a student must complete a minimum of 37 semester hours of psychology courses exclusively applied to the major and beyond the requirements of the Core Curriculum Program. Within the College of Liberal Arts, only 6 semester hours that count toward a major can be applied to a minor.

A primary objective of the psychology program is to provide the psychology major with a broadly-based education in the discipline. Therefore, all psychology majors are expected to complete the required curriculum listed below. Remaining coursework will be selected by the student in consultation with the academic advisor and is designed to meet individual students’ needs and interests. The combination of psychology with a minor from another area, such as sociology or communications, often provides more marketable credentials at the bachelor’s level of training.
A course in General Psychology (PSYC 2301 General Psychology (3 sch)) or permission of the instructor is required for admission into all psychology courses beyond the 1000-level.

### General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
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</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Psychology Major Requirements</td>
<td>37</td>
</tr>
<tr>
<td>University Electives</td>
<td>35</td>
</tr>
<tr>
<td>Foreign Language Requirements</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>120-122</strong></td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

### University Core Curriculum

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 2301</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3411</td>
<td>Experimental Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 4310</td>
<td>Psychology Capstone Seminar</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3342</td>
<td>Cognitive Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3343</td>
<td>Learning and Behavior</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3432</td>
<td>Physiological Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3454</td>
<td>Sensation and Perception</td>
<td>3</td>
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</table>

Select two of the following:

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<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 2314</td>
<td>Lifespan Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2319</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3361</td>
<td>Psychology of Personality</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3363</td>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

### Psychology Electives

Select five of the following or any other upper division Psychology course listed above which does not count towards the required major hours in another area:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 2390</td>
<td>Topics in Psychology (can be taken multiple times as long as the topic is different)</td>
</tr>
<tr>
<td>PSYC 3325</td>
<td>Close Relationships</td>
</tr>
<tr>
<td>PSYC 3335</td>
<td>Forensic Psychology</td>
</tr>
<tr>
<td>PSYC 3346</td>
<td>Psychology of Language</td>
</tr>
<tr>
<td>PSYC 3350</td>
<td>Evolutionary Psychology</td>
</tr>
<tr>
<td>PSYC 3360</td>
<td>Health Psychology</td>
</tr>
<tr>
<td>PSYC 3370</td>
<td>Psychology of Religion</td>
</tr>
<tr>
<td>PSYC 3374</td>
<td>Human Sexuality</td>
</tr>
<tr>
<td>PSYC 3375</td>
<td>Introduction to Clinical Psychology</td>
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</tbody>
</table>

### Foreign Language Requirement

Select 35 hours of university electives.  

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td>1</td>
</tr>
</tbody>
</table>

### The Bachelor of Arts Degree with a Major in Psychology Online

The Bachelor of Arts degree with a major in psychology requires a minimum of 37 semester hours of psychology, including General Psychology. At least 25 of these hours must be at the upper-division level. The College of Liberal Arts also requires students in Psychology to take at least 6 hours of a second language. To earn a degree with a major in psychology, a student must complete a minimum of 37 semester hours of psychology courses exclusively applied to the major and beyond the requirements of the Core Curriculum Program. Within the College of Liberal Arts, only 6 semester hours that count toward a major can be applied to a minor. A primary objective of the psychology program is to provide the psychology major with a broadly-based education in the discipline. Therefore, all psychology majors are expected to complete the required curriculum listed below. Remaining coursework will be selected by the student in consultation with the faculty advisor and is designed to meet individual students' needs and interests. The combination of psychology with a minor from another area, such as sociology or communications, often provides more marketable credentials at the bachelor's level of training.

A course in General Psychology (PSYC 2301 General Psychology (3 sch)) or permission of the instructor is required for admission into all psychology courses beyond the 1000-level. The student majoring in psychology shall take the following:
General Requirements

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<td><strong>120-122</strong></td>
</tr>
</tbody>
</table>

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Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Full-time, First-Year Students</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>First year seminars</td>
<td>0-2</td>
</tr>
<tr>
<td></td>
<td>UNIV 1101 First-Year Seminar I</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>UNIV 1102 First-Year Seminar II</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Core Curriculum Program</strong></td>
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<tr>
<td>PSYC 4310</td>
<td>Psychology Capstone Seminar *</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Select two of the following:</td>
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</tr>
<tr>
<td></td>
<td>PSYC 2314 Lifespan Developmental Psychology *</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYC 2319 Social Psychology *</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYC 3361 Psychology of Personality *</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYC 3363 Abnormal Psychology *</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select two of the following:</td>
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<tr>
<td></td>
<td>PSYC 3342 Cognitive Psychology *</td>
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<tr>
<td></td>
<td>PSYC 3343 Learning and Behavior *</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYC 4352 Physiological Psychology *</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYC 4354 Sensation and Perception *</td>
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<td><strong>Psychology Electives</strong></td>
<td></td>
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<tr>
<td></td>
<td>Select five of the following:</td>
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</tr>
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<td></td>
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<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYC 2319 Social Psychology *</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYC 3360 Health Psychology</td>
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</tr>
<tr>
<td></td>
<td>PSYC 3361 Psychology of Personality *</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYC 3363 Abnormal Psychology *</td>
<td>1</td>
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<tr>
<td></td>
<td>PSYC 3374 Human Sexuality *</td>
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<td></td>
<td>PSYC 4332 Cross-cultural Psychology *</td>
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<tr>
<td></td>
<td>PSYC 4396 Directed Individual Study *</td>
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</tr>
<tr>
<td></td>
<td>PSYC 4398 Applied Experience *</td>
<td>1</td>
</tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Select 35 hours of university electives.</td>
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<tr>
<td></td>
<td><strong>Foreign Language Requirement</strong></td>
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See the College of Liberal Arts for the college language requirement. 6

**Total Hours** 120-122

* Online offering

Course Sequencing

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Fourth Year
Fall
PSYC Elective III 3
PSYC 3343 Learning and Behavior 3
Upper Divisional Elective 3
Upper Divisional Elective 3
Upper Divisional Elective 3

Hours 15
Spring
PSYC 4309 History and Systems of Psychology 3
PSYC Elective IV 3
PSYC Elective V 3
Upper Divisional Elective 3
Upper Divisional Elective 3

Hours 15

Total Hours 118-120

Courses
PSYC 2301 General Psychology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the fundamental concepts and theories in psychology. Topics include biological processes, development, learning, personality, abnormal behavior, therapy, and social interactions.
Co-requisite: MEDA 1305, UNIV 1102.
TCCNS: PSYC 2301

PSYC 2314 Lifespan Developmental Psychology
3 Semester Credit Hours (3 Lecture Hours)
The study of normal physical, cognitive, social, and emotional development from infancy to late adulthood.
TCCNS: PSYC 2314

PSYC 2319 Social Psychology
3 Semester Credit Hours (3 Lecture Hours)
The scientific study of how a person’s thoughts and behavior are influenced by others. Topics will include social cognition, attitudes, persuasion, interpersonal relationships, and group behavior. (Credit may not be given for this course and SOCI 2326.) Cross listed with SOCI 2319.
TCCNS: PSYC 2319

PSYC 2390 Topics in Psychology
3 Semester Credit Hours (3 Lecture Hours)
This is a lower-level special topics course. Various topics, which will change from semester to semester, are presented by Psychology department faculty. They cover topics of special interest which will not be made a regular on-going part of the curriculum. May be repeated for credit.
Prerequisite: PSYC 2301.

PSYC 3325 Close Relationships
3 Semester Credit Hours (3 Lecture Hours)
This course is designed as an overview to the field of close relationships. The major theories of close relationships will be emphasized, including examinations of evolutionary, attachment, interdependence, and cognitive approaches. Additional topics include attraction, relationship development and maintenance, infidelity, and relationship violence.

PSYC 3335 Forensic Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course examines the relationship between the practice of psychology and the functioning of the legal system. The course surveys many aspects of clinical forensic psychology, including assessment, treatment, and consultation services.

PSYC 3342 Cognitive Psychology
3 Semester Credit Hours (3 Lecture Hours)
A survey of current research and theory in the field of human cognition, emphasizing the information processing model. Topics include attention, memory, language, and problem solving.

PSYC 3343 Learning and Behavior
3 Semester Credit Hours (3 Lecture Hours)
The study of the fundamental principles of learning through a consideration of theories and constructs, such as associations, reinforcement, punishment, generalization, discrimination, and modeling.

PSYC 3346 Psychology of Language
3 Semester Credit Hours (3 Lecture Hours)
The purpose of the course is to introduce students to a multidisciplinary study of language. This course will provide an introduction to psychological, sociolinguistic, and social-interactive theories of language use, acquisition/development, knowledge, context, perception, disorders, and related cognitive and social processes.

PSYC 3350 Evolutionary Psychology
3 Semester Credit Hours (3 Lecture Hours)
Evolutionary psychologists argue that much of human behavior is the output of neural and psychological adaptations that evolved to solve recurrent problems in human ancestral environments. Some challenges addressed in this course involve survival, mating, familial relationships, and living in social groups.

PSYC 3360 Health Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course will provide an overview of the field of health psychology, examining how psychological theories and research are applied to enhance health and well-being and to prevent and treat illness.

PSYC 3361 Psychology of Personality
3 Semester Credit Hours (3 Lecture Hours)
An introduction to major theories of personality. Personality processes and development are discussed from psychoanalytic, behavioral, humanistic, and other perspectives.

PSYC 3363 Abnormal Psychology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of abnormal behavior. Studies the etiology and characteristics of the major behavioral disorders, including current research findings and treatment practices. Competency in personality psychology, such as that obtained by completing PSYC 3361, is assumed for this course.

PSYC 3370 Psychology of Religion
3 Semester Credit Hours (3 Lecture Hours)
This course examines religious experience and behavior from a psychological perspective. Topics include historical and theoretical perspectives, development of religious beliefs across the lifespan, religious conversion, social and group experiences, and the varieties of religious belief.

PSYC 3374 Human Sexuality
3 Semester Credit Hours (3 Lecture Hours)
The study of human sexual behavior from a biological and psychosocial perspective. Emphasizes current research methods and findings.
PSYC 3375 Introduction to Clinical Psychology
3 Semester Credit Hours (3 Lecture Hours)
A survey of diagnostic and therapeutic strategies employed by clinical psychologists. The scientist-practitioner model is emphasized through the critical analysis of theories and empirical research that provide the foundation for determining effective treatments of mental disorders.

PSYC 3411 Experimental Psychology
4 Semester Credit Hours (4 Lecture Hours)
An introduction to the methods of scientific experimentation in psychology. Skills to critically analyze journal articles, design experiments, collect and analyze data, and write reports in APA style will be developed. Students are required to enroll in a laboratory section of this course. The laboratory component of this course offers applications of the principles discussed in the large lecture.
Prerequisite: MATH 1442.

PSYC 4309 History and Systems of Psychology
3 Semester Credit Hours (3 Lecture Hours)
A study of the development of modern psychology through an examination of major philosophic, scientific, and social-political antecedents. Contemporary positions are discussed within the context of broader theoretical frameworks.
Prerequisite: PSYC 2301.

PSYC 4310 Psychology Capstone Seminar
3 Semester Credit Hours (3 Lecture Hours)
All TAMU-CC Psychology students take a Capstone course in order to graduate. The Psychology Capstone Seminar, the final and required class that completes the Psychology curriculum, provides an opportunity for senior Psychology majors to demonstrate comprehensive learning in Psychology through intensive, integrative work on a specific topic in Psychology at an advanced level. The goal is to provide an enriching and culminating experience at the end of each student’s undergraduate education. Core components of the Capstone courses include reading and discussing peer-reviewed and primary source work, completing a final project, and presentations of ongoing and final projects.
Prerequisite: PSYC 3411.

PSYC 4332 Cross-cultural Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide students with both a theoretical and a practical understanding of the effects of culture on human thinking, values, and behavior. As such, it is focused on the effects of culture on the nature and behavior of individuals, their adaptations to institutions and environments, and their relations with others within and outside their culture. Knowledge presented in the class is drawn from both qualitative and quantitative research.

PSYC 4344 Drug Use and Abuse
3 Semester Credit Hours (3 Lecture Hours)
Study of the physiological, psychological, and social effects of drug use and abuse. Following a review of basic neuroanatomy and pharmacology, the actions and known effects of specific drugs of use and abuse will be examined. Treatments and prevention issues related to substance abuse will also be discussed.

PSYC 4352 Physiological Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the physiological mechanisms that underlie behavior with emphasis on the nervous, the endocrine and sensory systems.

PSYC 4354 Sensation and Perception
3 Semester Credit Hours (3 Lecture Hours)
Basic sensory processes as they relate to the sensory experience and to the construction of our conception of physical reality.

PSYC 4367 Gender Issues in Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to introduce the undergraduate student to the theoretical and empirical issues related to the psychology of gender. Both traditional and contemporary theories that focus on the unique aspects in the psychological development of women as well as men will be examined.

PSYC 4372 Psychological Testing
3 Semester Credit Hours (3 Lecture Hours)
Statistical and research basis for test construction. Instruction in use of group and individual tests in intelligence, achievement, interest and personality. Understanding of individual measures in these areas.
Prerequisite: MATH 1442.

PSYC 4377 Industrial/Organizational Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course will provide an Introduction to Industrial and Organizational Psychology, a scientific discipline that studies human behavior in the workplace. Topics will include the history of Industrial/Organizational psychology, job analysis, psychological assessments, personnel decisions, training and development, organizational change, teamwork, motivation, leadership and work stress and health.
Prerequisite: (PSYC 2301).

PSYC 4390 Topics in Psychology
3 Semester Credit Hours (3 Lecture Hours)
May be repeated for credit when topics vary.
Prerequisite: PSYC 2301.

PSYC 4395 Undergraduate Research
3 Semester Credit Hours
A research project in psychology designed in consultation with a faculty director. The study is to be conducted by the student under the supervision and direction of the faculty member and may culminate in a formal report written in APA journal style.

PSYC 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

PSYC 4398 Applied Experience
3 Semester Credit Hours
See College description.

Sociology, BA

Program Description
Sociology is the scientific study of human societies. At the macro-level, sociology studies societies as a whole and their social institutions such as the family, economy, religion, politics, and education. At the micro-level, sociology is concerned with everyday interactions within small social groups.

The purpose of the sociology curriculum is to:

1. provide education in the theories, concepts, definitions and language of sociology;
2. cultivate an understanding of the methods of research and interpretation of research findings;
3. prepare students for graduate study in sociology;
4. develop selected skills applicable to careers in the public or private sector.

**Student Learning Outcomes**

Students will:

- Demonstrate an understanding in the theories, concepts, definitions and language of sociology;
- Demonstrate the ability to apply professional standards of writing and research to sociological issues;
- Obtain advanced knowledge for use in the pursuit of graduate study in sociology;
- Complete a sociological research project and present it to a professional audience;
- Obtain advanced knowledge of research and writing skills applicable to careers in the public and private sector.

**General Requirements**

Areas covered in the curriculum include, but are not limited to, development of human societies, the nature of social interactions at the individual and group levels, structures and processes of social organizations, deviant behavior, and research methods and computer applications used in social analysis. Skills acquired from this curriculum are helpful for careers in human services, government, business, and or graduate studies.

The Bachelor of Arts degree with a major in sociology requires a minimum of 37 semester hours in sociology. At least 24 of these hours must be at the upper-division (3300 or 4300) level. The College of Liberal Arts also requires students in sociology to take at least 6 hours of a second language. Sociology majors are encouraged to take MATH 1442 Statistics for Life (4 sch) to satisfy the Mathematics Core Curriculum Program requirement. Students who do not take MATH 1442 Statistics for Life (4 sch) to satisfy the Mathematics Core Curriculum Program requirement will be required to do so in order to fulfill the statistics requirement for the major. Students are also encouraged to select a minor or elective work in a related field that is pertinent to the student’s career goals.

To earn a degree with a major in sociology, a student must complete a minimum of 37 semester hours of sociology courses exclusively applied to the major and beyond the requirement of the Core Curriculum Program. Within the College of Liberal Arts, only 6 semester hours that count towards a major may be applied to a minor.

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<tr>
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1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

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<td>SOCI 4385</td>
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<td>SOCI 3320</td>
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<td>SOCI 3321</td>
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<td>SOCI 4312</td>
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<td>SOCI 3350</td>
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| Total Hours | 120-122 |

1. SOCI 4301 Social Theory (3 sch) and SOCI 4445 Social Research Methods (4 sch) must be taken before SOCI 4385 Senior Seminar in Sociology (3 sch)
Elective coursework may include courses in Sociology or Anthropology as selected by the student in consultation with a faculty advisor. Electives are designed to meet students’ needs and interests.

**Required Sequences of Courses**

- SOCI 1301 Introduction to Sociology (3 sch) before all other sociology courses
- MATH 1442 Statistics for Life (4 sch) before SOCI 4445 Social Research Methods (4 sch)
- SOCI 4445 Social Research Methods (4 sch) and SOCI 4301 Social Theory (3 sch) must be taken before SOCI 4385 Senior Seminar in Sociology (3 sch)

**Note:**

Introduction to Sociology (SOCI 1301 Introduction to Sociology (3 sch)) or permission of the instructor is required for admission into all upper-division sociology courses.

**Course Sequencing**

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**Third Year**

| Fall |                                            |       |
| SOCI 3320 | Sociology of Gender                       | 3     |
| SOCI 3340 | Sociology of the Family                   | 3     |
| SOCI 4301 | Social Theory                             | 3     |
| Upper Divisional Elective |                                    | 3     |
| Upper Divisional Elective |                                    | 3     |
| Hours |                                            | 15    |
| Spring |                                            |       |
| Upper Divisional Elective |                                    | 3     |
| SOCI 3350 | Sociology of Education                    | 3     |
| Sociology Elective I |                                | 3     |
| Sociology Elective II |                               | 3     |
| Upper Divisional Elective |                                    | 3     |
| Hours |                                            | 15    |

**Fourth Year**

| Fall |                                            |       |
| SOCI 4445 | Social Research Methods                    | 4     |
| Sociology Elective III |                               | 3     |
| Upper Divisional Elective |                                    | 3     |
| Upper Divisional Elective |                                    | 3     |
| Upper Divisional Elective |                                    | 3     |
| Hours |                                            | 16    |
| Spring |                                            |       |
| Upper Divisional Elective |                                    | 3     |
| SOCI 4385 | Senior Seminar in Sociology                | 3     |
| Upper Divisional Elective |                                    | 3     |
| Upper Divisional Elective |                                    | 3     |
| Upper Divisional Elective |                                    | 3     |
| Hours |                                            | 15    |
| Total Hours |                                          | 120   |

**Courses**

**SOCI 1301 Introduction to Sociology**

3 Semester Credit Hours (3 Lecture Hours)

An introduction to the basic concepts, methods, and theories used in Sociology. Topics illustrate the systematic understanding of social interaction, social organization, and social institutions. Reciprocal relationships between individuals and society are examined. Topics may include – but are not limited to – socialization, culture, social stratification, race and ethnicity, sex and gender, deviance, family, work, and social change.

**TCCNS:** SOCI 1301

**SOCI 2301 Social Problems**

3 Semester Credit Hours (3 Lecture Hours)

A survey and exploration of the causes and consequences of major social problems in the U.S. society, including contemporary issues of poverty, unemployment, income inequality, health care, crime, climate change, and other issues of social class, racial, ethnic, and gender inequality.

**TCCNS:** SOCI 1306
SOCI 2319  Social Psychology  
3 Semester Credit Hours (3 Lecture Hours)  
The scientific study of how a person's thoughts and behavior are influenced by others. Topics will include social cognition, attitudes, persuasion, interpersonal relationships, and group behavior. (Credit may not be given for both this course and PSYC 2326.) Cross listed with PSYC 2319.  
TCNNS: SOCI 2326

SOCI 3310  Sociology through Film  
3 Semester Credit Hours (3 Lecture Hours)  
The examination of film as a culture artifact to illustrate sociological concepts, theories, and perspectives. Specific attention will be given to narratives of film as they illustrate culture, aging, social class, gender, race/ethnicity, identity, and other sociological concepts.

SOCI 3312  Racial and Ethnic Relations  
3 Semester Credit Hours (3 Lecture Hours)  
The study of cultural, religious, ethnic and racial groups, and the treatment accorded them in society. Prejudice, discrimination and the outcomes of discrimination in relation to both dominant and subordinate groups are considered.

SOCI 3320  Sociology of Gender  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of the roots, nature and social construction of gender roles including socialization of men and women, gender role relationships from the perspectives of sociology. Issues of family, education, work and the economy, religion, politics and law, feminist organizations, feminist theory, and men's and women's movements will be considered.

SOCI 3321  Mexican American Women  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the Chicanas and the trends in society and Mexican-American culture affecting their lives and behaviors.

SOCI 3340  Sociology of the Family  
3 Semester Credit Hours (3 Lecture Hours)  
The study of the family, relationships among its members, and the relationship of family to other social institutions.

SOCI 3349  Sociology of Deviant Behavior  
3 Semester Credit Hours (3 Lecture Hours)  
A systematic and critical study of the nature, patterns, and processes of violations of significant social norms by members of society. Specific attention is given to violations such as drug abuse, violence in and outside the family, and white-collar offenses.

SOCI 3350  Sociology of Education  
3 Semester Credit Hours (3 Lecture Hours)  
Employing a sociological lens to examine formal education in the United States and other countries, students will explore various schools of thought and controversies surrounding education in modern societies. They will examine important issues related to formal education, such as the expansion of schooling, equality of educational opportunity, unequal achievement of groups of students, the reproduction of inequality in education, schools' roles in the transmission of culture, and the social organization of schools.

SOCI 4301  Social Theory  
3 Semester Credit Hours (3 Lecture Hours)  
Combines an analysis of the major ideas and theories in sociology and their relationship to social research with an understanding of social processes and structures.  
Prerequisite: SOCI 1301.

SOCI 4310  Sociology of Work and Occupations  
3 Semester Credit Hours (3 Lecture Hours)  
The study of work as a social phenomenon, including the social organization of work, occupations, and professions in society. The labor force, work culture, workers mobility, career lines, and leisure in contrast to work are considered.

SOCI 4312  Social Class and Inequality  
3 Semester Credit Hours (3 Lecture Hours)  
The study of social inequality in society, with emphasis on the social class structure of the United States, its origins, development, and consequences for individuals, groups, and society.  
Prerequisite: SOCI 1301 and 3312.

SOCI 4315  Complex Organizations  
3 Semester Credit Hours (3 Lecture Hours)  
The development of a theoretical and applied understanding of those social institutions where most of us will be employed. Topics include organizational effectiveness, decision making, designs, politics, cultures, as well as gender and racial inequality.

SOCI 4320  Sociology of Sports  
3 Semester Credit Hours (3 Lecture Hours)  
This course critically examines the relationships between organized sports and the rest of society. It will undertake a sociological analysis of how organized sports affect, and are affected by, major social institutions such as the economy, racial and gender relations, mass media, and religion, to mention but a few.

SOCI 4325  Medical Sociology  
3 Semester Credit Hours (3 Lecture Hours)  
Examination of the social contexts of physical and mental health, illness and medical care. Topics include the social, environmental, and occupational factors in health and disease; socialization of health care providers; doctor-patient relationships; the structure and processes of health care organizations; and health care and social change.

SOCI 4331  Juvenile Delinquency  
3 Semester Credit Hours (3 Lecture Hours)  
Examination of the extent and pattern of juvenile crime today. History and theory of delinquency and society's response to it. (Credit may not be given for both this course and CRIJ 4331.) Cross listed with CRIJ 4331.

SOCI 4335  Criminology  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of the major sociological explanations for crime, criminal behavior, and the social responses to crime. (Credit may not be given for both this course and CRIJ 4335.) Cross listed with CRIJ 4335.

SOCI 4385  Senior Seminar in Sociology  
3 Semester Credit Hours  
This is a capstone course required of all students graduating with a major in sociology. The course is designed to enable faculty to assess each student's expertise in applying sociological concepts and practices. Students demonstrate this expertise through the completion of a final project that combines a minimum of classroom hours with substantial research activity. The course is team taught by the entire sociology faculty. Students are allowed considerable flexibility in selecting either survey research or evaluation research for their project. (Offered Spring Only.)

SOCI 4390  Topics in Sociology  
3 Semester Credit Hours (3 Lecture Hours)  
A consideration of various topics on social behavior and social structure. May be repeated when topics vary.
The Spanish program offers a major and minor in Spanish. The main focus of the program is to develop the student’s language proficiency and the literary, cultural, practical application, and translation competencies demanded by many professional fields. To accomplish these goals, the Spanish curriculum includes courses in general Spanish Language, Spanish for the Professions, Hispanic Linguistics, Spanish and Spanish-American Literatures and Civilizations, and Translation. These courses are provided for students pursuing a Bachelor of Arts degree in Spanish with or without Secondary Teacher Certification, or Spanish/English Translation Certificate; for those fulfilling Second Language requirements or the Language, Philosophy, and Culture requirement in the Core Curriculum Program, and for those seeking electives to support majors and minors in other fields.

Student Learning Outcomes

Students will:

- demonstrate advanced proficiency in Spanish through performance on examinations, in-class presentations, and research papers;
- demonstrate the ability to understand, analyze, and interpret the cultural, linguistic and literary aspects of the Spanish-speaking countries through in-class presentations, examinations, and research papers;
- demonstrate proficiency in the practice, theory, and ethical aspects of translation and interpretation through in-class presentations, examinations, and translation projects;
- be prepared to teach Spanish and/or continue their studies at the graduate level.

For students planning to register for 3000 or 4000 level courses, Spanish Faculty approval or a prerequisite of two 2000 courses (or equivalent) is required. For Teacher Certification, both the TExES examination (LOTE-613 [Languages Other Than English]) and the PPR-160 (Pedagogy and Professional Responsibilities Test) must be completed. For the Translation Certificate, students must complete 16 credits of Spanish translation related coursework and pass an exit exam.

Students interested in Credit by Examination towards the Spanish major or minor must do so through the AP, IB, CLEP, or ACTFL exams. Students who choose the CLEP exam need to be cleared by a member of the Spanish faculty to apply those credits towards the major (or minor) and enroll in upper-division courses. The Bachelor of Arts in Spanish requires a minimum of 36 semester hours in Spanish, out of which 30 must be upper-division. The distribution of upper and lower-division hours can be found below. Students seeking a B.A. in Spanish must complete the following requirements.

### About Upper-Division Spanish Courses

To enroll in upper-division Spanish courses, students must first do one of the following:

- pass two 2000 level Spanish courses.
- receive an equivalent score on the AP, IB, CLEP, or ACTFL tests.
- obtain approval from Spanish Faculty.

### About the Teaching Certification and the Translation Certificate

- Students interested in receiving the Teaching Certification in Spanish, see catalog section under Spanish Teaching Certification.
- Students interested in receiving the Spanish/English Translation Certificate, see catalog section under Certificates. Note that only 6 hours from this certificate can be applied to the Spanish major.

### About Double-Majors and Double-Degrees

Students who pursue the Spanish major as support for another major or degree in a different discipline are allowed to complete the program with 36 hours, at least 21 of which must be upper-division. Since these students are completing entire programs in another field simultaneously, they are allowed to complete the 36 hours with any distribution of their choice.

### General Requirements

<table>
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<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
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<tr>
<td>First-Year Seminars (when applicable)¹</td>
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<td>Spanish Major Requirements</td>
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<td>University Electives</td>
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<td>Foreign Language Requirements</td>
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<td>Total Credit Hours</td>
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¹ Full-time, first time in college students are required to take the first-year seminars.
- UNIV 1101 First-Year Seminar I (1 sch)
- UNIV 1102 First-Year Seminar II (1 sch)

### Program Description

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<td><strong>Spanish Base Language</strong></td>
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<td>Select 6 hours of the following:</td>
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<td></td>
<td>SPAN 2311 Spanish III (or credit by examination)</td>
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<td>SPAN 2312 Continuing Spanish (or credit by examination)</td>
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SPAN 2313  Spanish for Heritage Speakers (or credit by examination)
SPAN 2315  Language and Culture for Heritage Learners (or credit by examination)

Grammar & Writing
SPAN 3302  Spanish Composition 3
SPAN 3312  Spanish Grammar 3

Linguistics & Oral Communication
Select 3 hours of the following: 3
SPAN 3303  Spanish Conversation
SPAN 3311  Spanish Phonetics
SPAN 3317  Introduction to Hispanic Linguistics
SPAN 4320  Spanish in the Americas
SPAN 4327  Methods in Foreign Language Instruction

Culture & Civilization
Select 3 hours of the following: 3
SPAN 3304  Spanish Civilization
SPAN 3305  Latin American Civilization
SPAN 3315  Civilizations of the Spanish-Speaking World

Spanish Literature
Select 3 hours of the following: 3
SPAN 3320  Introduction to Spanish Literature
SPAN 4304  Miguel de Cervantes’ Don Quijote
SPAN 4306  Modern Spanish Literature
SPAN 4390  Topics in Spanish

Latin American Literature
Select 3 hours of the following: 3
SPAN 3325  Introduction to Latin American Literature
SPAN 4302  Mexican Narrative
SPAN 4305  Latin American Novel
SPAN 4390  Topics in Spanish

Translation and Applied Spanish
SPAN 3313  Introduction to Translation 3
or SPAN 3316  Spanish for the Professions

Spanish Electives
Select 9 hours from any of the following: 9

Literature and Culture
SPAN 3304  Spanish Civilization
SPAN 3305  Latin American Civilization
SPAN 3315  Civilizations of the Spanish-Speaking World
SPAN 3320  Introduction to Spanish Literature
SPAN 3325  Introduction to Latin American Literature
SPAN 4302  Mexican Narrative
SPAN 4304  Miguel de Cervantes’ Don Quijote
SPAN 4305  Latin American Novel
SPAN 4306  Modern Spanish Literature
SPAN 4390  Topics in Spanish

Linguistics
SPAN 3311  Spanish Phonetics
SPAN 3317  Introduction to Hispanic Linguistics
SPAN 4320  Spanish in the Americas
SPAN 4327  Methods in Foreign Language Instruction

Translation
SPAN 3313  Introduction to Translation
SPAN 3316  Spanish for the Professions
SPAN 4322  Medical, Scientific and Technical Translation
SPAN 4421  Business, Commercial, and Legal Translation

University Electives
Select 36 hours of university electives. 36

Foreign Language Requirement
See the College of Liberal Arts for the college language requirement. 6

Total Hours 120-122

Course Sequencing

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Spanish, BA

University Elective

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Total Hours 122

Courses

SPAN 1100 Introduction to Service Learning
1 Semester Credit Hour
This is a one-credit course in which students in Spanish 1311 or 1312 may enroll and participate. This service learning course aims to promote collaborative learning between college students learning Spanish and people in the community. Available upon application. Repeatable up to 2 hours.

SPAN 1311 Spanish I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to listening, speaking, reading and writing skills within a Spanish cultural framework. For students without previous knowledge of the language. (Language laboratory required. One hour per week.) *A lab fee is required for these courses.

SPAN 1312 Spanish II
3 Semester Credit Hours (3 Lecture Hours)
Continued practice in listening, speaking, reading and writing skills within a Spanish cultural framework. (Language laboratory required. One hour per week.) A lab fee is required for these courses.
Prerequisite: (SPAN 1311).

SPAN 2311 Spanish III
3 Semester Credit Hours (3 Lecture Hours)
Study of more complex Spanish sentence structure to further listening, speaking, reading and writing skills at an intermediate level within a Spanish cultural framework.
Prerequisite: SPAN 1312.
TCCNS: SPAN 2311

SPAN 2312 Continuing Spanish
3 Semester Credit Hours (3 Lecture Hours)
Continued development and review of all language skills at an intermediate level within a Spanish framework with an emphasis in the linguistic and cultural perspective.
Prerequisite: SPAN 2311.
TCCNS: SPAN 2312

SPAN 2313 Spanish for Heritage Speakers
3 Semester Credit Hours (3 Lecture Hours)
An introductory course designed for bilingual students who wish to enhance their linguistic skills (speaking, listening, reading and writing). This course will focus on the cultural and historical aspects related to the heritage Spanish speaker.
TCCNS: SPAN 2313

SPAN 2315 Language and Culture for Heritage Learners
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide a general overview of the cultural, linguistic, and historical experience of the Spanish people within its larger European context. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.
Prerequisite: SPAN 2313.

SPAN 3302 Spanish Composition
3 Semester Credit Hours (3 Lecture Hours)
A course designed to develop analytical perspectives in literary criticism and to strengthen reading and writing skills in Spanish through intensive reading of Spanish, Spanish American, and Chicano fiction.
Prerequisite: SPAN 2312.

SPAN 3303 Spanish Conversation
3 Semester Credit Hours (3 Lecture Hours)
A course designed to strengthen the student’s oral proficiency in the language through selected readings, videos and oral presentations.
Prerequisite: SPAN 2312.

SPAN 3304 Spanish Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the cultural, linguistic, and historical experience of the Spanish people within its larger European context. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.
Prerequisite: SPAN 2312.

SPAN 3305 Latin American Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide a general overview of the cultural, linguistic, and historical experience of Latin American people before and after Columbus. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum in Language, Philosophy, and Culture.
Prerequisite: SPAN 2312.

SPAN 3307 Spanish Literature I
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of early Spanish literature from the Middle Ages through the Eighteenth Century. Literary selections include masterpieces that establish and reflect Spain’s literary tradition within its larger European context.
SPAN 3308  Spanish Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish literature from the Nineteenth Century through the present. Representative works of Spanish Romanticism, Realism, Naturalism, and contemporary literature are studied within their larger European context.

SPAN 3309  Spanish American Literature I
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of early Spanish American literature from the Pre-Columbian Period through the Nineteenth Century. Selected readings in all literary genres, major themes, writers, and early literary movements will be studied within their larger Latin American context.

SPAN 3310  Spanish American Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish American literature from the Twentieth Century through the present. Representative works of Latin American writers and literary movements: Modernism, Realism, Avant-Garde, Regionalism, Magic-Realism are studied within their larger Latin American context.

SPAN 3311  Spanish Phonetics
3 Semester Credit Hours (3 Lecture Hours)
A course designed to study the production and discrimination of the Spanish sound system with a general overview of the geographical and social distribution of phonemic and allophonic variants.

SPAN 3312  Spanish Grammar
3 Semester Credit Hours (3 Lecture Hours)
The course will serve to expand vocabulary, further develop writing skills; understand, apply, and use Spanish grammatical structures, and communicate more accurately in written and oral Spanish within a Hispanic cultural context.

SPAN 3313  Introduction to Translation
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the theory, methods and practice of English to Spanish and Spanish to English translation of general texts from different fields. Challenges related to culture and language, as well as professional ethics will be examined.

SPAN 3314  Civilizations of the Spanish-Speaking World
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the historical, sociocultural and political experience of peoples from the Spanish-Speaking world, both from Spain and Spanish America.

SPAN 3315  Introduction to Hispanic Linguistics
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the study of language, the main subfields of Hispanic linguistics, and their application to other sciences.

SPAN 3320  Introduction to Spanish Literature
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of Spanish literature from the Middle Ages through the present. Representative works of Spanish literature are studied within their larger European context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303 have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 3325  Introduction to Latin American Literature
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of Latin American literature from the Pre-Columbian Period through the present. Selected readings in all literary genres, major themes, writers, and literary movements will be studied with a wide Latin American context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 4301  Spanish Civil War and Literature
3 Semester Credit Hours (3 Lecture Hours)
Significance of the Civil War for Spanish, European, and world history. Effect of war on literary and cultural life of the country and the response of writers from Spain and Latin America. Conducted in Spanish.

SPAN 4302  Mexican Narrative
3 Semester Credit Hours (3 Lecture Hours)
Examination of representative novels and short stories reflecting the emergence of a post-revolutionary society in Mexico. Conducted in Spanish.

SPAN 4303  Spanish in the Southwest
3 Semester Credit Hours (3 Lecture Hours)
Cultural and linguistic dimensions of Spanish dialects of the Southwestern United States, with special attention to Texas Spanish and its sociolinguistic perspectives in the bilingual community at large.

SPAN 4304  Miguel de Cervantes’ Don Quijote
3 Semester Credit Hours (3 Lecture Hours)
An advanced course designed to provide an introduction to Miguel de Cervantes’ Don Quijote.

SPAN 4305  Latin American Novel
3 Semester Credit Hours (3 Lecture Hours)
This course explores major novels from Latin America from the 20th century to the present. It examines the different problems, discourses, voices, contexts, and geographies that define this genre in Latin America.
SPAN 4306 Modern Spanish Literature
3 Semester Credit Hours (3 Lecture Hours)
A course that focuses on modern Spanish literature. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated.

SPAN 4313 Spanish Interpretation
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to methodologies, requirements, terminology, and practice of interpretation, with emphasis on simultaneous, consecutive, and sight interpretation.

SPAN 4320 Spanish in the Americas
3 Semester Credit Hours (3 Lecture Hours)
A study of the Spanish that was brought to the Americas, its development, propagation and contact with native-American languages, including the sociocultural factors that have contributed to the linguistic variation in contemporary Spanish-speaking societies.

SPAN 4322 Medical, Scientific and Technical Translation
3 Semester Credit Hours (3 Lecture Hours)
An advanced course in translation concentrating on medical, scientific and technical translation. The course is designed to extend student's knowledge of translation theory and consolidate their skills in specialized translation.
Prerequisite: (SPAN 3313).

SPAN 4327 Methods in Foreign Language Instruction
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to study the current methods in foreign languages, their application in maximizing language proficiency, and the role of the students' culture and language during the learning process.

SPAN 4330 Topics in Spanish
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics in language or literature. These courses may also be designed to develop terminology and overall Spanish proficiency regarding specific professions: Business, Medical, Criminal Justice, Sociology, etc. May be repeated when topics vary.

SPAN 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

SPAN 4398 Applied Experience
3 Semester Credit Hours
A practical work experience related to the Spanish area and related careers. It is intended to provide an opportunity for a student to gain first-hand experience in an unfamiliar field. Consequently, Applied Experience credit may not be granted for a student's regular work assignment or for previous work experience. Registration is by application. The application must include a clearly written description of the duties and responsibilities involved in the Applied Experience project, and be signed by the student, the on-site supervisor, and the faculty supervisor. Completed applications must be received in the Dean's Office by the last class day of the semester preceding intended registration. This course is graded "credit" or "no credit." No more than three semester hours of Applied Experience credit may be counted toward the baccalaureate degree. Undergraduate Applied Experience course will include no less than one hundred hours and no more than 150 hours of work experience per semester.

SPAN 4421 Business, Commercial, and Legal Translation
4 Semester Credit Hours (4 Lecture Hours)
An advanced course in translation concentrating on business, commercial and legal texts. The course is designed to extend student's knowledge of translation theory and consolidate their skills in specialized translation.
Prerequisite: (SPAN 3313).

Bachelor Degree Programs - School of Arts, Media & Communication

• Art, BA (p. 166)
• Art, BFA (p. 171)
• Communication Studies, BA (p. 176)
• Graphic Design, BA (p. 180)
• Media Arts, BA (p. 186)
• Music, BA (p. 191)
• Performance (Instrumental), BM (p. 201)
• Performance (Voice), BM (p. 211)
• Theatre, BA (p. 219)

Art, BA

Program Description

The Bachelor of Arts degree with major study in art is a general program in art. The degree requires a minimum of 51 semester hours of art coursework. Course selections include two- and three-dimensional art, art history, design, and art electives.

The College of Liberal Arts also requires at least 6 semester hours of a second language for the Bachelor of Arts degree in Art.

The purposes of the art curriculum are:

1. To provide a general program that allows students access to a variety of art media, studio techniques, and instruction;
2. To provide students with opportunities to study past and present forms of art and to understand the function of art in society;
3. To provide courses that will help expand the knowledge and interest of non-majors in the area of art; and
4. To contribute to the cultural life of the University and the community by presenting quality art exhibitions in the Weil Gallery.

Students can major in art in either the Bachelor of Arts (BA) or the Bachelor of Fine Arts (BFA) degree programs. Students in the BFA have the option through electives to develop an emphasis beyond the general degree program in Printmaking, Painting, Sculpture, Ceramics, Photography, Drawing, or Art History.

Two minors are also available. The minor in Studio Art is 21 semester hours and will allow a student to concentrate in one studio area. The minor in Art History is 18 semester hours. Interested students should contact the department academic advisor.

Student Learning Outcomes

Students will have:

• knowledge in a variety of art media, studio techniques, and art history;
the ability to clearly articulate the principles and theories of contemporary art as it applies to their creative interests;
• a working knowledge of visual problem solving and critical thinking.

General Requirements

Specific Degree Requirements
All art majors must meet all general University and College graduation requirements, including First Year Seminars, regardless of the following specific degree requirements, unless specifically excused. All art degrees require ARTS 1303 - Art History Survey I 3 sem. hrs. , which also meets the Core Curriculum Program Fine Arts requirement. All and only coursework with the prefix ARTS and GRDS that count towards their major will be included in the grade point average for the students declared major field of study.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (includes ARTS 1303 and 1304)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)¹</td>
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<tr>
<td>Art Major Requirements</td>
<td>51</td>
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<tr>
<td>University Electives</td>
<td>21</td>
</tr>
<tr>
<td>Foreign Language Requirements</td>
<td>6</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>120-122</td>
</tr>
</tbody>
</table>

¹ First-Year Seminars or Electives
Full-time, first time in college students are required to take the first-year seminars.

- UNIV 1101 First-Year Seminar I (1 sch)
- UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time, First-year Students</td>
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<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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<td>Core Curriculum Program</td>
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<td></td>
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<tr>
<td>University Core Curriculum</td>
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<tr>
<td>Note: ARTS 1303 and ARTS 1304 need to be taken as part of the University Core Curriculum. These are required for the BA in Art degree.</td>
<td></td>
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</tr>
<tr>
<td>Art Major Requirements</td>
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<tr>
<td>ARTS 1311</td>
<td>Design I</td>
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<tr>
<td>ARTS 1312</td>
<td>Design II</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1316</td>
<td>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1317</td>
<td>Drawing II</td>
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<tr>
<td>ARTS 2316</td>
<td>Painting I</td>
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</tr>
<tr>
<td>ARTS 2326</td>
<td>Sculpture I</td>
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<tr>
<td>ARTS 2333</td>
<td>Printmaking I</td>
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</tr>
<tr>
<td>ARTS 2346</td>
<td>Ceramics I</td>
<td>3</td>
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<tr>
<td>ARTS 2356</td>
<td>Photography I</td>
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<td>ARTS 3311</td>
<td>Color Theory</td>
<td>3</td>
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<tr>
<td>ARTS 3367</td>
<td>Digital Design Tools and Applications</td>
<td>3</td>
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<tr>
<td>Art History</td>
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<td></td>
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<tr>
<td>ARTS 3352</td>
<td>Modern Art</td>
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</table>

or ARTS 3353 Art Since 1945
Select one of the following:

- ARTS 3350 Art of the United States
- ARTS 3450 Pre-Columbian Art of Mesoamerica
- ARTS 4352 Modern Art of Mexico
- ARTS 4354 Global Currents in Contemporary Art
- ARTS 4356 Contemporary Art Since 1980
- ARTS 4390 Topics in Art History

Art Electives
Select 12 hours of upper division ART electives 12

Capstone
This course must be taken in your final semester before graduation.
ARTS 4085 Senior Capstone 0

University Electives
Select 21 hours of university electives. 21

Foreign Language Requirements
See the College of Liberal Arts for the college language requirement. 6

Total Hours 122

Note:

All students graduating with a Bachelor of Arts Degree in Art Studio are required to submit an exit portfolio. The portfolio consists of six .jpg images that best represent their most successful coursework during their educational careers in the Department of Art. A written formal discussion of some aspect of their work is also required.

The senior capstone class sets the standards and format for these materials and coordinates the collection of the materials. These materials are due on or before the last class day of the semester in which the students plan to graduate.

Course Sequencing

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Year</strong></td>
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<tr>
<td>Fall</td>
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<tr>
<td>ARTS 1303</td>
<td>Art History Survey I</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1316</td>
<td>Drawing I</td>
<td>3</td>
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<tr>
<td>ARTS Foundation Class</td>
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<tr>
<td>University Core Curriculum</td>
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<td>3</td>
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<tr>
<td>University Core Curriculum</td>
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<td><strong>Spring</strong></td>
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<td>ARTS 1304</td>
<td>Art History Survey II</td>
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<tr>
<td>ARTS 1317</td>
<td>Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>ARTS Foundation Class</td>
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<tr>
<td>University Core Curriculum</td>
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<td>University Core Curriculum</td>
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<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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<td><strong>Second Year</strong></td>
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<td>16</td>
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<tr>
<td>Fall</td>
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</tr>
<tr>
<td>Beginning Studio</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
Courses

ARTS 1301 Art and Society  
3 Semester Credit Hours (3 Lecture Hours)  
Designated for non-art majors. Establishes a working vocabulary for evaluating works of art in various media. Objects are interpreted in terms of their specific historical contexts and the changing relationships between art and society. This course does not fulfill the art history requirement for art majors.  
TCCNS: ARTS 1301

ARTS 1303 Art History Survey I  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of painting, sculpture, architecture, and other arts from the ancient through medieval periods.  
TCCNS: ARTS 1303

ARTS 1304 Art History Survey II  
3 Semester Credit Hours (3 Lecture Hours)  
A further examination of painting, sculpture, architecture, and other arts from the Renaissance through Modern periods. This course satisfies the university core curriculum requirement in fine arts.  
Prerequisite: ARTS 1303.  
TCCNS: ARTS 1304

ARTS 1311 Design I  
3 Semester Credit Hours  
A studio course concerning the fundamentals of art with emphasis on two-dimensional concepts.  
TCCNS: ARTS 1311

ARTS 1312 Design II  
3 Semester Credit Hours  
A studio course concerning the fundamentals of art with emphasis on three-dimensional concepts. This 3D foundations course utilizes creative problem-solving strategies and basic sculpture tools to explore spatial relationships and to create sculptural forms in space.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 1312

ARTS 1316 Drawing I  
3 Semester Credit Hours (3 Lecture Hours)  
A studio course investigating a variety of media techniques, including their descriptive and expressive possibilities.  
TCCNS: ARTS 1316

ARTS 1317 Drawing II  
3 Semester Credit Hours  
A further investigation of media techniques explored in Drawing I, including their descriptive and expressive possibilities.  
Prerequisite: ARTS 1316.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 1317

ARTS 2311 Design III: Color  
3 Semester Credit Hours  
Investigation of the properties of color. Color is studied and applied to studio-oriented design assignments.  
Co-requisite: SMTE 0097.

ARTS 2316 Painting I  
3 Semester Credit Hours (3 Lecture Hours)  
A studio course exploring the potentials of painting media.  
Prerequisite: ARTS 1316.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 2316
ARTS 2323 Drawing III
3 Semester Credit Hours
A studio course continuing the investigation of media and techniques explored in Drawing I and Drawing II. Students investigate how formal aspects and selected media along with conceptual choices create specific visual ideas.
Prerequisite: ARTS 1317.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2323

ARTS 2326 Sculpture I
3 Semester Credit Hours
An introductory studio course exploring sculptural approaches, materials, concepts, and technical processes. Materials include wood, plaster, steel, and plastics.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2326

ARTS 2333 Printmaking I
3 Semester Credit Hours
An introductory studio course in basic printmaking processes and techniques.
Prerequisite: ARTS 1316 or 1311.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2333

ARTS 2346 Ceramics I
3 Semester Credit Hours (3 Lecture Hours)
An introductory studio course in basic ceramic processes.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2346

ARTS 2356 Photography I
3 Semester Credit Hours
This course is an introduction to digital photography capture, processing, and basic editing software. While focusing on the fundamentals of digital photography and printing techniques, it will introduce students to the theory and practice of photography and assist them in producing a conceptually devised and technically consistent portfolio.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2356

ARTS 2367 Watercolor
3 Semester Credit Hours (3 Lecture Hours)
A studio course exploring techniques in water-base media.
Co-requisite: SMTE 0097.

ARTS 3301 Life Drawing
3 Semester Credit Hours
Drawing from the model using a variety of techniques and media.
Prerequisite: (ARTS 1317).
Co-requisite: SMTE 0097.

ARTS 3302 Screen Printing
3 Semester Credit Hours
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to screenprinting.
Prerequisite: ARTS 1311 or 1316.
Co-requisite: SMTE 0097.

ARTS 3303 Intermediate Painting
3 Semester Credit Hours (3 Lecture Hours)
Explores the issues of content, imagery, application, and influences of master artists.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.

ARTS 3304 Fabrication Sculpture
3 Semester Credit Hours
Building upon introductory skills, this course explores construction and fabrication in sculpture focusing on a primary material for the semester and applying advanced techniques and processes for this material. Through this material and techniques, students begin defining and developing their visual vocabulary relative to art history and contemporary sculptural issues.
Prerequisite: ARTS 2326.
Co-requisite: SMTE 0097.

ARTS 3305 Mold Making and Casting Sculpture
3 Semester Credit Hours
This course is designed to build upon the fundamental principles of mold making and casting while exploring more complex concepts, materials, and techniques. Creating multi-part molds, flexible molds, and investment molds, the project assignments incorporate the unique versatility of mold making and casting for exchanging media and making a series of multiples. In addition to making casts, students compare methods for assembling cast forms together to create larger sculptural artworks and installations.
Co-requisite: SMTE 0097.

ARTS 3306 Figurative Sculpture
3 Semester Credit Hours
A study of the human figure from an anatomical and artistic perspective. Examines the skeletal and muscular components of the figure in order to create lifelike and emotive sculptures. Discussion of the figure in both classical and contemporary art. Working with armature and modeling clay.
Co-requisite: SMTE 0097.

ARTS 3307 Lithography and Planographic Process
3 Semester Credit Hours
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to lithography and monoprinting.
Prerequisite: ARTS 2311 or 1316.
Co-requisite: SMTE 0097.

ARTS 3311 Color Theory
3 Semester Credit Hours
This course develops an understanding of color properties and relationships through formal exercises, research and creative thinking. Students build a vocabulary for analyzing and identifying color and color phenomena. Concepts of color theorists and color use in a variety of fields are examined to understand the application of color theory. Students will investigate the use of color in their own work and in the work of others to understand the conceptual and aesthetic application of color.
Prerequisite: ARTS 1311.

ARTS 3313 Figure Painting
3 Semester Credit Hours
This course addresses the structure and anatomy of the human figure using oil paint. Painting techniques and color theory exercises will familiarize students with tradition painting methods. Students will render proportions, balance, form and mass of the human figure. Research and discussions will address the human form throughout history as well as in the contemporary context. Image presentations, critiques and live model sessions will supplement studio work.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.
ARTS 3316 Art Activities I
3 Semester Credit Hours (3 Lecture Hours)
Practical experience with basic design, drawing, painting, and sculpture, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the elementary school.

ARTS 3322 Art Activities II
3 Semester Credit Hours (3 Lecture Hours)
Practical experiences with basic design, drawing, painting, printmaking, sculpture, and crafts, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the secondary school.

ARTS 3324 Wheel Throwing
3 Semester Credit Hours
Covers wheel-thrown ceramics (other production techniques may be included), basic glazemaking, and an introduction to kiln firing and loading.
Prerequisite: ARTS 2346.
Co-requisite: SMTE 0097.

ARTS 3325 Handbuilt Ceramic Techniques
3 Semester Credit Hours
This course is a continuation of hand-building covered in Ceramics I ARTS 2346. The course will cover more advanced forming techniques such as extrusion, hump, slab, and press molds, and slip-casting. New surface and firing techniques will include more advanced techniques such as underglazes, onglaze techniques such as majolica, fired decal application, raku, and an introduction to low fire glazes and surfaces.
Prerequisite: ARTS 2346.

ARTS 3350 Art of the United States
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major developments in the art of North America from Pre-Columbian times to the modern era

ARTS 3352 Modern Art
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major movements of 20th century art and aesthetics, which developed primarily in Europe. Includes a review of late 19th century modernist antecedents with emphasis placed on the principal movements of the early 20th century: Fauvism, German Expressionism, Cubism, Futurism, Abstract Art, Dada, and Surrealism.

ARTS 3353 Art Since 1945
3 Semester Credit Hours (3 Lecture Hours)
An examination of the dispersal of European artists and Modernism, primarily to America, as a result of World War II. Examines the development of Abstract Expressionism in New York in the 1940s and 50s, followed by a survey of recent trends in contemporary art to the present day.

ARTS 3360 Graphic Design I
3 Semester Credit Hours (3 Lecture Hours)
Introduce fundamental graphic communication techniques, software and theory. Explores hand skills by using tools and techniques to produce professional presentations as well as the correct procedures for presenting designs to a client.

ARTS 3365 Photography II
3 Semester Credit Hours
An intermediate studio course using digital cameras and image manipulation software. Prior completion of ARTS 2356 is required. This course will enhance and expand skills developed in Photography I. It is geared toward informing students in the many ways we can make photographs; by seeking them out, framing them, forming them, extracting them, building them, and finally sequencing and presenting them. Students will engage in the theory and practice of photography, refine their photographic technique, and create a conceptually devised and technically consistent portfolio. Emphasis is placed on the development of a strong conceptual foundation from which to approach the making and understanding of photography as an art form. This knowledge will be achieved through photographic assignments, slide lectures of relevant works, and in-class critiques. It can be repeated twice for credit.
Prerequisite: (ARTS 2356).
Co-requisite: SMTE 0097.

ARTS 3366 Analogue Photography
3 Semester Credit Hours
An introductory studio course in analogue photography using film cameras and the silver gelatin darkroom process. While focusing on the fundamentals of black and white, analogue photography and printing techniques this course will assist students in producing a conceptually devised and technically consistent portfolio.
Prerequisite: (ARTS 2356).
Co-requisite: SMTE 0097.

ARTS 3367 Digital Design Tools and Applications
3 Semester Credit Hours
This studio course explores the fundamental principles, standard creative processes and basic digital tools utilized in graphic design. The concepts and software learned are employed in projects specifically targeted to serve the professional and promotional needs of studio artists and design enthusiasts.

ARTS 4085 Senior Capstone
0 Semester Credit Hours
Required for all art students in partial fulfillment of the requirements for the BA in Art, BFA in Art studio track and the BFA with Teacher Certification in Art tracks. This course collects capstone materials for ARTS degrees. The course must be taken in the student’s final semester before graduation.

ARTS 4301 Advanced Drawing
3 Semester Credit Hours
Emphasis on the development of content through drawing. Research on contemporary trends and process investigation will aid students in the development of visual ideas and lead to a cohesive body or work. May be taken three times for credit.
Prerequisite: ARTS 2323.
Co-requisite: SMTE 0097.

ARTS 4302 Advanced Printmaking
3 Semester Credit Hours
Furthers competencies attained in Printmaking I and Intermediate I & II courses. May be taken three times for credit.
Prerequisite: ARTS 3302 and 3307.
Co-requisite: SMTE 0097.
ARTS 4303  Advanced Painting  
3 Semester Credit Hours (3 Lecture Hours)  
Assumes competencies attained in ARTS 3303. May be taken three times for credit.  
Co-requisite: SMTE 0097.

ARTS 4304  Advanced Sculpture  
3 Semester Credit Hours (3 Lecture Hours)  
Assumes competencies attained in ARTS 3304. May be taken three times for credit.  
Co-requisite: SMTE 0097.

ARTS 4305  Pre-Columbian Art of Mesoamerica  
3 Semester Credit Hours (3 Lecture Hours)  
Explores the history of Pre-Columbian art from Mexico and Central America, from the Olmec through the Aztec cultures. May be taken three times for credit.

ARTS 4352  Modern Art of Mexico  
3 Semester Credit Hours (3 Lecture Hours)  
Explores the history of art during the nineteenth and twentieth centuries in Mexico. May be taken three times for credit.

ARTS 4354  Global Currents in Contemporary Art  
3 Semester Credit Hours (3 Lecture Hours)  
The course will cover key developments in contemporary art from the post-World War II era in the Western context to global currents in the present international arena. From a socio-political perspective, artistic tendencies will be considered as part of a trajectory that saw the center of the art world shift from being Euro- and Anglo-centric in the mid-twentieth century to one without a discernible center in the early twenty-first century. Analysis of artworks from this decentralized cultural climate will focus on the evolution of conceptualism, the persistence of traditional modes of aesthetic practice, the role of the art market, and notions of environmentalism and sustainability as related to these “transnational transition.” The course will consider works from Eastern Europe, South and Central America, the Caribbean, East/West/South/Southeast Asia, Oceania, and Africa.

ARTS 4356  Contemporary Art Since 1980  
3 Semester Credit Hours (3 Lecture Hours)  
The course will examine the evolution of architecture, sculpture, painting, digital media, installation, and interdisciplinary arts in the global context from 1980 to the present, in light of the historical and intellectual background of the period. Topics covered will include the transition from postmodernism to contemporaneity, considering notions of appropriation, commodification, consumerism, memory, history, and globalization. Lectures will be constructed upon thematic analysis of contemporary, primary sources coupled with secondary source material, and complemented by presentation opportunities and class discussion.

ARTS 4365  Advanced Photography  
3 Semester Credit Hours (3 Lecture Hours)  
Assumes competencies attained in ARTS 3365. Covers content as creative expression in addition to basic photographic skills. May be taken three times for credit.  
Co-requisite: SMTE 0097.

ARTS 4390  Topics in Art History  
3 Semester Credit Hours (3 Lecture Hours)  
May be repeated when topics vary.

ARTS 4391  Topics in Studio Art  
3 Semester Credit Hours  
May be repeated when topics vary.  
Co-requisite: SMTE 0097.

ARTS 4396  Directed Individual Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
See College description. Offered on application  
Co-requisite: SMTE 0097.

ARTS 4398  Applied Experience  
3 Semester Credit Hours (3 Lecture Hours)  
See College description. Offered on application.  
Co-requisite: SMTE 0097.

Art, BFA
Program Description

The curriculum for the Bachelor of Fine Arts degree is designed to provide professional development at the undergraduate level in the visual arts, through in-depth study in studio art. The degree requires a minimum of 75 semester hours in art, at least 36 of which must be in upper-division coursework.

Admission to the BFA is by special application. Such application can be made upon completion of 30 semester hours of art coursework, and must be made before completion of 48 semester hours of art coursework. A portfolio consisting of ten to fifteen works representing a variety of media must be submitted in addition to the application form. Copies of specific BFA admission policies and instructions for submitting an application to the BFA program are available from the Department of Art website (http://cla.tamucc.edu/art/). Completed BFA applications should be submitted to the office of the Department Chair.

The purposes of the art curriculum are:

1. To provide a general program that allows students access to a variety of art media, studio techniques, and instruction;  
2. To provide students with opportunities to study past and present forms of art and to understand the function of art in society;  
3. To provide courses that will help expand the knowledge and interest of non-majors in the area of art; and  
4. To contribute to the cultural life of the University and the community by presenting quality art exhibitions in the Weil Gallery.

Students can major in art in either the Bachelor of Arts (BA) or the Bachelor of Fine Arts (BFA) degree programs. Students in the BFA have the option through electives to develop an emphasis beyond the general degree program in Printmaking, Painting, Sculpture, Ceramics, Photography, Drawing, or Art History.

The Bachelor of Fine Arts leading to all-level Teacher Certification (p. 263) is available.

Two minors are also available. The minor in Studio Art is 21 semester hours and will allow a student to concentrate in one studio area. The minor in Art History is 18 semester hours. Interested students should contact the department academic advisor.
Student Learning Outcomes

Students will have:

- A comprehensive level of professional development in the visual arts in preparation for specific careers;
- proficiency in studio processes and the understanding of conceptual theories and histories as evidenced in their graduating senior exhibitions;
- demonstrated expertise in their specific area of concentration.

General Requirements

Specific Degree Requirements

All art majors must meet all general University and College graduation requirements, including First Year Seminars, regardless of the following specific degree requirements, unless specifically excused. All art degrees require ARTS 1303 Art History Survey I (3 sch), which also meets the Core Curriculum Program Fine Arts requirement. All and only coursework with the prefix ARTS will be included in the grade point average for the students declared major field of study.

Program Requirements

Core Curriculum Program (includes ARTS 1303 and 1304) (p. 556) 42
First-Year Seminars (when applicable) 0-2
Art Major Requirements 72
University Electives 6
Total Credit Hours 120-122

1 First-Year Seminars or Electives

First-time, first-time in college students are required to take the first-year seminars.
- UNIV 1101 First-Year Seminar I (1 sch)
- UNIV 1102 First-Year Seminar II (1 sch)

Art History

ARTS 3352 Modern Art 3
ARTS 3353 Art Since 1945 3
Select one of the following: 3
- ARTS 3350 Art of the United States
- ARTS 4350 Pre-Columbian Art of Mesoamerica
- ARTS 4352 Modern Art of Mexico
- ARTS 4354 Global Currents in Contemporary Art
- ARTS 4356 Contemporary Art Since 1980
- ARTS 4390 Topics in Art History

Art Electives

Select 15 hours of upper division ARTS electives 15

Capstone

This course must be taken in your final semester before graduation.
- ARTS 4085 Senior Capstone 0

University Electives

Select 6 hours of university electives. 6

Total Hours 122

Note:

A senior project is required of the BFA art major during the final semester as an undergraduate student. The student, with minimum assistance from the supervising faculty member, is expected to organize an exhibition of his or her work completed while a student at Texas A&M University-Corpus Christi. The student must be registered in a related course with the faculty advisor during the semester in which the project is presented. Students in the BFA art program are expected to spend one additional hour per week in the studio for each semester hour of studio enrollment.

All art majors must meet all general University and College graduation requirements, including First Year Seminars, regardless of the following specific degree requirements, unless specifically excused. All art degrees require ARTS 1303 Art History Survey I (3 sch), which also meets the Core Curriculum Program Fine Arts requirement. All and only coursework with the prefix ARTS will be included in the grade point average for the students declared major field of study.

All students graduating with a Bachelor of Fine Arts Degree with Teachers Certification are required to submit an exit portfolio. The portfolio consists of 20 .jpg images that best represent their most successful coursework during their educational careers in the
Department of Art. A written formal discussion of some aspect of their work is also required.

The senior capstone class sets the standards and format for these materials and coordinates the collection of the materials. These materials are due on or before the last class day of the semester in which the students plan to graduate.

## Course Sequencing

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<thead>
<tr>
<th>Course</th>
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<td>ARTS 1316</td>
<td>Drawing I</td>
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## Courses

**ARTS 1301 Art and Society**  
3 Semester Credit Hours (3 Lecture Hours)  
Designated for non-art majors. Establishes a working vocabulary for evaluating works of art in various media. Objects are interpreted in terms of their specific historical contexts and the changing relationships between art and society. This course does not fulfill the art history requirement for art majors.  
**TCCNS:** ARTS 1301

**ARTS 1303 Art History Survey I**  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of painting, sculpture, architecture, and other arts from the ancient through medieval periods.  
**TCCNS:** ARTS 1303

**ARTS 1304 Art History Survey II**  
3 Semester Credit Hours (3 Lecture Hours)  
A further examination of painting, sculpture, architecture, and other arts from the Renaissance through Modern periods. This course satisfies the university core curriculum requirement in fine arts.  
**Prerequisite:** ARTS 1303.  
**TCCNS:** ARTS 1304

**ARTS 1311 Design I**  
3 Semester Credit Hours  
A studio course concerning the fundamentals of art with emphasis on two-dimensional concepts.  
**TCCNS:** ARTS 1311
ARTS 1312 Design II
3 Semester Credit Hours
A studio course concerning the fundamentals of art with emphasis on three-dimensional concepts. This 3D foundations course utilizes creative problem-solving strategies and basic sculpture tools to explore spatial relationships and to create sculptural forms in space.
Co-requisite: SMTE 0097.
TCCNS: ARTS 1312

ARTS 1316 Drawing I
3 Semester Credit Hours (3 Lecture Hours)
A studio course investigating a variety of media techniques, including their descriptive and expressive possibilities.
TCCNS: ARTS 1316

ARTS 1317 Drawing II
3 Semester Credit Hours
A further investigation of media techniques explored in Drawing I, including their descriptive and expressive possibilities.
Prerequisite: ARTS 1316.
Co-requisite: SMTE 0097.
TCCNS: ARTS 1317

ARTS 2311 Design III: Color
3 Semester Credit Hours
Investigation of the properties of color. Color is studied and applied to studio-oriented design assignments.
Co-requisite: SMTE 0097.

ARTS 2316 Painting I
3 Semester Credit Hours (3 Lecture Hours)
A studio course exploring the potentials of painting media.
Prerequisite: ARTS 1316.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2316

ARTS 2323 Drawing III
3 Semester Credit Hours
A studio course continuing the investigation of media and techniques explored in Drawing I and Drawing II. Students investigate how formal aspects and selected media along with conceptual choices create specific visual ideas.
Prerequisite: ARTS 1317.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2323

ARTS 2326 Sculpture I
3 Semester Credit Hours
An introductory studio course exploring sculptural approaches, materials, concepts, and technical processes. Materials include wood, plaster, steel, and plastics.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2326

ARTS 2333 Printmaking I
3 Semester Credit Hours
An introductory studio course in basic printmaking processes and techniques.
Prerequisite: ARTS 1316 or 1311.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2333

ARTS 2346 Ceramics I
3 Semester Credit Hours (3 Lecture Hours)
An introductory studio course in basic ceramic processes.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2346

ARTS 2356 Photography I
3 Semester Credit Hours
This course is an introduction to digital photography capture, processing, and basic editing software. While focusing on the fundamentals of digital photography and printing techniques, it will introduce students to the theory and practice of photography and assist them in producing a conceptually devised and technically consistent portfolio.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2356

ARTS 2367 Watercolor
3 Semester Credit Hours (3 Lecture Hours)
A studio course exploring techniques in water-base media.
Co-requisite: SMTE 0097.

ARTS 3301 Life Drawing
3 Semester Credit Hours
Drawing from the model using a variety of techniques and media.
Prerequisite: (ARTS 1317).
Co-requisite: SMTE 0097.

ARTS 3302 Screen Printing
3 Semester Credit Hours
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to screenprinting.
Prerequisite: ARTS 1311 or 1316.
Co-requisite: SMTE 0097.

ARTS 3303 Intermediate Painting
3 Semester Credit Hours (3 Lecture Hours)
Explores the issues of content, imagery, application, and influences of master artists.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.

ARTS 3304 Fabrication Sculpture
3 Semester Credit Hours
Building upon introductory skills, this course explores construction and fabrication in sculpture focusing on a primary material for the semester and applying advanced techniques and processes for this material. Through this material and techniques, students begin defining and developing their visual vocabulary relative to art history and contemporary sculptural issues.
Prerequisite: ARTS 2326.
Co-requisite: SMTE 0097.

ARTS 3305 Mold Making and Casting Sculpture
3 Semester Credit Hours
This course is designed to build upon the fundamental principles of mold making and casting while exploring more complex concepts, materials, and techniques. Creating multi-part molds, flexible molds, and investment molds, the project assignments incorporate the unique versatility of mold making and casting for exchanging media and making a series of multiples. In addition to making casts, students compare methods for assembling cast forms together to create larger sculptural artworks and installations.
Co-requisite: SMTE 0097.
ARTS 3306  Figurative Sculpture  
3 Semester Credit Hours  
A study of the human figure from an anatomical and artistic perspective. Examines the skeletal and muscular components of the figure in order to create lifelike and emotive sculptures. Discussion of the figure in both classical and contemporary art. Working with armature and modeling clay.  
Co-requisite: SMTE 0097.

ARTS 3307  Lithography and Planographic Process  
3 Semester Credit Hours  
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to lithography and monoprinting.  
Prerequisite: ARTS 3311 or 1316.  
Co-requisite: SMTE 0097.

ARTS 3311  Color Theory  
3 Semester Credit Hours  
This course develops an understanding of color properties and relationships through formal exercises, research and creative thinking. Students build a vocabulary for analyzing and identifying color and color phenomena. Concepts of color theorists and color use in a variety of fields are examined to understand the application of color theory. Students will investigate the use of color in their own work and in the work of others to understand the conceptual and aesthetic application of color.  
Prerequisite: ARTS 1311.

ARTS 3313  Figure Painting  
3 Semester Credit Hours  
This course addresses the structure and anatomy of the human figure using oil paint. Painting techniques and color theory exercises will familiarize students with tradition painting methods. Students will render proportions, balance, form and mass of the human figure. Research and discussions will address the human form throughout history as well as in the contemporary context. Image presentations, critiques and live model sessions will supplement studio work.  
Prerequisite: ARTS 2316.  
Co-requisite: SMTE 0097.

ARTS 3316  Art Activities I  
3 Semester Credit Hours (3 Lecture Hours)  
Practical experience with basic design, drawing, painting, and sculpture, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the elementary school.

ARTS 3322  Art Activities II  
3 Semester Credit Hours (3 Lecture Hours)  
Practical experiences with basic design, drawing, painting, printmaking, sculpture, and crafts, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the secondary school.

ARTS 3324  Wheel Throwing  
3 Semester Credit Hours  
Covers wheel-thrown ceramics (other production techniques may be included), basic glazemaking, and an introduction to kiln firing and loading.  
Prerequisite: ARTS 2346.  
Co-requisite: SMTE 0097.

ARTS 3325  Handbuilt Ceramic Techniques  
3 Semester Credit Hours  
This course is a continuation of hand-building covered in Ceramics I ARTS 2346. The course will cover more advanced forming techniques such as extrusion, hump, slump, and press molds, and slip-casting. New surface and firing techniques will include more advanced techniques such as underglazes, onglaze techniques such as majolica, fired decal application, raku, and an introduction to low fire glazes and surfaces.  
Prerequisite: ARTS 2346.

ARTS 3330  Art of the United States  
3 Semester Credit Hours (3 Lecture Hours)  
A survey of the major developments in the art of North America from Pre-Columbian times to the modern era.

ARTS 3332  Modern Art  
3 Semester Credit Hours (3 Lecture Hours)  
A survey of the major movements of 20th century art and aesthetics, which developed primarily in Europe. Includes a review of late 19th century modernist antecedents with emphasis placed on the principal movements of the early 20th century: Fauvism, German Expressionism, Cubism, Futurism, Abstract Art, Dada, and Surrealism.

ARTS 3333  Art Since 1945  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of the dispersal of European artists and Modernism, primarily to America, as a result of World War II. Examines the development of Abstract Expressionism in New York in the 1940s and 50s, followed by a survey of recent trends in contemporary art to the present day.

ARTS 3360  Graphic Design I  
3 Semester Credit Hours (3 Lecture Hours)  
Introduce fundamental graphic communication techniques, software and theory. Explores hand skills by using tools and techniques to produce professional presentations as well as the correct procedures for presenting designs to a client.

ARTS 3365  Photography II  
3 Semester Credit Hours  
An intermediate studio course using digital cameras and image manipulation software. Prior completion of ARTS 2356 is required. This course will enhance and expand skills developed in Photography I. It is geared toward informing students in the many ways we can make photographs; by seeking them out, framing them, forming them, extracting them, building them, and finally sequencing and presenting them. Students will engage in the theory and practice of photography, refine their photographic technique, and create a conceptually devised and technically consistent portfolio. Emphasis is placed on the development of a strong conceptual foundation from which to approach the making and understanding of photography as an art form. This knowledge will be achieved through photographic assignments, slide lectures of relevant works, and in-class critiques. It can be repeated twice for credit.  
Prerequisite: (ARTS 2356).  
Co-requisite: SMTE 0097.
ARTS 3366 Analogue Photography
3 Semester Credit Hours
An introductory studio course in analogue photography using film cameras and the silver gelatin darkroom process. While focusing on the fundamentals of black and white, analogue photography and printing techniques this course will assist students in producing a conceptually devised and technically consistent portfolio.
Prerequisite: (ARTS 2356).
Co-requisite: SMTE 0097.

ARTS 3367 Digital Design Tools and Applications
3 Semester Credit Hours
This studio course explores the fundamental principles, standard creative processes and basic digital tools utilized in graphic design. The concepts and software learned are employed in projects specifically targeted to serve the professional and promotional needs of studio artists and design enthusiasts.

ARTS 4085 Senior Capstone
0 Semester Credit Hours
Required for all art students in partial fulfillment of the requirements for the BA in Art, BFA in Art studio track and the BFA with Teacher Certification in Art tracks. This course collects capstone materials for ARTS degrees. The course must be taken in the student's final semester before graduation.

ARTS 4301 Advanced Drawing
3 Semester Credit Hours
Emphasis on the development of content through drawing. Research on contemporary trends and process investigation will aid students in the development of visual ideas and lead to a cohesive body or work. May be taken three times for credit.
Prerequisite: ARTS 2323.
Co-requisite: SMTE 0097.

ARTS 4302 Advanced Printmaking
3 Semester Credit Hours
Furthers competencies attained in Printmaking I and Intermediate I & II courses. May be taken three times for credit.
Prerequisite: ARTS 3302 and 3307.
Co-requisite: SMTE 0097.

ARTS 4303 Advanced Painting
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3303. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4304 Advanced Sculpture
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3304. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4324 Advanced Ceramics
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3324. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4350 Pre-Columbian Art of Mesoamerica
3 Semester Credit Hours (3 Lecture Hours)
Explores the history of Pre-Columbian art from Mexico and Central America, from the Olmec through the Aztec cultures. May be taken three times for credit.

ARTS 4352 Modern Art of Mexico
3 Semester Credit Hours (3 Lecture Hours)
Explores the history of art during the nineteenth and twentieth centuries in Mexico. May be taken three times for credit.

ARTS 4354 Global Currents in Contemporary Art
3 Semester Credit Hours (3 Lecture Hours)
The course will cover key developments in contemporary art from the post-World War II era in the Western context to global currents in the present international arena. From a socio-political perspective, artistic tendencies will be considered as part of a trajectory that saw the center of the art world shift from being Euro- and Anglo-centric in the mid-twentieth century, to one without a discernible center in the early twenty-first century. Analysis of artworks from this decentralized cultural climate will focus on the evolution of conceptualism, the persistence of traditional modes of aesthetic practice, the role of the art market, and notions of environmentalism and sustainability as related to these "transnational transition." The course will consider works from Eastern Europe, South and Central America, the Caribbean, East/West/South/Southeast Asia, Oceania, and Africa.

ARTS 4356 Contemporary Art Since 1980
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the evolution of architecture, sculpture, painting, digital media, installation, and interdisciplinary arts in the global context from 1980 to the present, in light of the historical and intellectual background of the period. Topics covered will include the transition from postmodernism to contemporaneity, considering notions of appropriation, commodification, consumerism, memory, history, and globalization. Lectures will be constructed upon thematic analysis of contemporary, primary sources coupled with secondary source material, and complemented by presentation opportunities and class discussion.

ARTS 4365 Advanced Photography
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3365. Covers content as creative expression in addition to basic photographic skills. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4390 Topics in Art History
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary.

ARTS 4391 Topics in Studio Art
3 Semester Credit Hours
May be repeated when topics vary.
Co-requisite: SMTE 0097.

ARTS 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description. Offered on application
Co-requisite: SMTE 0097.

ARTS 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description. Offered on application
Co-requisite: SMTE 0097.

Communication Studies, BA
Program Description
The mission of the Department of Communication & Media is to develop students who are effective and ethical communicators with the creative, critical, and collaborative skills necessary to succeed in
a diverse global environment. The focus of the program is to enhance students’ knowledge and practical skills in various areas of human communication including organizational leadership, public relations, and relational communication. Communication Studies majors select an emphasis in either Communication Studies or Public Relations to fulfill their coursework. It is critical for all Communication majors to meet with their academic advisor prior to registering each semester.

Student Learning Outcomes

Students will:

- Gather, evaluate, and synthesize information to build and defend arguments.
- Demonstrate communication competence in varied contexts.
- Employ discipline specific knowledge in applied communication situations.

General Requirements

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1  Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements

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1  Only 3 semester hours of Internship credit may be counted toward the major.

Communication Studies Emphasis

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 2333</td>
<td>Small Group Communication</td>
<td>3</td>
</tr>
<tr>
<td>COMM 3310</td>
<td>Communication Theory</td>
<td>3</td>
</tr>
<tr>
<td>COMM 4380</td>
<td>Senior Seminar in Communication Studies</td>
<td>3</td>
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</table>

Prescribed Electives

Students will select 15 hours of major electives from the courses that appear below. No more than 6 hours of MEDA courses may be taken to fulfill these elective hours.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Business and Professional Communication</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nonverbal Communication</td>
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</tr>
<tr>
<td></td>
<td>Relational Communication</td>
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</tr>
<tr>
<td></td>
<td>Persuasion</td>
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<tr>
<td></td>
<td>Leadership</td>
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<tr>
<td></td>
<td>Gender Communication</td>
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</tr>
<tr>
<td></td>
<td>Communication and Sexuality</td>
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</tr>
<tr>
<td></td>
<td>Public Relations Campaigns</td>
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<tr>
<td></td>
<td>Crisis Communication</td>
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</tr>
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<td></td>
<td>Organizational Communication</td>
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<td></td>
<td>International Leadership</td>
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<tr>
<td></td>
<td>Topics in Communication Studies</td>
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</tr>
<tr>
<td></td>
<td>Communication Internship 1</td>
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</tr>
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<td></td>
<td>Media and Society</td>
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<tr>
<td></td>
<td>Introduction to Media Production</td>
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<tr>
<td></td>
<td>Media Performance</td>
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<td>New Media and Communication ***</td>
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Public Relations Emphasis

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<tr>
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<td>Public Relations Campaigns</td>
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<td>COMM 4335</td>
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<tr>
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Prescribed Electives

Students will select 12 hours of major electives from the courses that appear below.

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<tr>
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<td>Persuasion</td>
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<td></td>
<td>Organizational Communication</td>
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<td></td>
<td>Topics in Communication Studies</td>
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<td>Communication Internship 1</td>
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<td></td>
<td>Grants and Proposals</td>
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<td>Media and Society</td>
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<td>Media Performance</td>
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<tr>
<td></td>
<td>Editing &amp; Layout</td>
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</tr>
<tr>
<td>Course</td>
<td>Title</td>
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<tr>
<td>-----------</td>
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<tr>
<td>MEDA 3340</td>
<td>Photojournalism</td>
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<tr>
<td>MEDA 3361</td>
<td>Sports Writing</td>
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<td>MEDA 3380</td>
<td>New Media and Communication</td>
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<tr>
<td>MEDA 4340</td>
<td>Advertising Criticism</td>
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<td>MEDA 4341</td>
<td>First Amendment and Ethical Issues in the Media</td>
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<td>MEDA 4342</td>
<td>Global Media and International Communication</td>
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<td>MEDA 4343</td>
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<tr>
<td>MKTG 3320</td>
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**Course Sequencing**

**Communication Studies**

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<thead>
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<tr>
<td></td>
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<td>COMM 1311 Foundation of Communication</td>
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<td><strong>Hours</strong></td>
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<td></td>
<td>COMM 1318 Interpersonal Communication</td>
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<td>COMM 2333 Small Group Communication</td>
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<td>Second Year</td>
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<td>COMM 2335 Presentational Communication</td>
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<td>COMM 1321 Business and Professional Communication</td>
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<td>COMM 2330 Introduction to Public Relations</td>
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<td>MEDA 2350 Media Performance</td>
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<tr>
<td>Third Year</td>
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<td>COMM 3310 Communication Theory</td>
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<td>College Core</td>
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<td>COMM 3311 Nonverbal Communication</td>
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<td><strong>Hours</strong></td>
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**College Core**

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<thead>
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1 Only 3 semester hours of Internship credit may be counted toward the major.

* Online offering

^ Blended offering

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<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>Fall</td>
<td>COMM 4345 Intercultural Communication</td>
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<tr>
<td></td>
<td>COMM 3326 Research Methods</td>
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<td>Upper Divisional Elective</td>
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<tr>
<td></td>
<td>Lower Divisional Elective</td>
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<tr>
<td></td>
<td><strong>Hours</strong></td>
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<tr>
<td>Spring</td>
<td>COMM 4380 Senior Seminar in Communication Studies</td>
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<td>Upper Divisional Elective</td>
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<tr>
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<td>Lower Divisional Elective</td>
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<tr>
<td></td>
<td><strong>Hours</strong></td>
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<tr>
<td><strong>Total Hours</strong></td>
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</table>

**Courses**

**COMM 1311 Foundation of Communication**

3 Semester Credit Hours (3 Lecture Hours)

This course examines a breadth of topics fundamental to the study of communication and works to improve students' communication skills in three primary contexts: interpersonal relationships, group/teamwork, and presentational speaking.

**TCCNS:** SPCH 1311

**COMM 1315 Public Speaking**

3 Semester Credit Hours (3 Lecture Hours)

Research, composition, organization, and delivery of speeches for various purposes and occasions, with emphasis on listener analysis and on informative and persuasive techniques.

**TCCNS:** SPCH 1315

**COMM 1318 Interpersonal Communication**

3 Semester Credit Hours (3 Lecture Hours)

Predominant issues related to verbal and nonverbal communication with a focus on interpersonal relationships.

**TCCNS:** SPCH 1318

**COMM 1321 Business and Professional Communication**

3 Semester Credit Hours (3 Lecture Hours)

Introduces students to basic skills, principles, and contexts of communication in business and professional settings by combining public speaking with aspects of communication ethics and organizational, small group, and interpersonal communication. Students will learn practical skills via presentations, research, resumes, interviews, meetings, and professional writing grounded in communication theory.

**TCCNS:** SPCH 1342

**COMM 1342 Voice and Diction**

3 Semester Credit Hours (3 Lecture Hours)

Basic voice training, including techniques for vocal production, manipulation, and control. Practical application of the vocal apparatus will be emphasized, including techniques of enunciation, projection, articulation, and the use of dialects. (Credit may not be given for both this course and THEA 1342.)

**TCCNS:** SPCH 1342
COMM 2330 Introduction to Public Relations
3 Semester Credit Hours (3 Lecture Hours)
An exploration of the history and development of public relations including the theory and process of public relations, and the various publics and careers associated with the public relations industry.
TCCNS: COMM 2330

COMM 2333 Small Group Communication
3 Semester Credit Hours (3 Lecture Hours)
Application of small group theories and techniques as they relate to group process and interaction.
TCCNS: SPCH 2333

COMM 2335 Presentational Communication
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the principles and methods of formal presentations for various purposes and audiences to further develop students into effective communicators. Course assignments will include various special occasion speeches, dynamic instructional speeches, extemporaneous speaking, creation of effective visual aids, and a group community action presentation.

COMM 3310 Communication Theory
3 Semester Credit Hours (3 Lecture Hours)
The foundations, processes, and effects of human communication. A survey of contemporary theory and research, including language theory, nonverbal and small group communication, persuasion, and mass communication.

COMM 3311 Nonverbal Communication
3 Semester Credit Hours (3 Lecture Hours)
The study of body movement, touch, paralanguage, space, environment, and other nonverbal factors in the communication process.

COMM 3325 Relational Communication
3 Semester Credit Hours (3 Lecture Hours)
This course is an advanced interpersonal communication course that focuses on communication within relationships, such as family, romantic, friendship, and workplace relationships.
Prerequisite: COMM 1318.

COMM 3326 Research Methods
3 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to increase student’s knowledge of the research process used in the Communication Studies discipline. Specifically, the course will allow students the opportunity to learn the goals of communication research and scrutinize various techniques for creating academic research and assessing academic knowledge.

COMM 3330 Persuasion
3 Semester Credit Hours (3 Lecture Hours)
Various theories and forms of rhetorical persuasion. Topics include practical reasoning skills, psychological theories of persuasion, and critical responses to persuasive messages.

COMM 3331 Public Relations Writing and Design
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce students to the basic principles and formatting requirements for public relations writing. Students will gain theoretical and practical experience in developing content for specific audiences.

COMM 3335 UIL Debate and Speech
3 Semester Credit Hours (3 Lecture Hours)
Understanding the University Interscholastic League debate and speech events. Students explore approaches to analytical reasoning, research delivery, and the conceptual basis for debate and gain practical experience in understanding and judging UIL in the high school setting.

COMM 3350 Leadership
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the communication of influence that takes place to achieve goals or encourage change. Specific attention will be devoted to a variety of approaches, processes, and theories that will provide students general knowledge of leadership.

COMM 4314 Gender Communication
3 Semester Credit Hours (3 Lecture Hours)
Examination of communication about women and men, as well as communication between them. Special course emphasis on explanations of gender, sexist language, media depiction of the sexes, and gender communication in the formation of social and work relationships.

COMM 4315 Communication and Sexuality
3 Semester Credit Hours (3 Lecture Hours)
This course will focus on communication and sexuality, specifically exploring sex and gender identity development and expression, intersections of race/ethnicity and sex/gender, how communication impacts various types of relationships, the role of communication in sexual activity, and power abuses related to sexual activity, with specific focus on consent and sexual safety.

COMM 4331 Public Relations Campaigns
3 Semester Credit Hours (3 Lecture Hours)
An application of the public relations process (including primary and secondary research, goals and objective development, the selection of proper strategies and tactics for implementation, and an evaluation of campaign effectiveness) through the production and presentation of a public relations campaign for a local organization.
Prerequisite: COMM 2330.

COMM 4335 Crisis Communication
3 Semester Credit Hours (3 Lecture Hours)
An application of crisis communication (including organizational research, risk and vulnerability assessment, strategic communication, and performance and damage evaluation) through the development and presentation of a crisis communication plan for a local organization.

COMM 4345 Intercultural Communication
3 Semester Credit Hours (3 Lecture Hours)
An investigation of the process by which persons and groups of different cultural backgrounds create understanding. Types of knowledge, skills, and sensitivity necessary for intercultural communication are developed.

COMM 4350 Organizational Communication
3 Semester Credit Hours (3 Lecture Hours)
Examination and exploration of realistic applications of communication theories within the framework of an organization. Particular attention will be given to techniques for diagnosing communication problems, as well as strategies for effecting change in communication.

COMM 4360 International Leadership
3 Semester Credit Hours (3 Lecture Hours)
Study of international leadership in the context of communication and in multi-cultural and diverse settings. Influence of global economy, politics, social values in international leadership.
COMM 4380  Senior Seminar in Communication Studies
3 Semester Credit Hours (3 Lecture Hours)
This course serves as the capstone for the Communication Studies degree. It offers students opportunities to synthesize information learned in other Communication courses and demonstrate abilities to think critically, conduct independent research linked to appropriate communication theories, create individual and collaborative projects that demonstrate effective use of communication strategies, and present written and oral work at an advanced level.
Prerequisite: (COMM 2335, 3310 and 3326).
COMM 4390  Topics in Communication Studies
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics and themes in communication studies. May be repeated when topics vary.
COMM 4394  Professional PR Portfolio
3 Semester Credit Hours (3 Lecture Hours)
Students prepare documents, explore strategies for enhancing their marketability, and assemble a professional portfolio of public relations work.
Prerequisite: COMM 2330, MEDA 2350, COMM 4331 and 4335.
COMM 4396  Directed Individual Study
1-3 Semester Credit Hours
See College description. By application. Only 3 semester hours of Directed Individual Study credit may be counted toward the major.
COMM 4399  Communication Internship
3 Semester Credit Hours
Practical experience in the field through placement in a communication internship position. Students interested in applying for the internship course must have a minimum cumulative GPA of 3.0; have at least junior standing at the university; be a communication studies major or minor, or public relations minor; have completed at least 12 hours of coursework in the major or minor at TAMU-CC. Preferred applicants will have a minimum communication or public relations GPA of 3.25. All applicants must solicit a recommendation from a Department of Communication and Media faculty member. Course may be taken three times for credit; however only 3 semester hours of internship credit may be counted toward the major. A second internship may apply to the communication studies minor or public relations minor; a third internship may be used as a free elective. Authorization to repeat the internship course is contingent on the students’ successful completion of the previous internship experience. This course is graded Credit/No Credit.

Student Learning Outcomes
Students will:
• Demonstrate mastery of client-focused, visual communication and problem-solving methodologies;
• Demonstrate proficiency in professional skills and use of technology in preparation for professional practice;
• Demonstrate advanced critical thinking in analyzing discipline history, theory, criticism and practices;
• Be prepared for professional positions in the field of visual communications or for graduate school.

General Requirements

Program Requirements

Full-time, First-Year Students

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
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<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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</table>

Core Curriculum Program

University Core Curriculum 42

Note: ARTS 1303 and ARTS 1304 need to be taken as part of the University Core Curriculum. Both are required for the BA in Graphic Design degree.

Art Requirements

<table>
<thead>
<tr>
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<tr>
<td>ARTS 1311</td>
<td>Design I</td>
<td>3</td>
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<tr>
<td>ARTS 1316</td>
<td>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 2333</td>
<td>Printmaking I</td>
<td>3</td>
</tr>
<tr>
<td>or ARTS 2356</td>
<td>Photography I</td>
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Graphic Design Requirements

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<thead>
<tr>
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<tbody>
<tr>
<td>GRDS 1301</td>
<td>Foundations of Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>GRDS 1302</td>
<td>Typography I</td>
<td>3</td>
</tr>
<tr>
<td>GRDS 2301</td>
<td>Historical Perspectives of Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>GRDS 2302</td>
<td>Design Studio I</td>
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</tr>
<tr>
<td>GRDS 2303</td>
<td>Concept &amp; Making</td>
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<td>GRDS 3301</td>
<td>Typography II</td>
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<td>GRDS 3303</td>
<td>Design Experience &amp; Awareness</td>
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<td>GRDS 3304</td>
<td>Publication &amp; Editorial Design</td>
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</tr>
<tr>
<td>GRDS 3305</td>
<td>Packaging Design</td>
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</table>
must be approved by the Graphic Design Program Coordinator and the plan will be considered, but are not guaranteed to be granted. All requests are for resources and course prerequisites. Requests for expediting the degree cannot typically be expedited due to cohort capacities, program limitations, and academic considerations.

The BA in Graphic Design degree is a 4-year, sequenced curriculum designed to ensure elevated professionalism of program graduates. Discerning advancement through the Graphic Design Degree Program requires meeting specific criteria, which includes passing the Upper-Level (UL) Review. Students denied advancement into upper-level courses in the Graphic Design program after their first UL Review will be allowed only one additional attempt by resubmitting their revised portfolio for review. Students must be admitted into the Graphic Design Program and award of transfer credit. All students, regardless of academic status, must be admitted into the Graphic Design Program through either the Lower Level Review or Upper Level Review.

### Required Program Reviews

Graphic Design Majors will undergo two formal portfolio and performance reviews. Students who are eligible for the Lower Level Review (LL Review) after completing two specified GRDS foundational program courses. Lower and Upper Level Reviews occur in Spring semesters only. Students who do not pass the Lower Level Review will not be able to register for sophomore level classes and will be advised to repeat one or both of the specified foundational courses. After passing the LL Review, all students intending to graduate with a BA in Graphic Design must pass the Upper-Level Admission Portfolio Review (UL Review) with the completion of the specified GRDS program courses to be allowed to continue upper-level coursework in the program. Students will not be permitted to enroll in the remaining 3000 - 4000-level Graphic Design Degree Program courses until they have passed the UL Review and have been formally advised to advance. Students denied advancement into upper-level courses in the Graphic Design program after their first UL Review will be allowed only one additional attempt by resubmitting their revised portfolio for review. Discerning advancement through the Graphic Design Degree Program ensures elevated professionalism of program graduates.

### Transfer Credit:

Special arrangements will be made to review the work of students who have completed communication design or graphic design courses at other institutions to determine the appropriate entry level into the TAMU-CC program and award of transfer credit. All students, regardless of academic status, must be admitted into the Graphic Design Program through either the Lower Level Review or Upper Level Review.

### Grade Minimums:

Graphic Design students must earn a “C” or higher in all major courses to remain in the program. If the student does not earn a “C” or higher in a major course, the student may be required to repeat the course or be removed from the Graphic Design Program. A student that earns a “D” or lower in major courses for two consecutive semesters will be removed from the Graphic Design Program.

### Degree Matriculation Expedition or Exceptions:

The BA in Graphic Design degree is a 4-year, sequenced curriculum that cannot typically be expedited due to cohort capacities, program resources and course prerequisites. Requests for expediting the degree plan will be considered, but are not guaranteed to be granted. All requests must be approved by the Graphic Design Program Coordinator and Graphic Design Faculty. The GRDS Matriculation Exception Policy and Criteria is available upon request from the Program Coordinator.

### Course Sequencing

<table>
<thead>
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<td>ARTS 1311</td>
<td>Design I</td>
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</tr>
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<td>GRDS 1301</td>
<td>Foundations of Graphic Design</td>
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<tr>
<td>University Core Curriculum</td>
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<tr>
<td>UNIV 1101</td>
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<td>ARTS 1304</td>
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<td>GRDS 2301</td>
<td>Historical Perspectives of Graphic Design</td>
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<td>GRDS 2303</td>
<td>Concept &amp; Making</td>
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<td>ARTS 2356</td>
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<td>or ARTS 2333</td>
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<td>GRDS 3301</td>
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<td>GRDS 3303</td>
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<td>GRDS 3305</td>
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</table>
**University Core Curriculum**

3 Hours

**Fourth Year**

**Fall**

GRDS 4304  Emerging Technologies  3 Hours

Upper Division Elective (GRDS 4399 Internship Recommended)  3 Hours

Upper Division Elective  3 Hours

Upper Division Elective  3 Hours

Upper Division Elective  3 Hours

**Hours**  15

**Spring**

GRDS 4309  Design in Advertising  3 Hours

GRDS 4310  Portfolio and Professional Practices  3 Hours

Upper Division Elective  3 Hours

Upper Division Elective  3 Hours

**Hours**  12

**Total Hours**  119

### Courses

#### Art Courses

**ARTS 1301  Art and Society**
3 Semester Credit Hours (3 Lecture Hours)
Designated for non-art majors. Establishes a working vocabulary for evaluating works of art in various media. Objects are interpreted in terms of their specific historical contexts and the changing relationships between art and society. This course does not fulfill the art history requirement for art majors.

*TCCNS: ARTS 1301*

**ARTS 1303  Art History Survey I**
3 Semester Credit Hours (3 Lecture Hours)
An examination of painting, sculpture, architecture, and other arts from the ancient through medieval periods.

*TCCNS: ARTS 1303*

**ARTS 1304  Art History Survey II**
3 Semester Credit Hours (3 Lecture Hours)
A further examination of painting, sculpture, architecture, and other arts from the Renaissance through Modern periods. This course satisfies the university core curriculum requirement in fine arts.

*Prerequisite: ARTS 1303.*

*TCCNS: ARTS 1304*

**ARTS 1311  Design I**
3 Semester Credit Hours
A studio course concerning the fundamentals of art with emphasis on two-dimensional concepts.

*TCCNS: ARTS 1311*

**ARTS 1312  Design II**
3 Semester Credit Hours
A studio course concerning the fundamentals of art with emphasis on three-dimensional concepts. This 3D foundations course utilizes creative problem-solving strategies and basic sculpture tools to explore spatial relationships and to create sculptural forms in space.

*Co-requisite: SMTE 0097.*

*TCCNS: ARTS 1312*

**ARTS 1316  Drawing I**
3 Semester Credit Hours (3 Lecture Hours)
A studio course investigating a variety of media techniques, including their descriptive and expressive possibilities.

*TCCNS: ARTS 1316*

**ARTS 1317  Drawing II**
3 Semester Credit Hours
A further investigation of media techniques explored in Drawing I, including their descriptive and expressive possibilities.

*Prerequisite: ARTS 1316.*

*Co-requisite: SMTE 0097.*

*TCCNS: ARTS 1317*

**ARTS 2311  Design III: Color**
3 Semester Credit Hours
Investigation of the properties of color. Color is studied and applied to studio-oriented design assignments.

*Co-requisite: SMTE 0097.*

**ARTS 2316  Painting I**
3 Semester Credit Hours (3 Lecture Hours)
A studio course exploring the potentials of painting media.

*Prerequisite: ARTS 1316.*

*Co-requisite: SMTE 0097.*

*TCCNS: ARTS 2316*

**ARTS 2323  Drawing III**
3 Semester Credit Hours
A studio course continuing the investigation of media and techniques explored in Drawing I and Drawing II. Students investigate how formal aspects and selected media along with conceptual choices create specific visual ideas.

*Prerequisite: ARTS 1317.*

*Co-requisite: SMTE 0097.*

*TCCNS: ARTS 2323*

**ARTS 2326  Sculpture I**
3 Semester Credit Hours
An introductory studio course exploring sculptural approaches, materials, concepts, and technical processes. Materials include wood, plaster, steel, and plastics.

*Co-requisite: SMTE 0097.*

*TCCNS: ARTS 2326*

**ARTS 2333  Printmaking I**
3 Semester Credit Hours
An introductory studio course in basic printmaking processes and techniques.

*Prerequisite: ARTS 1316 or 1311.*

*Co-requisite: SMTE 0097.*

*TCCNS: ARTS 2333*

**ARTS 2346  Ceramics I**
3 Semester Credit Hours (3 Lecture Hours)
An introductory studio course in basic ceramic processes.

*Co-requisite: SMTE 0097.*

*TCCNS: ARTS 2346*
ARTS 2356 Photography I
3 Semester Credit Hours
This course is an introduction to digital photography capture, processing, and basic editing software. While focusing on the fundamentals of digital photography and printing techniques, it will introduce students to the theory and practice of photography and assist them in producing a conceptually devised and technically consistent portfolio.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2356

ARTS 2367 Watercolor
3 Semester Credit Hours (3 Lecture Hours)
A studio course exploring techniques in water-base media.
Co-requisite: SMTE 0097.

ARTS 3301 Life Drawing
3 Semester Credit Hours
Drawing from the model using a variety of techniques and media.
Prerequisite: (ARTS 1317).
Co-requisite: SMTE 0097.

ARTS 3302 Screen Printing
3 Semester Credit Hours
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to screenprinting.
Prerequisite: ARTS 1311 or 1316.
Co-requisite: SMTE 0097.

ARTS 3303 Intermediate Painting
3 Semester Credit Hours (3 Lecture Hours)
Explores the issues of content, imagery, application, and influences of master artists.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.

ARTS 3304 Fabrication Sculpture
3 Semester Credit Hours
Building upon introductory skills, this course explores construction and fabrication in sculpture focusing on a primary material for the semester and applying advanced techniques and processes for this material. Through this material and techniques, students begin defining and developing their visual vocabulary relative to art history and contemporary sculptural issues.
Prerequisite: ARTS 2326.
Co-requisite: SMTE 0097.

ARTS 3305 Mold Making and Casting Sculpture
3 Semester Credit Hours
This course is designed to build upon the fundamental principles of mold making and casting while exploring more complex concepts, materials, and techniques. Creating multi-part molds, flexible molds, and investment molds, the project assignments incorporate the unique versatility of mold making and casting for exchanging media and making a series of multiples. In addition to making casts, students compare methods for assembling cast forms together to create larger sculptural artworks and installations.
Co-requisite: SMTE 0097.

ARTS 3306 Figurative Sculpture
3 Semester Credit Hours
A study of the human figure from an anatomical and artistic perspective. Examines the skeletal and muscular components of the figure in order to create lifelike and emotive sculptures. Discussion of the figure in both classical and contemporary art. Working with armature and modeling clay.
Co-requisite: SMTE 0097.

ARTS 3307 Lithography and Planographic Process
3 Semester Credit Hours
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to lithography and monoprinting.
Prerequisite: ARTS 2311 or 1316.
Co-requisite: SMTE 0097.

ARTS 3311 Color Theory
3 Semester Credit Hours
This course develops an understanding of color properties and relationships through formal exercises, research and creative thinking. Students build a vocabulary for analyzing and identifying color and color phenomena. Concepts of color theorists and color use in a variety of fields are examined to understand the application of color theory. Students will investigate the use of color in their own work and in the work of others to understand the conceptual and aesthetic application of color.
Prerequisite: ARTS 1311.

ARTS 3313 Figure Painting
3 Semester Credit Hours
This course addresses the structure and anatomy of the human figure using oil paint. Painting techniques and color theory exercises will familiarize students with tradition painting methods. Students will render proportions, balance, form and mass of the human figure. Research and discussions will address the human form throughout history as well as in the contemporary context. Image presentations, critiques and live model sessions will supplement studio work.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.

ARTS 3316 Art Activities I
3 Semester Credit Hours (3 Lecture Hours)
Practical experience with basic design, drawing, painting, and sculpture, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the elementary school.

ARTS 3322 Art Activities II
3 Semester Credit Hours (3 Lecture Hours)
Practical experiences with basic design, drawing, painting, printmaking, sculpture, and crafts, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the secondary school.

ARTS 3324 Wheel Throwing
3 Semester Credit Hours
Covers wheel-thrown ceramics (other production techniques may be included), basic glazemaking, and an introduction to kiln firing and loading.
Prerequisite: ARTS 2346.
Co-requisite: SMTE 0097.

ARTS 3325 Handbuilt Ceramic Techniques
3 Semester Credit Hours
This course is a continuation of hand-building covered in Ceramics I ARTS 2346. The course will cover more advanced forming techniques such as extrusion, hump, slump, and press molds, and slip-casting. New surface and firing techniques will include more advanced techniques such as underglazes, onglaze techniques such as majolica, fired decal application, raku, and an introduction to low fire glazes and surfaces.
Prerequisite: ARTS 2346.
ARTS 3350  Art of the United States
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major developments in the art of North America from Pre-Colombian times to the modern era

ARTS 3352  Modern Art
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major movements of 20th century art and aesthetics, which developed primarily in Europe. Includes a review of late 19th century modernist antecedents with emphasis placed on the principal movements of the early 20th century. Fauvism, German Expressionism, Cubism, Futurism, Abstract Art, Dada, and Surrealism.

ARTS 3353  Art Since 1945
3 Semester Credit Hours (3 Lecture Hours)
An examination of the dispersal of European artists and Modernism, primarily to America, as a result of World War II. Examines the development of Abstract Expressionism in New York in the 1940s and 50s, followed by a survey of recent trends in contemporary art to the present day.

ARTS 3360  Graphic Design I
3 Semester Credit Hours (3 Lecture Hours)
Introduce fundamental graphic communication techniques, software and theory. Explores hand skills by using tools and techniques to produce professional presentations as well as the correct procedures for presenting designs to a client.

ARTS 3365  Photography II
3 Semester Credit Hours
An intermediate studio course using digital cameras and image manipulation software. Prior completion of ARTS 2356 is required. This course will enhance and expand skills developed in Photography I. It is geared toward informing students in the many ways we can make photographs; by seeking them out, framing them, forming them, extracting them, building them, and finally sequencing and presenting them. Students will engage in the theory and practice of photography, refine their photographic technique, and create a conceptually devised and technically consistent portfolio. Emphasis is placed on the development of a strong conceptual foundation from which to approach the making and understanding of photography as an art form. This knowledge will be achieved through photographic assignments, slide lectures of relevant works, and in-class critiques. It can be repeated twice for credit.

Prerequisite: (ARTS 2356).
Co-requisite: SMTE 0097.

ARTS 3366  Analogue Photography
3 Semester Credit Hours
An introductory studio course in analogue photography using film cameras and the silver gelatin darkroom process. While focusing on the fundamentals of black and white, analogue photography and printing techniques this course will assist students in producing a conceptually devised and technically consistent portfolio.

Prerequisite: (ARTS 2356).
Co-requisite: SMTE 0097.

ARTS 3367  Digital Design Tools and Applications
3 Semester Credit Hours
This studio course explores the fundamental principles, standard creative processes and basic digital tools utilized in graphic design. The concepts and software learned are employed in projects specifically targeted to serve the professional and promotional needs of studio artists and design enthusiasts.

ARTS 4085  Senior Capstone
0 Semester Credit Hours
Required for all art students in partial fulfillment of the requirements for the BA in Art, BFA in Art studio track and the BFA with Teacher Certification in Art tracks. This course collects capstone materials for ARTS degrees. The course must be taken in the student’s final semester before graduation.

ARTS 4301  Advanced Drawing
3 Semester Credit Hours
Emphasis on the development of content through drawing. Research on contemporary trends and process investigation will aid students in the development of visual ideas and lead to a cohesive body or work. May be taken three times for credit.

Prerequisite: ARTS 2323.
Co-requisite: SMTE 0097.

ARTS 4302  Advanced Printmaking
3 Semester Credit Hours
Furthers competencies attained in Printmaking I and Intermediate I & II courses. May be taken three times for credit.

Prerequisite: ARTS 3302 and 3307.
Co-requisite: SMTE 0097.

ARTS 4303  Advanced Painting
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3303. May be taken three times for credit.

Co-requisite: SMTE 0097.

ARTS 4304  Advanced Sculpture
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3304. May be taken three times for credit.

Co-requisite: SMTE 0097.

ARTS 4324  Advanced Ceramics
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3324. May be taken three times for credit.

Co-requisite: SMTE 0097.

ARTS 4350  Pre-Columbian Art of Mesoamerica
3 Semester Credit Hours (3 Lecture Hours)
Explores the history of Pre-Columbian art from Mexico and Central America, from the Olmec through the Aztec cultures. May be taken three times for credit.

ARTS 4352  Modern Art of Mexico
3 Semester Credit Hours (3 Lecture Hours)
Explores the history of art during the nineteenth and twentieth centuries in Mexico. May be taken three times for credit.
ARTS 4354 Global Currents in Contemporary Art
3 Semester Credit Hours (3 Lecture Hours)
The course will cover key developments in contemporary art from the post-World War II era in the Western context to global currents in the present international arena. From a socio-political perspective, artistic tendencies will be considered as part of a trajectory that saw the center of the art world shift from being Euro- and Anglo-centric in the mid-twentieth century, to one without a discernible center in the early twenty-first century. Analysis of artworks from this decentralized cultural climate will focus on the evolution of conceptualism, the persistence of traditional modes of aesthetic practice, the role of the art market, and notions of environmentalism and sustainability as related to these "transnational transition." The course will consider works from Eastern Europe, South and Central America, the Caribbean, East/West/South/ Southeast Asia, Oceania, and Africa.

ARTS 4356 Contemporary Art Since 1980
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the evolution of architecture, sculpture, painting, digital media, installation, and interdisciplinary arts in the global context from 1980 to the present, in light of the historical and intellectual background of the period. Topics covered will include the transition from postmodernism to contemporaneity, considering notions of appropriation, commodification, consumerism, memory, history, and globalization. Lectures will be constructed upon thematic analysis of contemporary, primary sources coupled with secondary source material, and complemented by presentation opportunities and class discussion.

ARTS 4365 Advanced Photography
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3365. Covers content as creative expression in addition to basic photographic skills. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4390 Topics in Art History
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary.

ARTS 4391 Topics in Studio Art
3 Semester Credit Hours
May be repeated when topics vary.
Co-requisite: SMTE 0097.

ARTS 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description. Offered on application.
Co-requisite: SMTE 0097.

ARTS 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description. Offered on application.
Co-requisite: SMTE 0097.

Graphic Design Courses
GRDS 1301 Foundations of Graphic Design
3 Semester Credit Hours
This course explores fundamental components of design theory, concept, and composition. Students will explore presentation techniques, printing processes, technical tactile skills associated with the field, defining and exploring a targeted audience, and appropriate software introductions. Students will create printed works utilizing these skill sets.

GRDS 1302 Typography I
3 Semester Credit Hours
Through the use of lectures, demonstrations and studio work students are introduced to the art of typography. Cultural and aesthetic histories of familiar typefaces are reviewed. An emphasis is placed on the rules of type, best practices in type-setting, anatomy of letter forms, and appropriate uses of prescribed type faces. Hand rendering and digital media are used to give students a robust foundation in the study of typography.
Prerequisite: (GRDS 1301).

GRDS 2301 Historical Perspectives of Graphic Design
3 Semester Credit Hours
This studio course examines the history of graphic design from the invention of writing to present day composition. Students will explore various movements in graphic design history and create design works that reflect these periods.

GRDS 2302 Design Studio I
3 Semester Credit Hours
This course introduces the fundamental principles of the graphic design industry. Students strengthen their vocabularies in design, theory, and visual communication. Exploring two-dimensional projects, students will conduct research, form opinions, foster ideas, solve communication problems, learn to analyze and discuss graphic design work, and continue to develop their own creative process.
Prerequisite: GRDS 1301 and 1302.

GRDS 2303 Concept & Making
3 Semester Credit Hours
This studio course offers an in-depth study of approaching concept and idea generation to produce relevant and innovative design solutions. Students will explore tactics and techniques for creating their own original assets to support their solutions. Photo and illustration creation, manipulation and output are studied in addition to the utilization of machines, technology and tools to fulfill creative curiosity.
Prerequisite: GRDS 1301 and 1302.

GRDS 3301 Typography II
3 Semester Credit Hours
Through readings, writing assignments, lectures, and studio projects, students explore the relationship of type to cultural, political, and psychological dynamics of information exchange. The ideas of intellectual impact, complex hierarchy, active/passive readership, and emotional expression are all explored with the emphasis on user experience in typographic design.
Prerequisite: GRDS 1301, 1302, 2301 and 2302.

GRDS 3302 Design Studio II
3 Semester Credit Hours
This course encourages students to further develop their design process by reflecting on their own personal and artistic identities, while identifying and communicating to a specific audience. Through a series of print and three-dimensional projects, students work to balance their own voice and develop strong conceptual thinking and formal experimentation methods.
Prerequisite: GRDS 1301, 1302, 2301 and 2302.
GRDS 3303 Design Experience & Awareness
3 Semester Credit Hours
This studio course examines the role of design in society. Students will learn how to use empathy and a human-centered design approach to develop appropriate design solutions. Additionally, students will examine the role of environmental graphics to create works that reflect an enhanced impact in experience for the user. The topics in this course are explored through lectures, research and the creative development of a body of work.
Prerequisite: GRDS 1301, 1302, 2301 and 2302.

GRDS 3304 Publication & Editorial Design
3 Semester Credit Hours
This studio course explores the foundations of publication and editorial design to expand students’ design vocabulary. Students will explore the role of a graphic designer/art director in developing effective and innovative communication for editorial design.

GRDS 3305 Packaging Design
3 Semester Credit Hours
This studio course will teach students how to develop creative strategies for problem solving in a client-based environment. Focusing on three-dimensional packaging, students will learn how design applies to various surfaces, products, and audiences.
Prerequisite: GRDS 1301, 1302, 2301 and 2302.

GRDS 3306 User Interface/User Experience
3 Semester Credit Hours
This hands-on course examines how content is organized and structured to create a digital experience for a user, and what role the designer plays in creating and shaping user experience. Students will learn the roadmap process for developing robust User Interface/User Experience designs, from research, ideation and site mapping, to the design of engaging layouts for screens and the creation of dynamic prototypes.

GRDS 3308 Copywriting
3 Semester Credit Hours
This studio course explores copywriting for design, advertising, and media. Students will create writing and messaging for a variety of media including print design, web design, and advertising design within a consumer-driven context.
Prerequisite: (GRDS 1301) and (GRDS 1302) and (GRDS 2301) and (GRDS 2302).

GRDS 3309 Building Websites
3 Semester Credit Hours
This studio course will cover designing and maintaining a scalable and functional website utilizing contemporary building platforms. The processes and techniques demonstrated will allow students to plan the project scope, to generate website content, and to adopt the tools and expansive functionality available while learning best practices for the platform.
Prerequisite: GRDS 2303.

GRDS 3310 Client Solutions
3 Semester Credit Hours
In this studio course, students will define client needs, explore the designer-client relationship and investigate research strategies and methods for developing effective print and digital deliverables to meet established business goals. The conceptual and visual standards pertinent to creating a brand are explored and applied across a variety of client-driven projects.
Prerequisite: GRDS 1301, 1302, 2301 and 2302.

GRDS 4304 Emerging Technologies
3 Semester Credit Hours (6 Lab Hours)
This studio explores the use of evolving current and emerging technology in the field to enhance storytelling and the user experience in a variety of interactive media.
Prerequisite: GRDS 1301, 1302, 2301, 2302, 3301 and 3302.

GRDS 4309 Design in Advertising
3 Semester Credit Hours
This studio course will teach students how to develop creative strategies for problem solving in a client-based environment. This studio focuses on advertising design as it applies to print, multimedia, outdoor, and direct mail design for a chosen audience.
Prerequisite: GRDS 1301, 1302, 2301, 2302, 3301 and 3302.

GRDS 4310 Portfolio and Professional Practices
3 Semester Credit Hours
In this capstone course, the student prepares for a professional career in the graphic design field by developing self-promotional materials, including a printed and digital portfolio, while focusing on professional practices and job-seeking strategies. Guest speakers will typically join the class for discussion, critique, lecture and hiring scenarios such as mock interviews. Students will display their work in an organized portfolio showcase gallery exhibition. Note: May be taken three times for credit.
Prerequisite: GRDS 1301, 1302, 2301, 2302, 3301 and 3302.

GRDS 4399 Directed Independent Study
1,3 Semester Credit Hours
See College description. Offered on application.

GRDS 4399 Internship
3 Semester Credit Hours
This course allows students to complete a semester long design-centric internship within their area of interest. Through the use of reflective journals, a project portfolio, and employer feedback, the student will report their experience to the supervising professor throughout the internship placement.

Media Arts, BA

Program Description
The program in Media Arts focuses on allowing students to cultivate the creative and critical skills necessary to actively engage in the media industry in a variety of capacities. Media Arts majors select an emphasis in either Media Production or Media Studies to fulfill their coursework.

Student Learning Outcomes
Students will:

- Understand and apply production skills in the creation of audiovisual media
- Understand and apply critical theories and research methods related to media studies through effective written communication
- Demonstrate a general understanding of the media industry and paths to transition from academic coursework to industry positions or advanced degrees
- Create advanced projects that demonstrate effective communication strategies in media production OR media studies
### General Requirements

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<td>Media Arts Major Requirements</td>
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<td>Electives</td>
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<tr>
<td><strong>Total Credit Hours</strong></td>
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</table>

1 First-Year Seminars or Electives
Full-time, first time in college students are required to take the first-year seminars.
- UNIV 1101 First-Year Seminar I (1 sch)
- UNIV 1102 First-Year Seminar II (1 sch)

### Program Requirements

#### Code | Title                     | Hours
---|---------------------------|-----
Full-time, First-year Students
UNIV 1101 | First-Year Seminar I *   | 1   |
UNIV 1102 | First-Year Seminar II *  | 1   |
Core Curriculum Program
University Core Curriculum | 42 |
Media Arts Core Courses
MEDA 1307 | Media and Society        | 3   |
MEDA 1380 | Introduction to Media Production | 3 |
MEDA 2366 | Media Forms               | 3   |
MEDA 2367 | Media Industries          | 3   |
Emphasis
Select one of the following Emphasis: 27-33
- Media Studies Emphasis (p. 187)
- Media Production Emphasis (p. 187)
Total Hours | 83-89 |

* Online offering

### Media Studies Emphasis

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| Media Studies Requirements
MEDA 3310 | Media Theory and Research                | 3    |
MEDA 3380 | New Media and Communication **          | 3    |
MEDA 4381 | Senior Seminar in Media Studies         | 3    |
Select one of the following: 3
- MEDA 2311 Media Writing
- MEDA 2350 Media Performance
- MEDA 3360 Screenplay Writing
Select one of the following: 3
- MEDA 3301 Television Criticism
- MEDA 3302 Film Criticism

### Media Production Emphasis

<table>
<thead>
<tr>
<th>Code</th>
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</table>
| Media Production Requirements
MEDA 1315 | Editing                                | 3    |
MEDA 2313 | Intermediate Production: Documentary   | 3    |
MEDA 2316 | Intermediate Production: Narrative      | 3    |
MEDA 3317 | Advanced Postproduction                 | 3    |
Capstone
MEDA 4310 | Advanced Production: Documentary     | 3    |
or MEDA 4312 | Advanced Production: Narrative      | 3    |
Media Production Electives
Select six of the following courses not already taken to fulfill other requirements: 18
- ARTS 2356 Photography I
- GRDS 1301 Foundations of Graphic Design
- MEDA 3301 Television Criticism
- MEDA 3302 Film Criticism
- MEDA 3303 Documentary Studies
- MEDA 3314 Television Production
- MEDA 3340 Photojournalism
- MEDA 3351 Screen Comedy
- MEDA 3360 Screenplay Writing
- MEDA 3380 New Media and Communication **
- MEDA 4305 Interpreting and Making the Visual Culture of Hollywood
- MEDA 4308 Advanced Production: Commercial
MEDA 4310 | Advanced Production: Documentary     |      |
MEDA 4312 | Advanced Production: Narrative        |      |
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<td>MEDA 4317</td>
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<td>MEDA 4341</td>
<td>First Amendment and Ethical Issues in the Media</td>
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<td>MEDA 4342</td>
<td>Global Media and International Communication</td>
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<td>MEDA 4390</td>
<td>Topics in Media Arts</td>
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<td>MEDA 4396</td>
<td>Directed Individual Study</td>
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<td>MEDA 4399</td>
<td>Media Arts Internship</td>
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<tr>
<td>MEDA 2311</td>
<td>Media Writing</td>
<td></td>
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<tr>
<td>MEDA 2315</td>
<td>News Reporting</td>
<td></td>
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<tr>
<td>MEDA 3318</td>
<td>Editing &amp; Layout</td>
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<tr>
<td>THEA 1351</td>
<td>Acting I</td>
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</table>

**Total Hours** 33

1 With the exception of MEDA 4310 Advanced Production: Documentary (3 sch), MEDA 4312 Advanced Production: Narrative (3 sch) and MEDA 3360 Screenplay Writing (3 sch) – which each may each be repeated once for credit.

* Online offering
^ Blended offering

### Course Sequencing

#### Media Studies

<table>
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<tr>
<th>Year</th>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<td>Film and Culture</td>
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<td>UNIV 1102</td>
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<td>MEDA 1307</td>
<td>Media and Society</td>
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<td>MEDA 1380</td>
<td>Introduction to Media Production</td>
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<td>MEDA 2367</td>
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<td>Media Writing</td>
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#### Courses

**MEDA 1305 Film and Culture**
3 Semester Credit Hours (3 Lecture Hours)
Introduction to film aesthetics, history, and criticism for non-communication majors. Establishes a vocabulary for examining films and their roles in American culture.
**Co-requisite:** PSYC 2301, UNIV 1102.

**MEDA 1307 Media and Society**
3 Semester Credit Hours (3 Lecture Hours)
History and development of mass media in the United States as well as the organizational, institutional, and cultural dynamics of today's major commercial media. Included are substantial components on print media, radio, television, cinema, and computer Internet communication systems. Course themes include media production and consumption, globalization, cultural imperialism, race, class, gender in media and popular culture.
**TCCNS:** COMM 1307

**MEDA 1315 Editing**
3 Semester Credit Hours (3 Lecture Hours)
Intensive instruction in postproduction software, postproduction workflows, and editing techniques for moving images.

**MEDA 1380 Introduction to Media Production**
3 Semester Credit Hours (3 Lecture Hours)
Overview of tools and skills necessary to produce digital media content such as editing, cinematography, sound recording, producing and directing for film, television and new media.
MEDA 2311 Media Writing
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to teach the fundamentals of writing for the mass media. It includes instruction in professional methods and techniques for gathering, processing and delivering content.
TCCNS: COMM 2311

MEDA 2313 Intermediate Production: Documentary
3 Semester Credit Hours (3 Lecture Hours)
Principles and techniques of media production with a focus on non-fiction filmmaking.
Prerequisite: (MEDA 1315 and 1380).

MEDA 2315 News Reporting
3 Semester Credit Hours (3 Lecture Hours)
This course focuses on advanced news-gathering and writing skills. It concentrates on the three-part process of producing news and features, which include discovering the news, reporting the news and writing news in different formats. This course will incorporate all forms of news writing, including: press release, print news, web news and TV and radio broadcast news.
Prerequisite: MEDA 2311.

MEDA 2316 Intermediate Production: Narrative
3 Semester Credit Hours (3 Lecture Hours)
Principles and techniques of media production with a focus on fictional narrative filmmaking.
Prerequisite: (MEDA 1315 and 1380).

MEDA 2350 Media Performance
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to teach students articulation, pronunciation, effective writing and on-air performance techniques for all kinds of media environments with videotaped and audio taped presentations.

MEDA 2366 Media Forms
3 Semester Credit Hours (3 Lecture Hours)
Examination of the formal elements of media texts, including cinematography/videography, sound, and editing, across a variety of media platforms and styles. Includes instruction in writing formal analysis.
TCCNS: COMM 2366

MEDA 2367 Media Industries
3 Semester Credit Hours (3 Lecture Hours)
Examination of the media industries, including how they have evolved and now operate, as well as broader theoretical and practical implications of changing media organizations and practices. Includes instruction in researching contemporary and historical modes of media production, distribution, and exhibition.

MEDA 3301 Television Criticism
3 Semester Credit Hours (3 Lecture Hours)
Exploration of how TV communicates through the study of programming content, production practices, and audiences. Includes a laboratory for screening assigned programs.
Prerequisite: MEDA 1307.

MEDA 3302 Film Criticism
3 Semester Credit Hours (3 Lecture Hours)
Exploration of the critical approaches to the study of film from a variety of historical and theoretical perspectives, with an emphasis on narrative film and some consideration of experimental cinema. Includes a laboratory for screening assigned films.
Prerequisite: MEDA 1307.

MEDA 3303 Documentary Studies
3 Semester Credit Hours (3 Lecture Hours)
Historical and critical study of the non-fictional film with attention to changing technologies, to varying uses and styles of documentary, and to contemporary critical and theoretical issues.
Prerequisite: MEDA 1307.

MEDA 3310 Media Theory and Research
3 Semester Credit Hours (3 Lecture Hours)
This course is intended to immerse students in the leading theoretical and methodological approaches employed within the field of media studies to gain understating of media texts, popular culture, and audiences. Closely affiliated with cultural studies, qualitative research methods will be a primary focus. Readings and case studies will offer students insight into the way these methods are being used in the field, including their limitations and strengths. A series of assignments will allow them to propose, design, and conduct multiple sample research projects and analyze data in ways that engage with a variety of theories.

MEDA 3314 Television Production
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of studio television production. Field-based course, transportation required.

MEDA 3317 Advanced Postproduction
3 Semester Credit Hours (3 Lecture Hours)
Intensive instruction in advanced postproduction software, postproduction workflows and editing techniques for moving images.
Prerequisite: MEDA 1315.

MEDA 3318 Editing & Layout
3 Semester Credit Hours (3 Lecture Hours)
This course will teach the principles of copy editing, with an emphasis on accuracy and fairness, as well as the principles of layout and design for print and web publications.
Prerequisite: MEDA 2311.

MEDA 3340 Photojournalism
3 Semester Credit Hours (3 Lecture Hours)
This course will instruct on photojournalism skills and methods for use in visual communication. It will examine ethical and legal limitations to photography and in editing. Student work in this class will be eligible for possible publication in the student newspaper or its accompanying website.

MEDA 3351 Screen Comedy
3 Semester Credit Hours (3 Lecture Hours)
Examination of the varieties of screen comedy, from silent comedy to contemporary forms, with some attention to the history and theory of comic performance.
Prerequisite: MEDA 1307.

MEDA 3360 Screenplay Writing
3 Semester Credit Hours (3 Lecture Hours)
Writing and analysis of the screenplay for narrative fictional films. Writing projects include problem-solving exercises and work on an original screenplay. Course can be repeated for credit.

MEDA 3361 Sports Writing
3 Semester Credit Hours (3 Lecture Hours)
This course will teach the elements of sports writing and reporting to include interviewing and writing to cover different aspects of sports coverage. This course will address content for print, Internet, radio and television. Campus-related sports assignments will be eligible for publication in the student newspaper and its accompanying website.
MEDA 3380 New Media and Communication
3 Semester Credit Hours (3 Lecture Hours)
Examines how new media technologies impact society and change communication practices. Particular emphasis placed on different modes of cultural expression and social interaction made possible through digital media and the Internet.

MEDA 4305 Interpreting and Making the Visual Culture of Hollywood
3 Semester Credit Hours (3 Lecture Hours)
This course examines the visual culture of Hollywood media production in a focused context, such as during a particular decade, or in relation to a particular genre, star, or cultural topic. The visual culture studied will include not just primary media texts such as films or television programs, but also posters, trailers, and other promotional materials, as well as visual culture not produced directly by the media industries, such as contemporary art. Students will learn and utilize basic design techniques to create their own artwork related to these materials, including movie posters, album covers, and sequential art. As resources and equipment availability allow, these designs will be produced using techniques including print-making.

MEDA 4308 Advanced Production: Commercial
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of client based commercial media content with a focus on conceptualization, production, and delivery of a commercial, PSA, or corporate video project.
Prerequisite: (MEDA 1315, 2313 and 2316).

MEDA 4310 Advanced Production: Documentary
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of documentary media content with a focus on conceptualization, production, and distribution of a short documentary film. Course can be repeated once for credit. This course serves as a capstone for the Media Production Track.
Prerequisite: MEDA 2313.

MEDA 4312 Advanced Production: Narrative
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of narrative media content with a focus on scripting, production, and distribution of a short narrative film. Course can be repeated once for credit. This course serves as a capstone for the Media Production Track.
Prerequisite: MEDA 2316.

MEDA 4317 After Effects
3 Semester Credit Hours (3 Lecture Hours)
Conceptualization and execution of digital media projects using visual effects, motion graphics and composition through the creation of video, animation, special effects and more using Adobe’s After Effects postproduction software.
Prerequisite: MEDA 1315.

MEDA 4340 Advertising Criticism
3 Semester Credit Hours (3 Lecture Hours)
The examination of advertising history through critical and cultural approaches.

MEDA 4341 First Amendment and Ethical Issues in the Media
3 Semester Credit Hours (3 Lecture Hours)
Study of legal and ethical issues in mediated communication, including the First Amendment and free speech, control, and regulation of broadcasting, obscenity in the media.
Prerequisite: MEDA 1307.

MEDA 4342 Global Media and International Communication
3 Semester Credit Hours (3 Lecture Hours)
Examines global media in the context of international communication, diversity of media and cultural production, styles of media practices abroad, including differences between U.S. news values and ethical and moral dimensions across differing societies of the world.

MEDA 4343 News Publication
3 Semester Credit Hours (3 Lecture Hours)
This course will be a hands-on newsroom experience with the student newspaper the Island Waves and its accompanying website. Individual assignments will be assigned by editors of the student media. Assignments may include writing, advertising, photography, cartooning and video production and editing. Students are required to work on the staff of the official college publication during prescribed hours under faculty supervision.
Prerequisite: MEDA 2311.

MEDA 4370 Advanced New Media Project
3 Semester Credit Hours (3 Lecture Hours)
As the capstone course for the New Media Arts Certificate, this course guides students through the planning, development, and execution of a new media-based project.
Prerequisite: ARTS 2356, MEDA 2313 and 1315.

MEDA 4381 Senior Seminar in Media Studies
3 Semester Credit Hours (3 Lecture Hours)
The capstone course for seniors in the Media Studies offers opportunities to synthesize information learned in other Media Studies courses through in-depth study of a particular topic. Students will demonstrate their abilities to think and write critically, and to conduct independent research or produce media projects at an advanced level. Topics vary by instructor.
Prerequisite: MEDA 1307 and 3310.

MEDA 4390 Topics in Media Arts
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics and themes in media arts. May be repeated when topics vary.

MEDA 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description. By application. Only 3 semester hours of Directed Individual Study credit may be counted toward the major.

MEDA 4399 Media Arts Internship
3 Semester Credit Hours
Practical experience in the field through placement in a media internship position. Students interested in applying for the internship course must have a minimum cumulative GPA of 3.0; have at least junior standing at the university; be a media arts (media studies or media production emphasis) major or digital journalism minor; have completed at least 12 hours of coursework in the major or minor at TAMU-CC. Preferred applicants will have a minimum media arts or digital journalism GPA of 3.25. All applicants must solicit a recommendation form from a Department of Communication and Media faculty member. Course may be taken three times for credit; however only 3 semester hours of internship credit may be counted toward the major. A second internship may apply to the digital journalism minor; a third internship may be used as a free elective. Authorization to repeat the internship course is contingent on the students’ successful completion of the previous internship experience. This course is graded Credit/No Credit.
Music, BA

Music Degree Programs

Texas A&M University-Corpus Christi offers three distinct degree programs, a minor in music, and a minor in music industry.

- Music, BA  
- Music, BM with EC-12 Teacher Certification  
- Performance (Instrumental), BM  
- Performance (Voice), BM

The mission of the Texas A&M University-Corpus Christi Department of Music is to assist students in the development of their aural, aesthetic, and analytical capacities in music. This mission is accomplished within a nurturing, student-centered environment where faculty and students strive together for attainment of the following program goals:

1. To prepare music majors for successful professional careers in music education, studio teaching, music industry, and performance;
2. To provide music courses for all students that will acquaint them with fundamental music skills, various musical styles, historical periods and literature, the functions of music in the community, and to provide opportunities to participate in the live performance of music;
3. To encourage students to be continually aware of music as an art form, and to seek opportunities for creative experiences and personal enrichment that are inherent in the study, performance, and production of music; and
4. To contribute to the artistic and cultural life of the community by providing public concerts and recitals, and other forms of appropriate musical involvement of faculty and students.

Texas A&M University-Corpus Christi is an accredited institutional member of the National Association of Schools of Music.

Music Courses Designed Specifically for Non-Majors

Music course offerings of special interest to students majoring in fields outside music include various kinds of ensemble experience:

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<tr>
<th>Code</th>
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<td>MUSI 1302</td>
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<td>MUSI 1303</td>
<td>Basic Guitar I</td>
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<tr>
<td>MUSI 1306</td>
<td>Understanding and Enjoying Music</td>
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<tr>
<td>MUSI 1310</td>
<td>History of Rock and Roll</td>
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<td>MUSI 3310</td>
<td>History of Jazz</td>
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</tr>
<tr>
<td>MUSI 2302</td>
<td>Non-major Class Piano II</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 2303</td>
<td>Basic Guitar II</td>
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<tr>
<td>MUSI 3334</td>
<td>Music Cultures of the World</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 3370</td>
<td>Class Voice</td>
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</table>

Admission to Music Degree Programs

Degree-seeking music majors are expected to perform at increasingly higher levels of technical and artistic performance throughout the course of undergraduate study. Assessment of growth in performance is accomplished at the final examination for each semester of Principal Studio enrollment. This consists of a performance before a jury committee composed of music faculty members. Jury committees are charged with two tasks: first, they recommend an advisory jury grade to each student’s studio teacher, and second, they determine if students will pass to the next course in the studio sequence. In order to avoid a situation in which a student attempts the pursuit of a music degree for which there is little or no practical hope of success, the following procedures governing admission to Texas A&M-Corpus Christi music degree programs are closely followed.

All music majors share a common first-year music course enrollment, consisting of Musicianism I and II, Aural Training I and II, Class Piano I and II, First Year Principal Applied Studio I and II, and an appropriate major ensemble. The jury examination for First Year Principal Applied Studio II will serve as an audition for the Bachelor of Music or Bachelor of Music with Teacher Certification. Jury committees will approve applications based upon the jury performance and recommendation of the student’s principal studio instructor. Because the Bachelor of Arts program is more broadly focused and not as dependent upon performance, students who are not accepted into the Bachelor of Music or Bachelor of Music with Teacher Certification programs may continue with the BA. Transfer students who have completed two or more semesters of principal studio at another institution should audition for admission to the BM or BMTC degrees at auditions held during the first week of classes each semester for that purpose. Students may attempt to qualify for the Bachelor of Music or the Bachelor of Music with Teacher Certification program only twice.

Ensemble Participation and Requirements

1. Every full-time music major must enroll, participate and receive a passing grade in a major ensemble every semester except the student teaching semester.
2. Major ensemble requirements must be satisfied in the following ways:
   - A student in any instrumental music degree program whose major instrument is a woodwind, brass, or percussion instrument must register for MUEN 1122 Concert Band (1 sch)/MUEN 3122 Concert Band (1 sch), MUEN 1123 Symphonic Winds (1 sch)/MUEN 3123 Symphonic Winds (1 sch) and/or MUEN 1124 Concert Orchestra (1 sch)/MUEN 3124 Concert Orchestra (1 sch) or as assigned by the instrumental ensemble directors and the applied teacher, based on auditions as required.
   - A student in any instrumental music degree program whose major instrument is an orchestral stringed instrument must register for MUEN 1124 Concert Orchestra (1 sch)/MUEN 3124 Concert Orchestra (1 sch) or as assigned by the instrumental ensemble directors and the applied teacher, based on auditions as required.
   - A student in any vocal/choral/general music degree program must register for MUEN 1151 University Singers (1 sch)/MUEN 3151 University Singers (1 sch) or MUEN 1153 Chamber Choir (1 sch)/MUEN 3153 Chamber Choir (1 sch) as assigned by the choral ensemble director and the applied music teacher, based on auditions as required.
   - Pianists or guitarists in instrumental music degree normally enroll in MUEN 1151 University Singers (1 sch)/MUEN 3151 University Singers (1 sch) to fulfill the ensemble requirement. If they play a wind band or orchestral instrument well enough, they may enroll in concert band or orchestra instead.
3. Exceptions to these policies will be made only with the approval of the student’s applied teacher, the Department Chair and the appropriate ensemble director.
Policy on Course Substitutions
At times, it may be necessary for a student nearing graduation to substitute a secondary applied lesson for a techniques course when there are class scheduling conflicts. In such cases, the students may be allowed to enroll in an applied lesson with the instructor or instructors in that area in lieu of that specific methods course. Courses may include Woodwind Techniques I (MUSI 3166), Woodwind Techniques II (MUSI 3167), Brass Techniques I (MUSI 3168), Brass Techniques II (MUSI 3169), Voice Techniques (MUSI 3170), Percussion Techniques (MUSI 3188), and String Techniques (MUSI 3189). These substitutions are exceptions to be determined on a case-by-case basis by permission of the Music Department Chair.

Policy on Repeated Music Courses
Students majoring and/or minoring in music will have three opportunities to earn a “C” or better in all MUSI, MUAP, MUEN and MIND courses required on the student’s degree program/plan. Students who do not earn a “C” or better on the third attempt of a class will not be allowed to continue in courses restricted to music majors and minors, with the exception of non-major applied lessons and ensembles.

Program Description
The Bachelor of Arts in Music offers a choice of two emphases. The BA-Music, Music Studies Emphasis is a desirable degree for those who wish to study music within a traditional liberal arts framework. The degree is appropriate for students who wish to engage in studies in the performing arts, musicology, composition, and other academic music areas, or as instructors in private music studios. The BA-Music, Music Industry Emphasis is a desirable degree for those who wish to study music within a traditional liberal arts framework combined with studies in music business, recording technology, and related fields. The degree is appropriate for students who seek comprehensive knowledge and a foundation of skills foundation for work and growth in the music industry.

Concentration/Emphasis
A concentration or emphasis is a structured plan of study within a major. The number of semester hours for a concentration or emphasis varies, but is included within the semester hours for the major. Students pursuing the BA in Music will select an emphasis in either Music Studies or Music Industry.

Student Learning Outcomes
Students will:

• have knowledge of music theory, history, literature, and culture
• be able to apply their knowledge through singing or performing on a musical instrument
• be able to apply critical thinking skills when hearing musical sounds

In addition, students undertaking the Music Industry Emphasis will:

• have a working knowledge of the operations of the music industry
• operate professional audio recording systems

Specific Degree Requirements
All music majors must meet all general University and College graduation requirements, including First Year Seminars, regardless of the following specific degree requirements, unless specifically excused. All music degrees require MUSI 1307 Elements of Musical Style (3 sch), which also meets the Core Curriculum Program Fine Arts requirement.

Understanding and Enjoying Music (MUSI 1306 Understanding and Enjoying Music (3 sch)) cannot count towards any degree requirement of the Bachelor of Arts in Music. No music coursework with a grade lower than “C” will be counted toward the completion of the Bachelor of Arts in Music, the Bachelor of Music with Teacher Certification, or the Bachelor of Music in Performance, with the following exception. In order to progress to the next level of applied principal lessons (MUAP courses), a student must earn at least an “A” or “B” in his/her lessons and also be recommended to advance by the jury committee. A student who does not advance to the next level of lessons, as recommended by the jury committee, can earn no higher than a “C” in applied music. Students who do not advance in lessons due to their ineligibility to take the Basic Music Skills Assessment due to other factors (i.e. theory sequence issues) are not held to this grading policy.

General Requirements

Music Studies Emphasis

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<td>First-Year Seminars (when applicable)</td>
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1 Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

Music Industry Emphasis

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<td>Music Industry Major Requirements</td>
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<td>Emphasis-specific coursework</td>
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1 Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements

Music Studies Emphasis

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Core Curriculum Program

University Core Curriculum 42
### Music Major Requirements

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<td>Musicianship II</td>
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<td>MUSI 2311</td>
<td>Musicianship III</td>
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<td>MUSI 2312</td>
<td>Musicianship IV</td>
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<td>MUSI 1116</td>
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<td>or MIND 3322</td>
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</tbody>
</table>

Appropriate 6-semester sequence of Principal Applied Studio courses in one performance area 8

Select a minimum of 4 hours of appropriate large ensemble from the following: 4

- MUEN 1123  Symphonic Winds
  or MUEN 3123 Symphonic Winds
- MUEN 1122  Concert Band
  or MUEN 3112 Concert Band
- MUEN 1124  Concert Orchestra
  or MUEN 3114 Concert Orchestra
- MUEN 1151  University Singers
  or MUEN 3115 University Singers
- MUEN 1153  Chamber Choir
  or MUEN 3117 Chamber Choir

Select a minimum of 6 hours of Upper-division Music electives 6

Total Hours 99

1 Transfer students with 24 or more hours are exempt from First-Year Seminar.
2 Students with adequate keyboard skills may substitute Secondary Piano Studio courses for Class Piano I-IV with permission of the Music Department Chair.

* Online offering

### Music Industry Emphasis

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Appropriate 6-semester sequence of Principal Applied Studio courses in one performance area 8

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Total Hours 119

1 Transfer students with 24 or more hours are exempt from First-Year Seminar.
2 Students with adequate keyboard skills may substitute Secondary Piano Studio courses for Class Piano I-IV with permission of the Music Department Chair.

* Online offering

### Course Sequencing

#### Music Studies

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### Full-time, First-year Students

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<td>UNIV 1102</td>
<td>First-Year Seminar II ^1</td>
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### Core Curriculum Program

- University Core Curriculum 42

Music Industry Emphasis students are required to complete ECON 2301 and ECON 2302 as part of their Core Curriculum Program.

### Music Major Requirements

<table>
<thead>
<tr>
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<tr>
<td>MUSI 1311</td>
<td>Musicianship I</td>
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</table>
**MUAP 11XX Principal Studio Lesson** 1
**MUEN 11XX Major Ensemble** 1

**Hours 14**

**Spring**
- **UNIV Triad** 7
- **MUSI 1312** Musicianship II 3
- **MUSI 1117** Aural Training II 1
- **MUSI 1182** Class Piano II 1
- **MUAP 11XX Principal Studio Lesson** 1
- **MUEN 11XX Major Ensemble** 1

**Hours 14**

**Second Year**

**Fall**
- **MUSI 2311** Musicianship III 3
- **MUSI 2116** Aural Training III 1
- **MUSI 2181** Class Piano III 1
- **MUAP 21XX BA Principal Studio Lesson** 1
- **MUEN 11XX Major Ensemble** 1
- **MIND 3311** Applications of Music Technology 3
- **Core Course** 3
- **Core Course** 3

**Hours 16**

**Spring**
- **MUSI 2312** Musicianship IV 3
- **MUSI 2117** Aural Training IV 1
- **MUSI 2182** Class Piano IV 1
- **MUAP 21XX BA Principal Studio Lesson** 1
- **MUEN 11XX Major Ensemble** 1
- **MUSI 1307** Elements of Musical Style 3
- **Core Course** 3
- **UD Elective** 3

**Hours 16**

**Third Year**

**Fall**
- **MUSI 3346** Form and Analysis of Tonal Music 3
- **MUSI 3253** Basic Conducting 2
- **MUAP 32XX BA Principal Studio Lesson** 2
- **MUEN 31XX Major Ensemble** 1
- **MUSI 4334** History of Western Music I 3
- **Core Course** 3
- **Core Course** 3

**Hours 17**

**Spring**
- **MUAP 3286** 2
- **MUEN 31XX Major Ensemble** 1
- **MUSI 4335** History of Western Music II 3
- **Core Course** 3
- **Core Course** 3
- **Core Course** 3
- **UD Elective** 3

**Hours 18**

**Fourth Year**

**Fall**
- **MUEN 31XX Major Ensemble** 1
- **Core Course** 3
- **Core Course** 3
- **UD Elective** 3
- **UD Elective** 3
- **UD Music Elective** 3
- **Foreign Language Requirements** 3

**Hours 19**

**Spring**
- **MUEN 31XX Major Ensemble** 1
- **MUSI 4385** Senior Capstone 3
- **UD Elective** 3
- **UD Elective** 3
- **UD Elective** 3
- **Foreign Language Requirements** 3

**Hours 16**

**Courses**

**Music Courses**

**MUSI 1116 Aural Training I**
1 Semester Credit Hour (1 Lecture Hour)
A companion course to MUSI 1311, designed to strengthen the understanding of theoretical principles through the development of aural perception and skills; exercises in melodic, harmonic, and rhythmic dictation; and drill in sight singing.
TCCNS: MUSI 1116

**MUSI 1117 Aural Training II**
1 Semester Credit Hour (1 Lecture Hour)
Continuation of MUSI 1116; a companion course to MUSI 1312.
Prerequisite: MUSI 1116 and 1311.
TCCNS: MUSI 1117

**MUSI 1181 Class Piano I**
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 1181

**MUSI 1182 Class Piano II**
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 1182
MUSI 1301  Fundamentals of Music
3 Semester Credit Hours (3 Lecture Hours)
Designed to teach beginning music students the basic tenet of music theory: note reading, rhythm, scales, key signatures, basic intervals and triads, and solfeggio.

MUSI 1302  Non-major Class Piano I
3 Semester Credit Hours (3 Lecture Hours)
Group instruction in the elements of piano playing, designed for the non-major. No previous experience necessary.

MUSI 1303  Basic Guitar I
3 Semester Credit Hours (3 Lecture Hours)
Group instruction in the fundamentals of guitar playing, designed for the non-major. The student must furnish an acceptable instrument. No previous experience necessary.

TCCNS: MUSI 1300

MUSI 1306  Understanding and Enjoying Music
3 Semester Credit Hours (3 Lecture Hours)
A course for the non-music major. Study of selected music literature of contrasting styles and forms with emphasis on listening to music with understanding.

TCCNS: MUSI 1306

MUSI 1307  Elements of Musical Style
3 Semester Credit Hours (3 Lecture Hours)
A survey of selected western and non-western musical styles, based upon the analysis of the characteristic use of the elements of music. Required for music majors and recommended for non-majors with a significant high school music background.

TCCNS: MUSI 1307

MUSI 1310  History of Rock and Roll
3 Semester Credit Hours (3 Lecture Hours)
A general survey of composers, performers, and styles of rock and roll. Emphasis on understanding stylistic elements of music, including rhythm, texture, form, and harmony.

TCCNS: MUSI 1310

MUSI 1311  Musicanship I
3 Semester Credit Hours (3 Lecture Hours)
First principles of chord progression and phrase harmonization. Theory assessment required prior to enrollment.

TCCNS: MUSI 1311

MUSI 1312  Musicanship II
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 1311, with a study of more advanced chord structures and their placement within the phrase through written exercises, analysis, and correlated keyboard projects.

Prerequisite: MUSI 1311 and 1116.

TCCNS: MUSI 1312

MUSI 2116  Aural Training III
1 Semester Credit Hour (1 Lecture Hour)
Continuation of MUSI 1117; a companion course to MUSI 2311. Designed to further the understanding of advanced theoretical principles and techniques through related aural exercises, dictation, and sight singing.

Prerequisite: MUSI 1117 and 1312.

TCCNS: MUSI 2116

MUSI 2117  Aural Training IV
1 Semester Credit Hour (1 Lecture Hour)
Continuation of MUSI 2116; a companion course to MUSI 2312.

Prerequisite: MUSI 2116 and 2311.

TCCNS: MUSI 2117

MUSI 2181  Class Piano III
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.

Prerequisite: MUSI 1182.

TCCNS: MUSI 2181

MUSI 2182  Class Piano IV
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.

TCCNS: MUSI 2182

MUSI 2302  Non-major Class Piano II
3 Semester Credit Hours (3 Lecture Hours)
Extension of skill development begun in MUSI 1302 Non-Major Class Piano I.

Prerequisite: MUSI 1302.

MUSI 2303  Basic Guitar II
3 Semester Credit Hours (3 Lecture Hours)
Extension of skill development begun in MUSI 1303 - BASIC Guitar I. The student must furnish an acceptable instrument.

Prerequisite: MUSI 1303.

MUSI 2311  Musicanship III
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 1312. A broad summary of classical and chromatic harmony, explored through written exercises, analysis, and correlated keyboard drill.

Prerequisite: MUSI 1312 and 1117.

TCCNS: MUSI 2311

MUSI 2312  Musicanship IV
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 2311. An exploration of 20th-century techniques through written exercises, analysis, and correlated keyboard drill.

Prerequisite: MUSI 2311 and 2116.

TCCNS: MUSI 2312

MUSI 3085  Junior Recital
0 Semester Credit Hours
Required for all students presenting a Junior Recital in partial fulfillment of the requirements for the Bachelor of Music in Performance Degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Department Chair.

MUSI 3162  Diction for Singers I
1 Semester Credit Hour (1 Lecture Hour)
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in English and French.
MUSI 3165  Diction for Singers II  
1 Semester Credit Hour (1 Lecture Hour)  
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in Italian and German.

MUSI 3166  Woodwind Techniques I  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the oboe, bassoon, and saxophone. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3167  Woodwind Techniques II  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the flute and clarinet. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3168  Brass Techniques I  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the trumpet and French horn. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3169  Brass Techniques II  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the trombone, euphonium, and tuba. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3170  Voice Techniques for Instrumentalists  
1 Semester Credit Hour (1 Lab Hour)  
Group instruction and practical experience in the fundamentals of voice production and song interpretation for the instrumental music educator. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3188  Percussion Techniques  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the instruments of the percussion family. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3189  String Techniques  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the violin, viola, cello, and string bass. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3252  Foundations of Music Programs  
2 Semester Credit Hours (2 Lecture Hours)  
A survey of the historical, social, and philosophical bases of music education in the United States, psychological theories of learning and musical responsiveness, and studies of how these foundations have been applied in various types of music curricula.  
Prerequisite: MUSI 2311 and 2116.

MUSI 3253  Basic Conducting  
2 Semester Credit Hours (2 Lecture Hours)  
A skills acquisition course designed to give students competence in basic baton techniques and musical control of an ensemble. Includes score study and musical terminology.  
Prerequisite: MUSI 2311 and 2116.

MUSI 3310  History of Jazz  
3 Semester Credit Hours (3 Lecture Hours)  
A study of jazz styles, influences, trends, innovators, and literature. Readings include interviews and articles that discuss origins of jazz, definitions of jazz, and race politics of jazz. No previous experience is necessary.

MUSI 3334  Music Cultures of the World  
3 Semester Credit Hours (3 Lecture Hours)  
The course introduces the student to ethnomusicology and the cross-cultural study of music and society. It emphasizes the role of music in human life, and explores music and performance from around the world. The student will learn about classical, folk and popular styles found on all seven continents. This course is appropriate for any student of any musical background.

MUSI 3345  Composition  
1-3 Semester Credit Hours  
Creative writing with a view toward developing an individual style of musical composition. Variable credit, 1, 2, or 3 hrs. One private lesson per week.  
Prerequisite: MUSI 2312 and 2117.

MUSI 3346  Form and Analysis of Tonal Music  
3 Semester Credit Hours (3 Lecture Hours)  
Analysis of the melodic and harmonic design of tonal music, including the aural and visual analysis of scores for piano, voice, chamber ensembles, and orchestra.  
Prerequisite: MUSI 2312 and 2117.

MUSI 3354  Advanced Conducting  
3 Semester Credit Hours (3 Lecture Hours)  
A continuation of MUSI 3252. Advanced experiences with score preparation and effective ensemble rehearsal and management techniques.  
Prerequisite: MUSI 3252.

MUSI 3370  Class Voice  
3 Semester Credit Hours (3 Lecture Hours)  
Group instruction and practical experience in the fundamentals of voice production, music reading, and song interpretation. Dramatic stage movement and singing will be explored using Classical and Broadway song literature. This course is designed for the non-major. No previous experience is necessary.

MUSI 4085  Senior Recital  
0 Semester Credit Hours  
Required for all students presenting a Senior Recital in partial fulfillment of the requirements for any music degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Program Coordinator.

MUSI 4334  History of Western Music I  
3 Semester Credit Hours (3 Lecture Hours)  
An in-depth study of the evolution of Western musical style from antiquity through the 18th-century.  
Prerequisite: MUSI 1307, 2312 and 2117.

MUSI 4335  History of Western Music II  
3 Semester Credit Hours (3 Lecture Hours)  
Continuation of MUSI 4334, an in-depth study of the evolution of Western musical style from the age of Beethoven to the present.  
Prerequisite: MUSI 4334.
MUSI 4340  Studies in Repertoire
3 Semester Credit Hours
Systematic examination of the history and literature of a specific performance medium.

MUSI 4346  Orchestration and Arranging
3 Semester Credit Hours (3 Lecture Hours)
The compass, timbre, and techniques of arranging and/or orchestration for instruments and/or voices. Practical experience in arranging for orchestra, band, and other instrumental and vocal combinations.
Prerequisite: MUSI 2312 and 2117.

MUSI 4355  Music for Young Children
3 Semester Credit Hours
Study of musical development in children in grades K-6. Study of and practical experience with pedagogical approaches and materials appropriate for that age group.
Prerequisite: MUSI 3252.

MUSI 4357  Choral Literature and Techniques
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the literature, pedagogy, and management techniques required for successful vocal ensembles in secondary schools.
Prerequisite: MUSI 3253.

MUSI 4358  Instrumental Literature and Techniques
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the literature, pedagogy, and management techniques required for successful instrumental ensembles in secondary schools. Includes a segment pertaining to the development of marching band shows.
Prerequisite: MUSI 3253.

MUSI 4360  STUDIES IN PEDAGOGY
3 Semester Credit Hours
Methods, materials and psychology of presenting musical materials to students at various ages. Evaluation of teaching materials and techniques. Classes are organized by specific performance areas.

MUSI 4385  Senior Capstone
3 Semester Credit Hours
The Senior Capstone is intended to provide students seeking the Bachelor of Arts in Music with an opportunity to demonstrate their musical scholarship through scholarly analysis and writing within a field of music of their choosing. May include a performance component, as in a lecture recital, but musical performance may comprise no more than 40% of the capstone project.

MUSI 4390  Topics in Music
1-3 Semester Credit Hours (1-3 Lecture Hours)
May be repeated for credit when topics vary.

MUSI 4396  Directed Individual Study
1-3 Semester Credit Hours
See College description.

MUSI 4398  Applied Experience
3 Semester Credit Hours
See College description.

Music Ensemble Courses

MUEN 1122  Concert Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1123  Symphonic Winds
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1124  Concert Orchestra
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1127  Pep Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1128  Stage Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 1131 Piano Accompanying
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1132 Classical Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1133 Percussion Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1135 Brass Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1136 Woodwind Choir
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1137 Clarinet/Sax Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1138 Jazz Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1139 Flute Ensemble
1 Semester Credit Hour (1 Lecture Hour, 1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1140 String Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1143 Chorale
1 Semester Credit Hour (1 Lecture Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 1151 University Singers
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1153 Chamber Choir
1 Semester Credit Hour (1 Lecture Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1157 Opera Workshop
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1159 Mariachi Ensemble
1 Semester Credit Hour (1 Lab Hour)
This course is designed to assist the student in developing an increased proficiency in the art of Mariachi Performance. In accomplishing this goal, this course will allow each student to develop: 1.) performance skills on the instruments of the mariachi (including violin, trumpet, guitar, guitarron, vihuela, and harp), and 2.) knowledge of the repertoire and history of mariachi literature. Performance of an instrument in the mariachi also requires singing when the repertoire calls for it. The objective is to study the literature of Mexican Folk music; to engage in the technical study of mastering performance on the instruments of the mariachi; to represent TAMUCC in the immediate and global community through musical excellence.

MUEN 3122 Concert Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3123 Symphonic Winds
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3124 Concert Orchestra
1 Semester Credit Hour (35 Lab Hours)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3127 Pep Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3128 Stage Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3132 Classical Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 3133 Percussion Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3135 Brass Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3136 Woodwind Ensemble
1 Semester Credit Hour (2 Lab Hours)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3139 Flute Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3140 String Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3143 Chorale
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3151 University Singers
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3153 Chamber Choir
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3157 Opera Workshop
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3159 Mariachi Ensemble
1 Semester Credit Hour (15 Lab Hours)
This course is designed to assist the student in developing an increased proficiency in the art of Mariachi Performance. In accomplishing this goal, this course will allow each student to develop: 1) performance skills on the instruments of the mariachi (including violin, trumpet, guitar, guitarron, vihuela, and harp), and 2) knowledge of the repertoire and history of mariachi literature. Performance of an instrument in the mariachi also requires singing when the repertoe calls for it. The objective is to study the literature of Mexican Folk music; to engage in the technical study of mastering performance on the instruments of the mariachi; to represent TAMUCC in the immediate and global community through musical excellence.
Music Industry Courses

MIND 3311 Applications of Music Technology 3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course will focus on hands-on learning in a workshop environment. Students will gain perspective on the people, procedures, data, software and hardware associated with the creation of music. Topics discussed include: computer proficiency, MIDI, computer based music notation, sequencing, music evaluation, music and the Internet, and current trends in music technology.

MIND 3312 Recording Techniques I 3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course is an examination of the art of audio recording. The curriculum will cover signal flow of the mixing console as it applies to both recording and sound reinforcement; microphones and techniques of application; use of sonic effects; recording devices (Digital, and Hard Disk); synchronization formats; etc.

MIND 3313 Recording Techniques II 3 Semester Credit Hours (3 Lecture Hours)
A continuation of MIND 3312 Recording Techniques. The curriculum will cover advanced topics regarding digital console technology, power and ground related issues, studio acoustics and design, digital audio technology, multimedia and web applications, amplifiers, noise reduction, monitoring, surround sound, and mastering procedures.

MIND 3314 Live Sound Engineering 3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, an overview of the basic principles of sound and reinforcement and how audio can be manipulated utilizing current live sound technology. Topics will include signal flow, microphone selection and placement, signal processing, and mixing.

MIND 3315 Musical Acoustics 3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, an overview of acoustics with emphasis in the areas of scientific knowledge that are relevant to music: the physiological properties of sounds; the effect of acoustical environment; the acoustical behavior of musical instruments; and the various applications of electronics and computers to the production, reproduction, and composition of music.

MIND 3316 Introduction to MIDI Sound Synthesis and Control 3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course introduces students to the Musical Instrument Digital Interface (MIDI) sequencing using computer software and keyboard synthesizers. Students learn concepts, basic theory and techniques, and the application of MIDI techniques to the production of music. Hands-on projects are completed using MIDI keyboard synthesizers and sequencer software.

MIND 3320 Music Business Survey 3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course is an overview of the practices and procedures of the music industry, including such topics as career possibilities, publishing, labels, marketing, and copyrights. It also includes an overview of career options will include performer, composer, record producer and engineer, artist manager, booking agent, concert promoter, sales, marketing, and entertainment attorney.

MIND 3321 Music Business II 3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course is an in depth examination of the practices and procedures of the music industry that pertain to accounting, taxes, copyright, licensing, marketing and contracts. The primary objective of this course is to develop a working knowledge of the music industry and to remain in compliance with the U.S. legal system.

MIND 3322 Entertainment Law and the Music Industry 3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, an overview of the legal practices and ramifications of United States law and its influence on the music industry. Topics will include intellectual property, business structures, contracts, distribution regulations, and copyrights. Legal practices for entertainment mediums will include television, film, live stage performances, recording, and publishing.

MIND 4396 Directed Individual Study 1-3 Semester Credit Hours
See College description. Offered on application.

MIND 4398 Applied Experience 3 Semester Credit Hours
See College description. Offered on application.

Performance (Instrumental), BM Music Degree Programs
Texas A&M University-Corpus Christi offers three distinct degree programs, a minor in music, and a minor in music industry.

- Music, BA (p. 191)
- Music, BM with EC-12 Teacher Certification (p. 268)
- Performance (Instrumental), BM (p. 201)
- Performance (Voice), BM (p. 211)

The mission of the Texas A&M University-Corpus Christi Department of Music is to assist students in the development of their aural, aesthetic, and analytical capacities in music. This mission is accomplished within a nurturing, student-centered environment where faculty and students strive together for attainment of the following program goals:

1. To prepare music majors for successful professional careers in music education, studio teaching, music industry, and performance;
2. To provide music courses for all students that will acquaint them with fundamental music skills, various musical styles, historical periods and literature, the functions of music in the community, and to provide opportunities to participate in the live performance of music;
3. To encourage students to be continually aware of music as an art form, and to seek opportunities for creative experiences and personal enrichment that are inherent in the study, performance, and production of music; and
4. To contribute to the artistic and cultural life of the community by providing public concerts and recitals, and other forms of appropriate musical involvement of faculty and students.

Texas A&M University-Corpus Christi is an accredited institutional member of the National Association of Schools of Music.
Music Courses Designed Specifically for Non-Majors
Music course offerings of special interest to students majoring in fields outside music include various kinds of ensemble experience:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MUSI 1301</td>
<td>Fundamentals of Music</td>
<td>3</td>
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<tr>
<td>MUSI 1302</td>
<td>Non-major Class Piano I</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1303</td>
<td>Basic Guitar I</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1306</td>
<td>Understanding and Enjoying Music</td>
<td>3</td>
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<tr>
<td>MUSI 1310</td>
<td>History of Rock and Roll</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 3310</td>
<td>History of Jazz</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 2302</td>
<td>Non-major Class Piano II</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 2303</td>
<td>Basic Guitar II</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 3334</td>
<td>Music Cultures of the World</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 3370</td>
<td>Class Voice</td>
<td>3</td>
</tr>
</tbody>
</table>

Admission to Music Degree Programs
Degree-seeking music majors are expected to perform at increasingly higher levels of technical and artistic performance throughout the course of undergraduate study. Assessment of growth in performance is accomplished at the final examination for each semester of Principal Studio enrollment. This consists of a performance before a jury committee composed of music faculty members. Jury committees are charged with two tasks: first, they recommend an advisory jury grade to each student’s studio teacher, and second, they determine if students will pass to the next course in the studio sequence. In order to avoid a situation in which a student attempts the pursuit of a music degree for which there is little or no practical hope of success, the following procedures governing admission to Texas A&M-Corpus Christi music degree programs are closely followed.

All music majors share a common first-year music course enrollment, consisting of Musicianship I and II, Aural Training I and II, Class Piano I and II, First Year Principal Applied Studio I and II, and an appropriate major ensemble. The jury examination for First Year Principal Applied Studio II will serve as an application audition for the Bachelor of Music or Bachelor of Music with Teacher Certification. Jury committees will approve applications based upon the jury performance and recommendation of the student’s principal studio instructor. Because the Bachelor of Arts program is more broadly focused and not as dependent upon performance, students who are not accepted into the Bachelor of Music or Bachelor of Music with Teacher Certification programs may continue with the BA. Transfer students who have completed two or more semesters of principal studio at another institution should audition for admission to the BM or BMTC degrees at auditions held during the first week of classes each semester for that purpose. Students may attempt to qualify for the Bachelor of Music or the Bachelor of Music with Teacher Certification program only twice.

Ensemble Participation and Requirements
1. Every full-time music major must enroll, participate and receive a passing grade in a major ensemble every semester except the student teaching semester.
2. Major ensemble requirements must be satisfied in the following ways:
   - A student in any instrumental music degree program whose major instrument is a woodwind, brass, or percussion instrument must register for MUEN 1122 Concert Band (1 sch)/MUEN 3122 Concert Band (1 sch), MUEN 1123 Symphonic Winds (1 sch)/MUEN 3123 Symphonic Winds (1 sch) and/or MUEN 1124 Concert Orchestra (1 sch)/MUEN 3124 Concert Orchestra (1 sch) or as assigned by the instrumental ensemble directors and the applied teacher, based on auditions as required.
   - A student in any instrumental music degree program whose major instrument is an orchestral stringed instrument must register for MUEN 1124 Concert Orchestra (1 sch)/MUEN 3124 Concert Orchestra (1 sch) or
   - A student in any vocal/choral/general music degree program must register for MUEN 1151 University Singers (1 sch)/MUEN 3151 University Singers (1 sch) or MUEN 1153 Chamber Choir (1 sch)/MUEN 3153 Chamber Choir (1 sch) as assigned by the choral ensemble director and the applied music teacher, based on auditions as required.
   - Pianists or guitarists in instrumental music degree normally enroll in MUEN 1151 University Singers (1 sch)/MUEN 3151 University Singers (1 sch) to fulfill the ensemble requirement. If they play a wind band or orchestral instrument well enough, they may enroll in concert band or orchestra instead.
3. Exceptions to these policies will be made only with the approval of the student’s applied teacher, the Department Chair and the appropriate ensemble director.

Policy on Course Substitutions
At times, it may be necessary for a student nearing graduation to substitute a secondary applied lesson for a techniques course when there are class scheduling conflicts. In such cases, the students may be allowed to enroll in an applied lesson with the instructor or instructors in that area in lieu of that specific methods course. Courses may include Woodwind Techniques I (MUSI 3166), Woodwind Techniques II (MUSI 3167), Brass Techniques I (MUSI 3168), Brass Techniques II (MUSI 3169), Voice Techniques (MUSI 3170), Percussion Techniques (MUSI 3188), and String Techniques (MUSI 3189). These substitutions are exceptions to be determined on a case-by-case basis by permission of the Music Department Chair.

Policy on Repeated Music Courses
Students majoring and/or minoring in music will have three opportunities to earn a “C” or better in all MUSI, MUAP, MUEN and MIND courses required on the student’s degree program/plan. Students who do not earn a “C” or better on the third attempt of a class will not be allowed to continue in courses restricted to music majors and minors, with the exception of non-major applied lessons and ensembles.

Program Description
Bachelor of Music in Performance
This degree is intended for students whose skills and interest in the performance of music are focused at the professional level. Those who elect this option must be aware that ultimate success in performance careers normally involves further study beyond the bachelor’s degree, as well as a growing accumulation of actual performance experience.

Student Learning Outcomes
Students will:
   - gain knowledge of music theory, history, literature, and culture
   - acquire skills necessary to perform, conduct, and/or compose music from various periods and genres
• acquire knowledge of performance literature appropriate to their medium

**Specific Degree Requirements**

All music majors must meet all general University and College graduation requirements, including First Year Seminars, regardless of the following specific degree requirements, unless specifically excused. All music degrees require MUSI 1307 Elements of Musical Style (3 sch), which also meets the Core Curriculum Program Fine Arts requirement. Understanding and Enjoying Music (MUSI 1306 Understanding and Enjoying Music (3 sch)) cannot count towards any degree requirement of the Bachelor of Music in Performance. No music coursework with a grade lower than "C" will be counted toward the completion of the Bachelor of Arts in Music, the Bachelor of Music with Teacher Certification, or the Bachelor of Music in Performance, with the following exception. In order to progress to the next level of applied principal lessons (MUAP courses), a student must earn at least an "A" or "B" in his/her lessons and also be recommended to advance by the jury committee. A student who does not advance to the next level of lessons, as recommended by the jury committee, can earn no higher than a "C" in applied music. Students who do not advance in lessons due to their ineligibility to take the Basic Music Skills Assessment due to other factors (i.e. theory sequence issues) are not held to this grading policy.

### General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
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<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Instrumental Performance Major Requirements</td>
<td>78</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>120-122</strong></td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

### Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *,1</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *,1</td>
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### Course Sequencing

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Fall</td>
<td>UNIV Triad</td>
<td>7</td>
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<tr>
<td></td>
<td>MUSI 1311 Musicianship I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MUSI 1116 Aural Training I</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MUSI 1181 Class Piano I</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MUEN 11XX - Principal Studio Lesson</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MUEN 11XX - Major Ensemble</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

1. Transfer students with 24 or more hours are exempt from First-Year Seminar.
2. Students with adequate keyboard skills may substitute Secondary Piano Studio courses for Class Piano I-IV with permission of the Music Department Chair.

* Online offering
### Second Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>MUAP 11xx - Principal Studio Lesson</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MUEN 11XX - Major Ensemble</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Hours</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>MUSI 2311 - Musicianship III</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MUSI 2116 - Aural Training III</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MUSI 2181 - Class Piano III</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MUAP 23xx - Principal Studio Lesson</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MUEN 11XX - Major Ensemble</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>UCCP Course</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Hours</strong></td>
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</table>

### Third Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Fall</td>
<td>MUSI 3346 - Form and Analysis of Tonal Music</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MUSI 3253 - Basic Conducting</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>MUAP 33xx - Principal Lesson</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MUEN 31XX - Major Ensemble</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>UCCP Course</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>UD Music Elective</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Hours</strong></td>
<td><strong>17</strong></td>
</tr>
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### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUAP 43xx - Principal Lesson</td>
<td>3</td>
</tr>
<tr>
<td>MUEN 31XX - Major Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 4085 - Senior Recital</td>
<td>0</td>
</tr>
<tr>
<td>MUSI 4360 - STUDIES IN PEDAGOGY</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language Course</td>
<td>3</td>
</tr>
<tr>
<td>UCCP Course</td>
<td>3</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

### Courses

#### Music Courses

**MUSI 1116 Aural Training I**

1 Semester Credit Hour (1 Lecture Hour)

A companion course to MUSI 1311, designed to strengthen the understanding of theoretical principles through the development of aural perception and skills; exercises in melodic, harmonic, and rhythmic dictation; and drill in sight singing.

**TCCNS:** MUSI 1116

**MUSI 1117 Aural Training II**

1 Semester Credit Hour (1 Lecture Hour)

Continuation of MUSI 1116; a companion course to MUSI 1312.

**Prerequisite:** MUSI 1116 and 1311.

**TCCNS:** MUSI 1117

**MUSI 1181 Class Piano I**

1 Semester Credit Hour (1 Lab Hour)

Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.

**TCCNS:** MUSI 1181

**MUSI 1182 Class Piano II**

1 Semester Credit Hour (1 Lab Hour)

Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.

**TCCNS:** MUSI 1182

**MUSI 1301 Fundamentals of Music**

3 Semester Credit Hours (3 Lecture Hours)

Designed to teach beginning music students the basic tenet of music theory: note reading, rhythm, scales, key signatures, basic intervals and triads, and solfeggio.

**MUSI 1302 Non-major Class Piano I**

3 Semester Credit Hours (3 Lecture Hours)

Group instruction in the elements of piano playing, designed for the non-major. No previous experience necessary.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
<th>Prerequisites</th>
<th>TCCNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 1303</td>
<td>Basic Guitar I</td>
<td>3</td>
<td>Group instruction in the fundamentals of guitar playing, designed for the non-major. The student must furnish an acceptable instrument. No previous experience necessary.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSI 1306</td>
<td>Understanding and Enjoying Music</td>
<td>3</td>
<td>A course for the non-music major. Study of selected music literature of contrasting styles and forms with emphasis on listening to music with understanding.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSI 1307</td>
<td>Elements of Musical Style</td>
<td>3</td>
<td>A survey of selected western and non-western musical styles, based upon the analysis of the characteristic use of the elements of music. Required for music majors and recommended for non-majors with a significant high school music background.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSI 1310</td>
<td>History of Rock and Roll</td>
<td>3</td>
<td>A general survey of composers, performers, and styles of rock and roll. Emphasis on understanding stylistic elements of music, including rhythm, texture, form, and harmony.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSI 1311</td>
<td>Musicianship I</td>
<td>3</td>
<td>First principles of chord progression and phrase harmonization. Theory assessment required prior to enrollment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSI 1312</td>
<td>Musicianship II</td>
<td>3</td>
<td>Continuation of MUSI 1311, with a study of more advanced chord structures and their placement within the phrase through written exercises, analysis, and correlated keyboard projects.</td>
<td>MUSI 1311 and 1116.</td>
<td></td>
</tr>
<tr>
<td>MUSI 2116</td>
<td>Aural Training III</td>
<td>1</td>
<td>Continuation of MUSI 1117, a companion course to MUSI 2311. Designed to further the understanding of advanced theoretical principles and techniques through related aural exercises, dictation, and sight singing.</td>
<td>MUSI 1117 and 1312.</td>
<td></td>
</tr>
<tr>
<td>MUSI 2117</td>
<td>Aural Training IV</td>
<td>1</td>
<td>Continuation of MUSI 2116, a companion course to MUSI 2312.</td>
<td>MUSI 2116 and 2311.</td>
<td></td>
</tr>
<tr>
<td>MUSI 2181</td>
<td>Class Piano III</td>
<td>1</td>
<td>Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.</td>
<td>MUSI 1182.</td>
<td></td>
</tr>
<tr>
<td>MUSI 2302</td>
<td>Non-major Class Piano II</td>
<td>3</td>
<td>Extension of skill development begun in MUSI 1302 Non-Major Class Piano I.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSI 2303</td>
<td>Basic Guitar II</td>
<td>3</td>
<td>Extension of skill development begun in MUSI 1303 - BASIC GUITAR I. The student must furnish an acceptable instrument.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSI 2311</td>
<td>Musicianship III</td>
<td>3</td>
<td>Continuation of MUSI 1312. A broad summary of classical and chromatic harmony, explored through written exercises, analysis, and correlated keyboard drill.</td>
<td>MUSI 1312 and 2116.</td>
<td></td>
</tr>
<tr>
<td>MUSI 2312</td>
<td>Musicianship IV</td>
<td>3</td>
<td>Continuation of MUSI 2311. An exploration of 20th-century techniques through written exercises, analysis, and correlated keyboard drill.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSI 3085</td>
<td>Junior Recital</td>
<td>0</td>
<td>Required for all students presenting a Junior Recital in partial fulfillment of the requirements for the Bachelor of Music in Performance Degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Department Chair.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSI 3162</td>
<td>Diction for Singers I</td>
<td>1</td>
<td>Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in English and French.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MUSI 2311 Diction for Singers II
1 Semester Credit Hour (1 Lecture Hour)
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in Italian and German.

MUSI 3166 Woodwind Techniques I
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the oboe, bassoon, and saxophone. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3167 Woodwind Techniques II
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the flute and clarinet. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3168 Brass Techniques I
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the trumpet and French horn. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3169 Brass Techniques II
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the trombone, euphonium, and tuba. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3170 Voice Techniques for Instrumentalists
1 Semester Credit Hour (1 Lab Hour)
Group instruction and practical experience in the fundamentals of voice production and song interpretation for the instrumental music educator. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3188 Percussion Techniques
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the instruments of the percussion family. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3189 String Techniques
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the violin, viola, 'cello, and string bass. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3252 Foundations of Music Programs
2 Semester Credit Hours (2 Lecture Hours)
A survey of the historical, social, and philosophical bases of music education in the United States, psychological theories of learning and musical responsiveness, and studies of how these foundations have been applied in various types of music curricula.

MUSI 3253 Basic Conducting
2 Semester Credit Hours (2 Lecture Hours)
A skills acquisition course designed to give students competence in basic baton techniques and musical control of an ensemble. Includes score study and musical terminology.

MUSI 3310 History of Jazz
3 Semester Credit Hours (3 Lecture Hours)
A study of jazz styles, influences, trends, innovators, and literature. Readings include interviews and articles that discuss origins of jazz, definitions of jazz, and race politics of jazz. No previous experience is necessary.

MUSI 3334 Music Cultures of the World
3 Semester Credit Hours (3 Lecture Hours)
The course introduces the student to ethnomusicology and the cross-cultural study of music and society. It emphasizes the role of music in human life, and explores music and performance from around the world. The student will learn about classical, folk and popular styles found on all seven continents. This course is appropriate for any student of any musical background.

MUSI 3345 Composition
1-3 Semester Credit Hours
Creative writing with a view toward developing an individual style of musical composition. Variable credit, 1, 2, or 3 hrs. One private lesson per week.
Prerequisite: MUSI 2312 and 2117.

MUSI 3346 Form and Analysis of Tonal Music
3 Semester Credit Hours (3 Lecture Hours)
Analysis of the melodic and harmonic design of tonal music, including the aural and visual analysis of scores for piano, voice, chamber ensembles, and orchestra.
Prerequisite: MUSI 2312 and 2117.

MUSI 3354 Advanced Conducting
3 Semester Credit Hours (3 Lecture Hours)
A continuation of MUSI 3252. Advanced experiences with score preparation and effective ensemble rehearsal and management techniques.
Prerequisite: MUSI 3252.

MUSI 3370 Class Voice
3 Semester Credit Hours (3 Lecture Hours)
Group instruction and practical experience in the fundamentals of voice production, music reading, and song interpretation. Dramatic stage movement and singing will be explored using Classical and Broadway song literature. This course is designed for the non-major. No previous experience is necessary.

MUSI 4085 Senior Recital
0 Semester Credit Hours
Required for all students presenting a Senior Recital in partial fulfillment of the requirements for any music degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Program Coordinator.

MUSI 4334 History of Western Music I
3 Semester Credit Hours (3 Lecture Hours)
An in-depth study of the evolution of Western musical style from antiquity through the 18th-century.
Prerequisite: MUSI 1307, 2312 and 2117.

MUSI 4335 History of Western Music II
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 4334, an in-depth study of the evolution of Western musical style from the age of Beethoven to the present.
Prerequisite: MUSI 4334.
MUSI 4340  Studies in Repertoire  
3 Semester Credit Hours  
Systematic examination of the history and literature of a specific performance medium.

MUSI 4346  Orchestration and Arranging  
3 Semester Credit Hours (3 Lecture Hours)  
The compass, timbre, and techniques of arranging and/or orchestration for instruments and/or voices. Practical experience in arranging for orchestra, band, and other instrumental and vocal combinations.  
Prerequisite: MUSI 2312 and 2117.

MUSI 4355  Music for Young Children  
3 Semester Credit Hours (3 Lecture Hours)  
Study of musical development in children in grades K-6. Study of and practical experience with pedagogical approaches and materials appropriate for that age group.  
Prerequisite: MUSI 3253.

MUSI 4357  Choral Literature and Techniques  
3 Semester Credit Hours (3 Lecture Hours)  
Advanced study of the literature, pedagogy, and management techniques required for successful vocal ensembles in secondary schools.  
Prerequisite: MUSI 3253.

MUSI 4358  Instrumental Literature and Techniques  
3 Semester Credit Hours (3 Lecture Hours)  
Advanced study of the literature, pedagogy, and management techniques required for successful instrumental ensembles in secondary schools. Includes a segment pertaining to the development of marching band shows.  
Prerequisite: MUSI 3253.

MUSI 4360  STUDIES IN PEDAGOGY  
3 Semester Credit Hours  
Methods, materials and psychology of presenting musical materials to students at various ages. Evaluation of teaching materials and techniques. Classes are organized by specific performance areas.

MUSI 4385  Senior Capstone  
3 Semester Credit Hours  
The Senior Capstone is intended to provide students seeking the Bachelor of Arts in Music with an opportunity to demonstrate their musical scholarship through scholarly analysis and writing within a field of music of their choosing. May include a performance component, as in a lecture recital, but musical performance may comprise no more than 40% of the capstone project.

MUSI 4390  Topics in Music  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
May be repeated for credit when topics vary.

MUSI 4396  Directed Individual Study  
1-3 Semester Credit Hours  
See College description.

MUSI 4398  Applied Experience  
3 Semester Credit Hours  
See College description.

Music Ensemble Courses

MUEN 1122  Concert Band  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1123  Symphonic Winds  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1124  Concert Orchestra  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1127  Pep Band  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1128  Stage Band  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 1131 Piano Accompanying
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1132 Classical Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1133 Percussion Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1135 Brass Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1136 Woodwind Choir
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1137 Clarinet/Sax Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1138 Jazz Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1139 Flute Ensemble
1 Semester Credit Hour (1 Lecture Hour, 1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1140 String Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1143 Chorale
1 Semester Credit Hour (1 Lecture Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 1151 University Singers
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1153 Chamber Choir
1 Semester Credit Hour (1 Lecture Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1157 Opera Workshop
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1159 Mariachi Ensemble
1 Semester Credit Hour (1 Lab Hour)
This course is designed to assist the student in developing an increased proficiency in the art of Mariachi Performance. In accomplishing this goal, this course will allow each student to develop: 1.) performance skills on the instruments of the mariachi (including violin, trumpet, guitar, guitarron, vihuela, and harp), and 2.) knowledge of the repertoire and history of mariachi literature. Performance of an instrument in the mariachi also requires singing when the repertoire calls for it. The objective is to study the literature of Mexican Folk music; to engage in the technical study of mastering performance on the instruments of the mariachi; to represent TAMUCC in the immediate and global community through musical excellence.

MUEN 3123 Symphonic Winds
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3124 Concert Orchestra
1 Semester Credit Hour (35 Lab Hours)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3127 Pep Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3128 Stage Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3132 Classical Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 3133 Percussion Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3135 Brass Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3136 Woodwind Ensemble
1 Semester Credit Hour (2 Lab Hours)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3139 Flute Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3143 Chorale
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3151 University Singers
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3153 Chamber Choir
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3157 Opera Workshop
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3159 Mariachi Ensemble
1 Semester Credit Hour (15 Lab Hours)
This course is designed to assist the student in developing an increased proficiency in the art of Mariachi Performance. In accomplishing this goal, this course will allow each student to develop: 1) performance skills on the instruments of the mariachi (including violin, trumpet, guitar, guitarron, vihuela, and harp), and 2) knowledge of the repertoire and history of mariachi literature. Performance of an instrument in the mariachi also requires singing when the repertoire calls for it. The objective is to study the literature of Mexican Folk music; to engage in the technical study of mastering performance on the instruments of the mariachi; to represent TAMUCC in the immediate and global community through musical excellence.
Performance (Voice), BM

Music Degree Programs

Texas A&M University-Corpus Christi offers three distinct degree programs, a minor in music, and a minor in music industry.

- Music, BA (p. 191)
- Music, BM with EC-12 Teacher Certification (p. 268)
- Performance (Instrumental), BM (p. 201)
- Performance (Voice), BM (p. 211)

The mission of the Texas A&M University-Corpus Christi Department of Music is to assist students in the development of their aural, aesthetic, and analytical capacities in music. This mission is accomplished within a nurturing, student-centered environment where faculty and students strive together for attainment of the following program goals:

1. To prepare music majors for successful professional careers in music education, studio teaching, music industry, and performance;
2. To provide music courses for all students that will acquaint them with fundamental music skills, various musical styles, historical periods and literature, the functions of music in the community, and to provide opportunities to participate in the live performance of music;
3. To encourage students to be continually aware of music as an art form, and to seek opportunities for creative experiences and personal enrichment that are inherent in the study, performance, and production of music; and
4. To contribute to the artistic and cultural life of the community by providing public concerts and recitals, and other forms of appropriate musical involvement of faculty and students.

Texas A&M University-Corpus Christi is an accredited institutional member of the National Association of Schools of Music.

Music Courses Designed Specifically for Non-Majors

Music course offerings of special interest to students majoring in fields outside music include various kinds of ensemble experience:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MUSI 1301</td>
<td>Fundamentals of Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1302</td>
<td>Non-major Class Piano I</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1303</td>
<td>Basic Guitar I</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1306</td>
<td>Understanding and Enjoying Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1310</td>
<td>History of Rock and Roll</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 3310</td>
<td>History of Jazz</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 2302</td>
<td>Non-major Class Piano II</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 2303</td>
<td>Basic Guitar II</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 3334</td>
<td>Music Cultures of the World</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 3370</td>
<td>Class Voice</td>
<td>3</td>
</tr>
</tbody>
</table>

Admission to Music Degree Programs

Degree-seeking music majors are expected to perform at increasingly higher levels of technical and artistic performance throughout the course of undergraduate study. Assessment of growth in performance is accomplished at the final examination for each semester of Principal Studio enrollment. This consists of a performance before a jury committee composed of music faculty members. Jury committees are charged with two tasks: first, they recommend an advisory jury grade to each student's studio teacher, and second, they determine if students will pass to the next course in the studio sequence. In order to avoid a situation in which a student attempts the pursuit of a music degree for which there is little or no practical hope of success, the following procedures governing admission to Texas A&M-Corpus Christi music degree programs are closely followed.

All music majors share a common first-year music course enrollment, consisting of Musicanship I and II, Aural Training I and II, Class Piano I and II, First Year Principal Applied Studio I and II, and an appropriate major ensemble. The jury examination for First Year Principal Applied Studio II will serve as an application audition for the Bachelor of Music or Bachelor of Music with Teacher Certification. Jury committees will approve applications based upon the jury performance and recommendation of the student's principal studio instructor. Because the Bachelor of Arts program is more broadly focused and not as dependent upon performance, students who are not accepted into the Bachelor of Music or Bachelor of Music with Teacher Certification programs may continue with the BA. Transfer students who have completed two or more semesters of principal studio at another institution should audition for admission to the BM or BMTC degrees at auditions held during the first week of classes each semester for that purpose. Students may attempt to qualify for the Bachelor of Music or the Bachelor of Music with Teacher Certification program only twice.

Ensemble Participation and Requirements

1. Every full-time music major must enroll, participate and receive a passing grade in a major ensemble every semester except the student teaching semester.
2. Major ensemble requirements must be satisfied in the following ways:
   - A student in any instrumental music degree program whose major instrument is a woodwind, brass, or percussion instrument must register for MUEN 1122 Concert Band (1 sch)/MUEN 3122 Concert Band (1 sch), MUEN 1123 Symphonic Winds (1 sch)/MUEN 3123 Symphonic Winds (1 sch) and/or MUEN 1124 Concert Orchestra (1 sch)/MUEN 3124 Concert Orchestra (1 sch) or as assigned by the instrumental ensemble directors and the applied teacher, based on auditions as required.
   - A student in any instrumental music degree program whose major instrument is an orchestral stringed instrument must register for MUEN 1124 Concert Orchestra (1 sch)/MUEN 3124 Concert Orchestra (1 sch) or as assigned by the instrumental ensemble directors and the applied teacher, based on auditions as required.
   - A student in any vocal/choral/general music degree program must register for MUEN 1151 University Singers (1 sch)/MUEN 3151 University Singers (1 sch) or MUEN 1153 Chamber Choir (1 sch)/MUEN 3153 Chamber Choir (1 sch) as assigned by the choral ensemble director and the applied music teacher, based on auditions as required.
   - Pianists or guitarists in instrumental music degree normally enroll in MUEN 1151 University Singers (1 sch)/MUEN 3151 University Singers (1 sch) to fulfill the ensemble requirement. If they play a wind band or orchestral instrument well enough, they may enroll in concert band or orchestra instead.
3. Exceptions to these policies will be made only with the approval of the student's applied teacher, the Department Chair and the appropriate ensemble director.
Policy on Course Substitutions
At times, it may be necessary for a student nearing graduation to substitute a secondary applied lesson for a techniques course when there are class scheduling conflicts. In such cases, the students may be allowed to enroll in an applied lesson with the instructor or instructors in that area in lieu of that specific methods course. Courses may include Woodwind Techniques I (MUSI 3166), Woodwind Techniques II (MUSI 3167), Brass Techniques I (MUSI 3168), Brass Techniques II (MUSI 3169), Voice Techniques (MUSI 3170), Percussion Techniques (MUSI 3188), and String Techniques (MUSI 3189). These substitutions are exceptions to be determined on a case-by-case basis by permission of the Music Department Chair.

Policy on Repeated Music Courses
Students majoring and/or minoring in music will have three opportunities to earn a “C” or better in all MUSI, MUAP, MUEN and MIND courses required on the student’s degree program/plan. Students who do not earn a “C” or better on the third attempt of a class will not be allowed to continue in courses restricted to music majors and minors, with the exception of non-major applied lessons and ensembles.

Program Description
Bachelor of Music in Performance
This degree is intended for students whose skills and interest in the performance of music are focused at the professional level. Those who elect this option must be aware that ultimate success in performance careers normally involves further study beyond the bachelor’s degree, as well as a growing accumulation of actual performance experience.

Student Learning Outcomes
Students will:
• gain knowledge of music theory, history, literature, and culture
• acquire skills necessary to perform, conduct, and/or compose music from various periods and genres
• acquire knowledge of performance literature appropriate to their medium

Specific Degree Requirements
All music majors must meet all general University and College graduation requirements, including First Year Seminars, regardless of the following specific degree requirements, unless specifically excused. All music degrees require MUSI 1307 Elements of Musical Style (3 sch), which also meets the Core Curriculum Program Fine Arts requirement. Understanding and Enjoying Music (MUSI 1306 Understanding and Enjoying Music (3 sch)) cannot count towards any degree requirement of the Bachelor of Arts in Music. No music coursework with a grade lower than “C” will be counted toward the completion of the Bachelor of Arts in Music, the Bachelor of Music with Teacher Certification, or the Bachelor of Music in Performance, with the following exception. In order to progress to the next level of applied principal lessons (MUAP courses), a student must earn at least an “A” or “B” in his/her lessons and also be recommended to advance by the jury committee. A student who does not advance to the next level of lessons, as recommended by the jury committee, can earn no higher than a “C” in applied music. Students who do not advance in lessons due to their inability to take the Basic Music Skills Assessment due to other factors (i.e. theory sequence issues) are not held to this grading policy.

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Music Performance Major Requirements</td>
<td>78</td>
</tr>
<tr>
<td>Foreign Language Requirements</td>
<td>6</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>126-128</td>
</tr>
</tbody>
</table>

1 Full-time, first time in college students are required to take the first-year seminars.
   • UNIV 1101 First-Year Seminar I (1 sch)
   • UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I,*1</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II,*1</td>
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<tr>
<td>University Core Curriculum</td>
<td>42</td>
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Voice Performance Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>MUSI 3162</td>
<td>Diction for Singers I</td>
</tr>
<tr>
<td>MUSI 3165</td>
<td>Diction for Singers II</td>
</tr>
<tr>
<td>MUSI 1311</td>
<td>Musicanship I</td>
</tr>
<tr>
<td>MUSI 1312</td>
<td>Musicanship II</td>
</tr>
<tr>
<td>MUSI 2311</td>
<td>Musicanship III</td>
</tr>
<tr>
<td>MUSI 2312</td>
<td>Musicanship IV</td>
</tr>
<tr>
<td>MUSI 1116</td>
<td>Aural Training I</td>
</tr>
<tr>
<td>MUSI 1117</td>
<td>Aural Training II</td>
</tr>
<tr>
<td>MUSI 2116</td>
<td>Aural Training III</td>
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<tr>
<td>MUSI 2117</td>
<td>Aural Training IV</td>
</tr>
<tr>
<td>MUSI 1181</td>
<td>Class Piano I</td>
</tr>
<tr>
<td>MUSI 1182</td>
<td>Class Piano II</td>
</tr>
<tr>
<td>MUSI 2181</td>
<td>Class Piano III</td>
</tr>
<tr>
<td>MUSI 2182</td>
<td>Class Piano IV</td>
</tr>
<tr>
<td>MUSI 3346</td>
<td>Form and Analysis of Tonal Music</td>
</tr>
<tr>
<td>MUSI 4346</td>
<td>Orchestration and Arranging</td>
</tr>
<tr>
<td>MUSI 1307</td>
<td>Elements of Musical Style</td>
</tr>
<tr>
<td>MUSI 4334</td>
<td>History of Western Music I</td>
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<tr>
<td>MUSI 4335</td>
<td>History of Western Music II</td>
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<tr>
<td>MUSI 3253</td>
<td>Basic Conducting</td>
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<tr>
<td>MUSI 4340</td>
<td>Studies in Repertoire</td>
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<tr>
<td>MUSI 4360</td>
<td>STUDIES IN PEDAGOGY</td>
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<tr>
<td>MUSI 3085</td>
<td>Junior Recital</td>
</tr>
<tr>
<td>MUSI 4085</td>
<td>Senior Recital</td>
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</table>

Appropriate 8-semester sequence of Principal Applied Studio courses in one performance area

Select a minimum of 8 hours of appropriate large ensemble from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>MUEN 1151</td>
<td>University Singers</td>
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</tbody>
</table>
or MUEN 315

<table>
<thead>
<tr>
<th>Music Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 1116 Aural Training I</td>
</tr>
<tr>
<td>1 Semester Credit Hour (1 Lecture Hour)</td>
</tr>
<tr>
<td>A companion course to MUSI 1311, designed to strengthen the understanding of theoretical principles through the development of aural perception and skills; exercises in melodic, harmonic, and rhythmic dictation; and drill in sight singing.</td>
</tr>
<tr>
<td>TCCNS: MUSI 1116</td>
</tr>
<tr>
<td>MUSI 1117 Aural Training II</td>
</tr>
<tr>
<td>1 Semester Credit Hour (1 Lecture Hour)</td>
</tr>
<tr>
<td>Continuation of MUSI 1116; a companion course to MUSI 1312.</td>
</tr>
<tr>
<td>Prerequisite: MUSI 1116 and 1311.</td>
</tr>
<tr>
<td>TCCNS: MUSI 1117</td>
</tr>
<tr>
<td>MUSI 1181 Class Piano I</td>
</tr>
<tr>
<td>1 Semester Credit Hour (1 Lab Hour)</td>
</tr>
<tr>
<td>Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.</td>
</tr>
<tr>
<td>TCCNS: MUSI 1181</td>
</tr>
<tr>
<td>MUSI 1182 Class Piano II</td>
</tr>
<tr>
<td>1 Semester Credit Hour (1 Lab Hour)</td>
</tr>
<tr>
<td>Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.</td>
</tr>
<tr>
<td>TCCNS: MUSI 1182</td>
</tr>
<tr>
<td>MUSI 1301 Fundamentals of Music</td>
</tr>
<tr>
<td>3 Semester Credit Hours (3 Lecture Hours)</td>
</tr>
<tr>
<td>Designed to teach beginning music students the basic tenet of music theory: note reading, rhythm, scales, key signatures, basic intervals and triads, and solfeggio.</td>
</tr>
<tr>
<td>MUSI 1302 Non-major Class Piano I</td>
</tr>
<tr>
<td>3 Semester Credit Hours (3 Lecture Hours)</td>
</tr>
<tr>
<td>Group instruction in the elements of piano playing, designed for the non-major. No previous experience necessary.</td>
</tr>
<tr>
<td>TCCNS: MUSI 1301 and 1182</td>
</tr>
</tbody>
</table>

Transfer students with 24 or more hours are exempt from First-Year Seminar.

Students with adequate keyboard skills may substitute Secondary Piano Studio courses for Class Piano I-IV with permission of the Music Department Chair.
MUSI 2181  Class Piano III
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
Prerequisite: MUSI 1182.
TCCNS: MUSI 2181

MUSI 2182  Class Piano IV
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 2182

MUSI 2302  Non-major Class Piano II
3 Semester Credit Hours (3 Lecture Hours)
Extension of skill development begun in MUSI 1302 Non-Major Class Piano I.
Prerequisite: MUSI 1302.

MUSI 2303  Basic Guitar II
3 Semester Credit Hours (3 Lecture Hours)
Extension of skill development begun in MUSI 1303 - BASIC GUITAR I. The student must furnish an acceptable instrument.
Prerequisite: MUSI 1303.

MUSI 2311  Musicianship III
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 1312. A broad summary of classical and chromatic harmony, explored through written exercises, analysis, and correlated keyboard drill.
Prerequisite: MUSI 1312 and 1117.
TCCNS: MUSI 2311

MUSI 2312  Musicianship IV
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 2311. An exploration of 20th-century techniques through written exercises, analysis, and correlated keyboard drill.
Prerequisite: MUSI 2311 and 2116.
TCCNS: MUSI 2312

MUSI 3085  Junior Recital
0 Semester Credit Hours
Required for all students presenting a Junior Recital in partial fulfillment of the requirements for the Bachelor of Music in Performance Degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Department Chair.

MUSI 3162  Diction for Singers I
1 Semester Credit Hour (1 Lecture Hour)
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in English and French.

MUSI 3165  Diction for Singers II
1 Semester Credit Hour (1 Lecture Hour)
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in Italian and German.

MUSI 3166  Woodwind Techniques I
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the oboe, bassoon, and saxophone. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3167  Woodwind Techniques II
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the flute and clarinet. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3168  Brass Techniques I
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the trumpet and French horn. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3169  Brass Techniques II
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the trombone, euphonium, and tuba. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3170  Voice Techniques for Instrumentalists
1 Semester Credit Hour (1 Lab Hour)
Group instruction and practical experience in the fundamentals of voice production and song interpretation for the instrumental music educator. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3188  Percussion Techniques
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the instruments of the percussion family. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3189  String Techniques
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the violin, viola, ‘cello, and string bass. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3252  Foundations of Music Programs
2 Semester Credit Hours (2 Lecture Hours)
A survey of the historical, social, and philosophical bases of music education in the United States, psychological theories of learning and musical responsiveness, and studies of how these foundations have been applied in various types of music curricula.
Prerequisite: MUSI 2311 and 2116.

MUSI 3253  Basic Conducting
2 Semester Credit Hours (2 Lecture Hours)
A skills acquisition course designed to give students competence in basic baton techniques and musical control of an ensemble. Includes score study and musical terminology.
Prerequisite: MUSI 2311 and 2116.
MUSI 3310 History of Jazz
3 Semester Credit Hours (3 Lecture Hours)
A study of jazz styles, influences, trends, innovators, and literature. Readings include interviews and articles that discuss origins of jazz, definitions of jazz, and race politics of jazz. No previous experience is necessary.

MUSI 3334 Music Cultures of the World
3 Semester Credit Hours (3 Lecture Hours)
The course introduces the student to ethnomusicology and the cross-cultural study of music and society. It emphasizes the role of music in human life, and explores music and performance from around the world. The student will learn about classical, folk and popular styles found on all seven continents. This course is appropriate for any student of any musical background.

MUSI 3345 Composition
1-3 Semester Credit Hours
Creative writing with a view toward developing an individual style of musical composition. Variable credit, 1, 2, or 3 hrs. One private lesson per week.
Prerequisite: MUSI 2312 and 2117.

MUSI 3346 Form and Analysis of Tonal Music
3 Semester Credit Hours (3 Lecture Hours)
Analysis of the melodic and harmonic design of tonal music, including the aural and visual analysis of scores for piano, voice, chamber ensembles, and orchestra.
Prerequisite: MUSI 2312 and 2117.

MUSI 3354 Advanced Conducting
3 Semester Credit Hours (3 Lecture Hours)
A continuation of MUSI 3252. Advanced experiences with score preparation and effective ensemble rehearsal and management techniques.
Prerequisite: MUSI 3252.

MUSI 3370 Class Voice
3 Semester Credit Hours (3 Lecture Hours)
Group instruction and practical experience in the fundamentals of voice production, music reading, and song interpretation. Dramatic stage movement and singing will be explored using Classical and Broadway song literature. This course is designed for the non-major. No previous experience is necessary.

MUSI 4085 Senior Recital
0 Semester Credit Hours
Required for all students presenting a Senior Recital in partial fulfillment of the requirements for any music degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Program Coordinator.

MUSI 4334 History of Western Music I
3 Semester Credit Hours (3 Lecture Hours)
An in-depth study of the evolution of Western musical style from antiquity through the 18th-century.
Prerequisite: MUSI 1307, 2312 and 2117.

MUSI 4335 History of Western Music II
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 4334, an in-depth study of the evolution of Western musical style from the age of Beethoven to the present.
Prerequisite: MUSI 4334.

MUSI 4340 Studies in Repertoire
3 Semester Credit Hours
Systematic examination of the history and literature of a specific performance medium.

MUSI 4346 Orchestration and Arranging
3 Semester Credit Hours (3 Lecture Hours)
The compass, timbre, and techniques of arranging and/or orchestration for instruments and/or voices. Practical experience in arranging for orchestra, band, and other instrumental and vocal combinations.
Prerequisite: MUSI 2312 and 2117.

MUSI 4355 Music for Young Children
3 Semester Credit Hours (3 Lecture Hours)
Study of musical development in children in grades K-6. Study of and practical experience with pedagogical approaches and materials appropriate for that age group.
Prerequisite: MUSI 3252.

MUSI 4357 Choral Literature and Techniques
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the literature, pedagogy, and management techniques required for successful vocal ensembles in secondary schools.
Prerequisite: MUSI 3253.

MUSI 4358 Instrumental Literature and Techniques
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the literature, pedagogy, and management techniques required for successful instrumental ensembles in secondary schools. Includes a segment pertaining to the development of marching band shows.
Prerequisite: MUSI 3253.

MUSI 4360 STUDIES IN PEDAGOGY
3 Semester Credit Hours
Methods, materials and psychology of presenting musical materials to students at various ages. Evaluation of teaching materials and techniques. Classes are organized by specific performance areas.

MUSI 4385 Senior Capstone
3 Semester Credit Hours
The Senior Capstone is intended to provide students seeking the Bachelor of Arts in Music with an opportunity to demonstrate their musical scholarship through scholarly analysis and writing within a field of music of their choosing. May include a performance component, as in a lecture recital, but musical performance may comprise no more than 40% of the capstone project.

MUSI 4390 Topics in Music
1-3 Semester Credit Hours (1-3 Lecture Hours)
May be repeated for credit when topics vary.

MUSI 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

MUSI 4398 Applied Experience
3 Semester Credit Hours
See College description.
Music Ensemble Courses

MUEN 1122 Concert Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1123 Symphonic Winds
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1124 Concert Orchestra
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1127 Pep Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1128 Stage Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1131 Piano Accompanying
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1132 Classical Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1133 Percussion Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1135 Brass Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1136 Woodwind Choir
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 1137 Clarinet/Sax Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1138 Jazz Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1139 Flute Ensemble
1 Semester Credit Hour (1 Lecture Hour, 1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1140 String Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1143 Chorale
1 Semester Credit Hour (1 Lecture Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1151 University Singers
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1153 Chamber Choir
1 Semester Credit Hour (1 Lecture Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1157 Opera Workshop
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1159 Mariachi Ensemble
1 Semester Credit Hour (1 Lab Hour)
This course is designed to assist the student in developing an increased proficiency in the art of Mariachi Performance. In accomplishing this goal, this course will allow each student to develop: 1.) performance skills on the instruments of the mariachi (including violin, trumpet, guitar, guitarron, vihuela, and harp), and 2.) knowledge of the repertoire and history of mariachi literature. Performance of an instrument in the mariachi also requires singing when the repertoire calls for it. The objective is to study the literature of Mexican Folk music; to engage in the technical study of mastering performance on the instruments of the mariachi; to represent TAMUCC in the immediate and global community through musical excellence.

MUEN 3122 Concert Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 3123  Symphonic Winds  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3124  Concert Orchestra  
1 Semester Credit Hour (35 Lab Hours)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3127  Pep Band  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3128  Stage Band  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3132  Classical Guitar Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3133  Percussion Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3135  Brass Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3136  Woodwind Ensemble  
1 Semester Credit Hour (2 Lab Hours)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3139  Flute Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3140  String Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 3145 Chorale
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3151 University Singers
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3153 Chamber Choir
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3147 Opera Workshop
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3157 Mariachi Ensemble
1 Semester Credit Hour (15 Lab Hours)
This course is designed to assist the student in developing an increased proficiency in the art of Mariachi Performance. In accomplishing this goal, this course will allow each student to develop: 1) performance skills on the instruments of the mariachi (including violin, trumpet, guitar, guitarron, vihuela, and harp), and 2) knowledge of the repertoire and history of mariachi literature. Performance of an instrument in the mariachi also requires singing when the repertoire calls for it. The objective is to study the literature of Mexican Folk music; to engage in the technical study of mastering performance on the instruments of the mariachi; to represent TAMUCC in the immediate and global community through musical excellence.
the design/technical concentration are required to bring a design/technical portfolio and resume of their previous work in the Theatre for review to a scheduled interview prior to being admitted into Theatre courses.

- For transfers and those first-year students who missed Islander Launch, auditions/interviews, or design/technical portfolio reviews should be scheduled for the Friday or Monday before classes are scheduled to begin. Contact Mr. Kelly Russell for an audition/interview, or design/technical portfolio review and schedule a day and time.

To schedule an audition/interview time, design/technical portfolio review, to audition for a Theatre Scholarship, or for more information, contact:

Mr. Kelly Russell
Texas A&M University-Corpus Christi
6300 Ocean Drive, Unit 5724
Corpus Christi, Texas 78412
Phone: 361-825-5992
Fax: 361-825-2250
Email: kelly.russell@tamucc.edu

Scholarships for Theatre Majors and Minors
Theatre scholarships are talent-based awards given to Theatre majors and minors by annual audition/interview, and/or portfolio review. The scholarships range from $1,000 to $3,000 per academic year. To audition for a scholarship, contact Mr. Kelly Russell at the above contact information.

Admission to Theatre Degree Programs
Prospective Theatre majors are required to audition/interview prior to admission to the Theatre Program. Degree seeking Theatre majors are expected to perform at increasingly higher levels of design, technical, and/or artistic performance throughout their course of undergraduate study. Successful students in acting/directing or design/technical Theatre will maintain a 3.0 grade point average or higher in their course work and receive a positive faculty evaluation at their required annual jury. Students receiving negative faculty jury reviews or low grade point averages may be asked to re-audition or re-interview to continue as a Theatre major.

Bachelor of Arts Degree with a Major in Theatre
Students earning a Bachelor of Arts with a major in Theatre may concentrate on one of two specialties:

- Acting/Directing Concentration
- Design/Technical Theatre Concentration

Bachelor of Arts Degree with a Major in Theatre
Students earning a Bachelor of Arts with a major in Theatre may concentrate on one of two specialties:

- Acting/Directing Concentration
- Design/Technical Theatre Concentration

Theatre majors may also pursue a Bachelor of Arts in Theatre leading to Teacher Certification.

General Requirements

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<th>Requirements</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)¹</td>
<td>0-2</td>
</tr>
<tr>
<td>Theatre Major Requirements (Design/Tech or Acting/Directing)</td>
<td>61-63</td>
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Scholarships for Theatre Majors and Minors

Theatre scholarships are talent-based awards given to Theatre majors and minors by annual audition/interview, and/or portfolio review. The scholarships range from $1,000 to $3,000 per academic year. To audition for a scholarship, contact Mr. Kelly Russell at the above contact information.

Admission to Theatre Degree Programs

Prospective Theatre majors are required to audition/interview prior to admission to the Theatre Program. Degree seeking Theatre majors are expected to perform at increasingly higher levels of design, technical, and/or artistic performance throughout their course of undergraduate study. Successful students in acting/directing or design/technical Theatre will maintain a 3.0 grade point average or higher in their course work and receive a positive faculty evaluation at their required annual jury. Students receiving negative faculty jury reviews or low grade point averages may be asked to re-audition or re-interview to continue as a Theatre major.

Bachelor of Arts Degree with a Major in Theatre

Students earning a Bachelor of Arts with a major in Theatre may concentrate on one of two specialties:

- Acting/Directing Concentration
- Design/Technical Theatre Concentration

Theatre majors may also pursue a Bachelor of Arts in Theatre leading to Teacher Certification.

General Requirements

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<td>61-63</td>
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</tbody>
</table>

University Electives 11-9
Foreign Language Requirements 6
Total Credit Hours 120-122

¹ Full-time, first time in college students are required to take the first-year seminars.
- UNIV 1101 First-Year Seminar I (1 sch)
- UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements

All Theatre majors must meet all general University and College graduation requirements, including UCCP First Year Seminars, regardless of the following specific degree requirements, unless specifically exempt. It is critical for all Theatre majors to meet with their academic advisor prior to registering each semester.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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</table>

University Core Curriculum

42

Theatre Major Requirements

THEA 1120 Theatre Practicum 1 1
THEA 1121 Theatre Practicum 2 1
THEA 1351 Acting I 3
THEA 1371 Costume Technology 3
THEA 2120 Theatre Practicum 3 1
THEA 2121 Theatre Practicum 4 1
THEA 1330 Theatre Stagecraft 3
THEA 3120 Theatre Practicum 5 1
THEA 3121 Theatre Practicum 6 1
THEA 3311 Script Analysis 3
THEA 3350 Production Management 3
THEA 3370 History of the Theatre I 3
THEA 3371 History of the Theatre II 3
THEA 4100 Senior Seminar 1
THEA 4200 Senior Capstone 2
THEA 4360 Stage Direction I 3

Concentrations

Select one of the following concentrations:

Acting/Directing Concentration
THEA 1341 Stage Makeup
THEA 2336 Voice for the Actor
THEA 1352 Acting II
THEA 3300 Stage Movement
THEA 3302 Creative Dramatics (highly recommended)
THEA 3340 Audition Preparation
THEA 3375 Acting III: Period Styles
THEA 3386 Playwriting
THEA 4361 Stage Direction II
THEA 4371 Acting for the Camera
THEA 4373 Improvisation Skills Level I
THEA 4374  Improvisation Skills Level II (May be repeated for credit) (highly recommended)

**Design/Technical Theatre Concentration**

THEA 1341  Stage Makeup
THEA 3165  The Design and Technical Portfolio.
THEA 3373  Principles of Design
THEA 3380  History of Theatrical Styles
THEA 3381  Drawing and Rendering for the Stage
THEA 3382  Drafting and Computer-Aided Design for the Stage
THEA 4314  Collaborative Approaches to Design
THEA 4365  Costume Design
THEA 4370  Set Design
THEA 4375  Lighting Design

3 hours of Art classes are highly recommended

**Electives**

**Theatre**

THEA 3302  Creative Dramatics
THEA 3312  Stage Combat I
THEA 4312  Stage Combat II (May be repeated for credit)
THEA 4373  Improvisation Skills Level I
THEA 4374  Improvisation Skills Level II (May be repeated for credit)

**Dance**

DANC 1141  Ballet I
DANC 1147  Jazz Dance I
DANC 1148  Modern Dance I
DANC 1304  Dance in Performance (May be repeated for credit)
DANC 2141  Ballet II
DANC 2147  Jazz Dance II
DANC 2148  Modern Dance II
DANC 3303  World Dance and Culture
DANC 3306  Dance Choreography I
DANC 3310  History of Dance *
DANC 4306  Dance Choreography II (May be repeated for credit)
DANC 4310  Dance Instruction

**Total Hours** 105-107

1 The Theatre and Dance courses are highly recommended (but not required) as electives for the Acting/Directing, Design/Technical, and Teacher Certification areas.

* Online offering

**Course Sequencing**

**Acting/Directing**

**First Year**

**Fall**
THEA 1120  Theatre Practicum 1 1
or THEA 1121  Theatre Practicum 2 1
THEA 1371  Costume Technology 3
or THEA 1330  Theatre Stagecraft 3
THEA 1351  Acting I 3
UNIV 1101  First-Year Seminar I 1

**Spring**
THEA 1121  Theatre Practicum 2 1
or THEA 1120  Theatre Practicum 1 1
THEA 1330  Theatre Stagecraft 3
or THEA 1371  Costume Technology 3
THEA 1352  Acting II 3
THEA 4373  Improvisation Skills Level I 3
UNIV 1102  First-Year Seminar II 1
University Core Curriculum Program 3
University Core Curriculum Program 3

**Second Year**

**Fall**
THEA 2120  Theatre Practicum 3 1
THEA 2336  Voice for the Actor 3
THEA 3311  Script Analysis 3
College Language Requirement 3
University Core Curriculum Program 3

**Spring**
THEA 2121  Theatre Practicum 4 1
THEA 1341  Stage Makeup 3
THEA 3300  Stage Movement 3
THEA 3350  Production Management 3
University Core Curriculum Program 3
College Language Requirement 3

**Third Year**

**Fall**
THEA 3120  Theatre Practicum 5 1
THEA 3370  History of the Theatre I 3
THEA 3375  Acting III: Period Styles 3
THEA 4360  Stage Direction I 3
University Core Curriculum Program 3
University Core Curriculum Program 3

**Spring**
THEA 3121  Theatre Practicum 6 1
THEA 3371  History of the Theatre II 3
THEA 3340  Audition Preparation 3
THEA 4371  Acting for the Camera 3
University Core Curriculum Program 3
University Core Curriculum Program 3

**Fourth Year**

**Fall**
THEA 4100  Senior Seminar 1
THEA 4200  Senior Capstone 2
University Core Curriculum Program 3

**Hours**

14
17
13
16
16
16
University Core Curriculum Program | 3  
Upper Division Electives | 4  
---|---
| **Hours** | **13**
Spring
THEA 3385 or THEA 3386 | Musical Theatre or Playwriting | 3  
THEA 4361 | Stage Direction II | 3  
Upper Division Electives | 3  
University Core Curriculum Program | 3  
---|---
| **Hours** | **15**  
**Total Hours** | **120**

**Courses**

THEA 1120 Theatre Practicum 1  
1 Semester Credit Hour (1 Lab Hour)  
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Linked with THEA 1342 - Costume Technology.  
**Co-requisite:** SMTE 0098, THEA 1342.

THEA 1121 Theatre Practicum 2  
1 Semester Credit Hour (1 Lab Hour)  
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Linked with THEA 1330 - Theatre Stagecraft.  
**Co-requisite:** SMTE 0098, THEA 1330.

THEA 1310 Theatre Appreciation  
3 Semester Credit Hours (3 Lecture Hours)  
Survey of theatre including its history, dramatic works, stage techniques, production procedures, and relation to other art forms. Participation in productions may be required.  
**TCCNS:** DRAM 1310

THEA 1330 Theatre Stagecraft  
3 Semester Credit Hours (3 Lab Hours)  
Study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, and sound.  
**Co-requisite:** SMTE 0098, THEA 1121.

THEA 1341 Stage Makeup  
3 Semester Credit Hours (3 Lecture Hours)  
A practical exploration of basic stage makeup techniques. The student will also investigate the relationships of character to makeup and begin to understand the work needed to design makeup for a production.  
**TCCNS:** DRAM 1341

THEA 1351 Acting I  
3 Semester Credit Hours (3 Lecture Hours)  
The development of basic skills and techniques of acting, including sensory awareness, ensemble performing, character analysis, and script analysis. Emphasis on the mechanics of voice, body, emotion, and analysis as tools for the actor.  
**TCCNS:** DRAM 1351

THEA 1352 Acting II  
3 Semester Credit Hours (3 Lecture Hours)  
A continuation of Acting I with emphasis on characterization and working with extended realism. The student will study the theories of Constantin Stanislavski.  
**Prerequisite:** THEA 1351.  
**TCCNS:** DRAM 1352

THEA 1371 Costume Technology  
3 Semester Credit Hours (3 Lecture Hours)  
A beginning overview of the vocabulary and basic sewing methods of theatrical costuming.  
**Co-requisite:** SMTE 0098, THEA 1120.  
**TCCNS:** DRAM 1342

THEA 2120 Theatre Practicum 3  
1 Semester Credit Hour (1 Lab Hour)  
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.  
**Co-requisite:** SMTE 0098.

THEA 2121 Theatre Practicum 4  
1 Semester Credit Hour (1 Lab Hour)  
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.  
**Co-requisite:** SMTE 0098.

THEA 2336 Voice for the Actor  
3 Semester Credit Hours (3 Lecture Hours)  
Principles, practices, and exercises in awareness, relaxation, freedom, flexibility, and expressiveness in the actor's vocal instrument.

THEA 3120 Theatre Practicum 5  
1 Semester Credit Hour (1 Lab Hour)  
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.  
**Co-requisite:** SMTE 0098.

THEA 3121 Theatre Practicum 6  
1 Semester Credit Hour (1 Lab Hour)  
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.  
**Co-requisite:** SMTE 0098.

THEA 3165 The Design and Technical Portfolio  
1 Semester Credit Hour (1 Lecture Hour)  
A basic course in the development of the student portfolio for the areas of design and technology with emphasis in the theatrical job market or graduate school.

THEA 3300 Stage Movement  
3 Semester Credit Hours (3 Lecture Hours)  
Students will gain insights into the physical skills, practices, exercises, and staging techniques developed and used by actors and directors in theatrical performance, with an emphasis on relaxation, freedom, expressiveness, spatial relationships, and composition.  
**Prerequisite:** THEA 1351 and 1352.

THEA 3302 Creative Dramatics  
3 Semester Credit Hours (3 Lecture Hours)  
Theories and practices incorporating the techniques of creative drama in the elementary, middle, and high school classroom. Especially recommended for elementary education, recreation, and the social sciences.
THEA 3303  Theatre in the Public Schools
3 Semester Credit Hours (3 Lecture Hours)
Theories and practices of incorporating theatre activities in the public schools. Especially recommended to students of elementary and secondary education, recreation and the social sciences.

THEA 3310  Contemporary Theatre
3 Semester Credit Hours (3 Lecture Hours)
An overview of the nature and function of theatre in our contemporary society with discussion of representative plays and playwrights, theatrical styles, and avant-garde theatre. Students will explore multicultural, political, and experimental themes, attend theatrical productions, and meet with actors, designers, and directors to discuss contemporary practices.

THEA 3311  Script Analysis
3 Semester Credit Hours (3 Lecture Hours)
Students will learn the principles, techniques, and processes of dramatic structure found in written scripts as seen through the perception of the stage director, actor, and designer. A written intensive analysis of each script studied during the semester will be required. Focus will be on the theories of Aristotle and Eugene Scribe's "Well Made Play Formula". Prerequisite: THEA 1352 and 2370.

THEA 3312  Stage Combat I
3 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Stage combat is a unique form of acting and movement; integral to the training of the professional actor and an extremely marketable skill. This course is an introduction to the stage fight discipline. It is important as actors that we develop a keen sense of duality in performance; a seemingly impromptu, theatrically engaging moment of violence built upon a foundation of safe, consistent physical dialogue. In this way, we can enhance the physical lives of all the characters we play; especially those engaged in acts of violence. This course explores many fundamental acting techniques in a new light including responsibility to a partner, listening and responding, projection, articulation, spatial awareness and above all intent. May be repeated for credit.

THEA 3335  UIL Debate and Speech
3 Semester Credit Hours (3 Lecture Hours)
This course will prepare students to coach High School speech events as extra-curricular and co-curricular activities. The class will focus primarily on Texas University Interscholastic Leagues (UIL) competitions but will also cover events sponsored by the Texas Forensics Association (TFA) and the National Forensics League (NFL). Areas covered will include oral interpretation, extemporeaneous speaking, and debate.

THEA 3340  Audition Preparation
3 Semester Credit Hours (3 Lecture Hours)
Provides the student with the information and skills needed for auditioning in both professional and educational theatre. Prerequisite: THEA 1351 and 1352.

THEA 3350  Production Management
3 Semester Credit Hours (3 Lecture Hours)
This course is a survey of stage management and theatre administration. Topics to be studied include stage management, production management, professional unions, publicity/marketing, box office and house management. Prerequisite: THEA 1371, 2370 and 3311.

THEA 3370  History of the Theatre I
3 Semester Credit Hours (3 Lecture Hours)
Historical investigation of the nature and function of theatre from primitive rituals through the Renaissance periods with discussions of representative plays/playwrights, theatrical styles and stage design. Prerequisite: THEA 3311.

THEA 3371  History of the Theatre II
3 Semester Credit Hours (3 Lecture Hours)
Historical investigation of theatre from the Restoration era to the present. Focus on the nature and function as well as the critical analysis of theatre and design, various movements, and influential people. Prerequisite: THEA 3311.

THEA 3373  Principles of Design
3 Semester Credit Hours (3 Lecture Hours)
Builds upon the student’s practical lab experience and understanding of theatrical design begun in costume construction and theatre stagecraft. Students will explore the creative process of theatre production as it pertains to lighting, set, sound, props, and costume design projects. Prerequisite: THEA 1371 and 2370.

THEA 3375  Acting III: Period Styles
3 Semester Credit Hours (3 Lecture Hours)
Specific training for actors in period plays. Emphasis on training the actor for the Classical, Renaissance, Shakespearean, and Modern Periods. Prerequisite: THEA 1351 and 1352.

THEA 3380  History of Theatrical Styles
3 Semester Credit Hours (3 Lecture Hours)
A survey and research-oriented course which studies the major impact of the visual, artistic, historical, and social period movements. The course will focus on the approach that the actor, designer, director, and playwright take in developing the understanding of the environment of a play's location and time period.

THEA 3381  Drawing and Rendering for the Stage
3 Semester Credit Hours (3 Lecture Hours)
Examination of the uses of the various materials used and the development of the techniques employed in the creation and presentation of theatrical renderings and models.

THEA 3382  Drafting and Computer-Aided Design for the Stage
3 Semester Credit Hours (3 Lecture Hours)
Practical examination and practice in theatrical drafting conventions with an emphasis on the development of hand drafting techniques and CAD (computer-aided design). Prerequisite: THEA 2370.

THEA 3385  Musical Theatre
3 Semester Credit Hours (3 Lecture Hours)
The focus of the course is on musical theatre history, exploring trends in the genre, audition techniques, characterization, staging and choreography.

THEA 3386  Playwriting
3 Semester Credit Hours (3 Lab Hours)
is a fundamentals course in writing for the stage. The course will cover playwriting for monologues, 10 Minute Plays, and One Act Plays. Completion of Script Analysis is strongly suggested but not required. May be repeated for credit.
THEA 3378 Dramaturgy
3 Semester Credit Hours (3 Lecture Hours)
This class will provide a brief overview of many of the skills and tools that dramaturgs possess. We will study the history of the field and learn about currently working dramaturgs, while also covering the foundational skills of historical research, structural analysis, and theoretical application. Completion of Script Analysis is strongly suggested but not required. May be repeated for credit.

THEA 4100 Senior Seminar
1 Semester Credit Hour (1 Lecture Hour)
A seminar class for the graduating senior. The student will be given the opportunity to address individual weaknesses and strengths in preparation for graduate school or entering the job market.

THEA 4200 Senior Capstone
2 Semester Credit Hours (2 Lab Hours)
The course is designed to provide the graduating senior an opportunity to complete a final project in the acting/directing or design/tech focus areas. The student's project will be juried by the entire faculty and include a research and production component.

THEA 4312 Stage Combat II
3 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Stage combat is a continuation of the skills of acting and movement; integral to the training of the professional actor and an extremely marketable skill. This course is an advanced weaponry course in the stage fight discipline. It is important as actors that we develop a keen sense of duality in performance; a seemingly impromptu, theatrically engaging moment of violence built upon a foundation of safe, consistent physical dialogue. In this way, we can enhance the physical lives of all the characters we play; especially those engaged in acts of violence. May be repeated for credit.
Prerequisite: THEA 3312.

THEA 4313 Theatre Technologies
3 Semester Credit Hours (3 Lecture Hours)
Designed to provide a forum for intensive study of a particular aspect of modern theatrical technologies. Various topics may be selected based on current industry trends, student needs and available resources.
Prerequisite: THEA 2370, 3381 and 3382.

THEA 4314 Collaborative Approaches to Design
3 Semester Credit Hours (3 Lecture Hours)
An advanced design course where the student will examine the process of design from the standpoint of the relationship created within the design team. Through class projects, the student will participate in a design process which fosters communication of ideas, written analysis and collaboration in pursuit of a unified design in all aspects of production.
Prerequisite: THEA 3373.

THEA 4323 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study, primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or ENGL 4370.)

THEA 4333 Technical Direction
3 Semester Credit Hours (3 Lecture Hours)
An advanced technical class geared for the student who wishes to receive training and employment as a technical director.

THEA 4360 Stage Direction I
3 Semester Credit Hours (3 Lecture Hours)
The study and practical application of directing principals for the beginning director. Elements of script analysis, blocking, movement, character development, tempo, and design will be investigated as part of the directing process. The student will direct a ten-minute play for public performance.
Prerequisite: THEA 1352 and 3311.

THEA 4361 Stage Direction II
3 Semester Credit Hours (3 Lecture Hours)
An advanced study in directing with actual experience in organization, interpretation, casting, and producing the one-act play. The student will direct a one-act play for public performance.
Prerequisite: THEA 4360.

THEA 4365 Costume Design
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of costume design utilizing the human form as a design element for the stage. Encompasses theatre form, style, and drafting and drawing techniques. Students are required to work on University Theatre productions as part of this course.

THEA 4366 Scene Painting
3 Semester Credit Hours
The examination and practice of the various materials and techniques of professional scenic painting, including material mixing, faux techniques, and textural applications.

THEA 4370 Set Design
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of set design. Students will learn the fundamentals of theatre design and will apply this knowledge to projects. Projects will encompass theatre form, style, and concept utilization. Students are required to work on University Theatre productions as a part of this course.

THEA 4371 Acting for the Camera
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes the practice of various acting styles for television, video, and film. The student will receive practical experience in commercial styles, public service announcements, television and video style acting, and film scene study. (Credit may not be given for both this course and COMM 4371.)

THEA 4372 Theatre Practicum
3 Semester Credit Hours (3 Lecture Hours)
Advanced practice and participation in set construction, lighting implementation, and stagecraft. Students will build upon skills in the areas of theatre production and design for production in the University Theatre. Class meets twice weekly with additional crew/lab work requirements as well. Students are required to work on University Theatre productions as a part of this course. May be repeated twice for credit.

THEA 4373 Improvisation Skills Level I
3 Semester Credit Hours (3 Lecture Hours)
is a fundamentals of improvisation course that teaches the guidelines for successful improvisation skills. The course emphasizes the basics of successful improvisation as it pertains to Theatre, Communication, and the student who wants to improve their communication skills. May be repeated for credit.
THEA 4374 Improvisation Skills Level II
3 Semester Credit Hours (3 Lecture Hours)
is a continuation of Improvisation course level I that instructs the student in the guidelines for advanced improvisation skills. The course teaches the skills necessary for advanced individual and group improvisation. Emphasis is on ensemble performance. May be repeated for credit.
Prerequisite: THEA 4373.

THEA 4375 Lighting Design
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of lighting design. Practical experiences in University Theatre are included to provide exposure to the total design and implementation of lighting design. Students will become familiar with the techniques and aesthetics of lighting theatrical performances and will apply skills to create designs for projects and actual plays. Students are required to work on University Theatre productions as part of this course.

THEA 4380 Advanced Stage Makeup
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of designing makeup for the stage. Students will learn about aesthetics, application, and techniques of stage makeup. Students will do makeup designs as projects in the class. Students are required to work on University Theatre productions as part of this course.

THEA 4384 Theatre Production
1-3 Semester Credit Hours (1-3 Lecture Hours)
An applied production experience in which students perform in a play, work back stage or on a stage crew, or learn to design a play or musical from conception to final production. Students enrolling in the course but not cast in the shows will work backstage (technical production) or in another production capacity. Enrollment is by application only, and must be approved by the instructor in advance of registration. As part of the application process the number of credit hours will be determined by the instructor. May be repeated for credit.

THEA 4390 Topics in Theatre
1-3 Semester Credit Hours (1-3 Lecture Hours)
Study of specialized topics and themes in the areas of acting, directing, and theatre history. May be repeated when topics vary.

THEA 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description. By application.

THEA 4398 Applied Experience
3 Semester Credit Hours
See College description. By application.

Teacher Certifications
- English, BA with Secondary Teacher Certification in English Language Arts (Grades 7-12) (p. 225)
- English, BA with Teacher Certification in English Language Arts (Grades 4-8) (p. 232)
- History and Social Studies, Teacher Certification (http://catalog.tamucc.edu/undergraduate/liberal-arts/teacher-certifications/history-social-studies-teacher-certification/)
- Spanish, Teaching Certification EC-12 (p. 238)

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English, BA with Secondary Teacher Certification in English Language Arts (Grades 7-12)

Program Description

Admission and Retention Requirements for English Certification

For admission to and retention in Teacher Education in the field of English, students must achieve and sustain a 3.0 GPA in all English coursework. To qualify to take the English TExES examination, students must meet the following criteria:

1. Have at least a 2.5 GPA on all college coursework (lower and upper level).
2. Have completed one English TExES Review Workshop at Texas A&M University-Corpus Christi.

Students who meet the above criteria must request permission to take the TExES certification exam via the College of Education and Human Development's TExES Approval/Request System (TAR) at <http://tar.tamucc.edu>. The English TExES Coordinator will approve all students who meet the above criteria. In addition, it is strongly recommended that students take two English TExES Review Workshops before they take the exam.

Students may choose either a Literary Studies or a Writing Studies Emphasis.

Students returning to the University to complete certification must see the English TExES coordinator to identify any course deficiencies in the student's teaching field. All criteria outlined in the plan must be met before the student will be permitted to take the English TExES.

Students seeking certification must also qualify to take the Professional Development TExES. For information, see the College of Education and Human Development section of this catalog.

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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<td>Core Curriculum Program (p. 556)</td>
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<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
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<td>English Major Requirements</td>
<td>39</td>
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<td>Professional Development</td>
<td>24</td>
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<tr>
<td>Teacher Certification Requirements</td>
<td>9</td>
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<tr>
<td>Foreign Language Requirements</td>
<td>6</td>
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<td>Total Credit Hours</td>
<td>120-122</td>
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Program Requirements

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<tr>
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<tr>
<td>Core Curriculum Program</td>
<td>University Core Curriculum</td>
<td>42</td>
</tr>
<tr>
<td>English Major Requirements</td>
<td>Select one Emphasis from the following:</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>Literary Studies Emphasis (p. 226)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Writing Studies Emphasis (p. 226)</td>
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## Other Certification Requirements

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>READ 3351</td>
<td>Reading Assessment and Intervention</td>
<td>3</td>
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<tr>
<td>READ 3353</td>
<td>Content Area Reading for Secondary Students</td>
<td>3</td>
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<tr>
<td>READ 3355</td>
<td>Teaching Reading in the Secondary School</td>
<td>3</td>
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</tbody>
</table>

Total Hours: 90

1 When topic is approved for cluster—see S.A.I.L. or advisor for further information.

## Literary Studies Emphasis

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENGL 2370</td>
<td>Introduction to Literary Studies</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3340</td>
<td>Grammar</td>
<td>3</td>
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<tr>
<td>ENGL 3360</td>
<td>CURRENT APPROACHES TO COMPOSITION AND LITERATURE</td>
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<tr>
<td>ENGL 4351</td>
<td>Senior Capstone: Literature and Writing</td>
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<tr>
<td>ENGL 4380</td>
<td>CRITICAL APPROACHES TO LITERATURE AND CULTURE</td>
<td>3</td>
</tr>
</tbody>
</table>

### Conventions, Forms, and Genres

Select one of the following: 3

- ENGL 3323 | Young Adult Fiction                                     |       |
- ENGL 3325 | Interdisciplinary Approaches to Literature               |       |
- ENGL 3348 | Drama                                                     |       |
- ENGL 3349 | Poetry                                                    |       |
- ENGL 4340 | The Novel                                                 |       |
- ENGL 4362 | Texts and Contexts                                        |       |
- ENGL 4390 | Topics in Literary Studies                                |       |

### Literary History

Select 9 hours of the following: 9

- ENGL 3341 | British Literature before 1800                          |       |
- ENGL 3345 | British Literature since 1800                           |       |
- ENGL 3354 | American Literatures before 1900                         |       |
- ENGL 3355 | American Literatures since 1900                          |       |
- ENGL 4390 | Topics in Literary Studies                                |       |

### Literary and Cultural Studies

Select one of the following: 3

- ENGL 3321 | Film and Literature                                       |       |
- ENGL 4300 | Technologies and Cultures of the Book                     |       |
- ENGL 4360 | Gender, Sexuality and Literature                           |       |
- ENGL 4361 | Race and Ethnicity in Literature                           |       |
- ENGL 4362 | Texts and Contexts                                        |       |
- ENGL 4390 | Topics in Literary Studies                                |       |

### Writing Studies

- ENGL 3361 | STRATEGIES AND GENRES OF ADVANCED WRITING                  | 3     |

Select one of the following: 3

- ENGL 3302 | Techniques of Creative Writing                            |       |
- ENGL 3362 | Creative Writing Workshop: Survey and Practice of Genres  |       |
- ENGL 3364 | Strategies of Writing Creative Nonfiction                 |       |
- ENGL 3378 | Document Design and Publishing                             |       |
- ENGL 3379 | Writing for the Web                                        |       |

Total Hours: 36

## Writing Studies Emphasis

### Core Courses

<table>
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<tr>
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<td>Technical and Professional Writing</td>
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<tr>
<td>ENGL 3302</td>
<td>Techniques of Creative Writing</td>
<td>3</td>
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<tr>
<td>ENGL 2303</td>
<td>Introduction to Writing Studies</td>
<td>3</td>
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<td>ENGL 3323</td>
<td>Young Adult Fiction</td>
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<tr>
<td>ENGL 3340</td>
<td>Grammar</td>
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<tr>
<td>ENGL 3360</td>
<td>CURRENT APPROACHES TO COMPOSITION AND LITERATURE</td>
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<tr>
<td>ENGL 3363</td>
<td>Foundations of Rhetoric</td>
<td>3</td>
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<tr>
<td>ENGL 4352</td>
<td>Capstone in Writing Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

### Writing Studies Electives 3000-level

Select one of the following: 3

- ENGL 3361 | STRATEGIES AND GENRES OF ADVANCED WRITING                  |       |
- ENGL 3362 | Creative Writing Workshop: Survey and Practice of Genres  |       |
- ENGL 3364 | Strategies of Writing Creative Nonfiction                 |       |
- ENGL 3378 | Document Design and Publishing                             |       |
- ENGL 3379 | Writing for the Web                                        |       |
- ENGL 3380 | Visual Rhetoric                                            |       |

### Writing Studies Electives 4000-level

Select one of the following: 3

- ENGL 4320 | Professional Writing Workshop                              |       |
- ENGL 4321 | Grants and Proposals                                       |       |
- ENGL 4322 | Writing in the Nonprofit Agencies                          |       |
- ENGL 4325 | Writing Across Cultures and Contexts                       |       |
- ENGL 4335 | Creative Writing Studio: Development of Craft              |       |
- ENGL 4345 | Rhetorics, Literacies, and Writing                          |       |
- ENGL 4350 | Studies in Poetics: Theory, Form, and Practice             |       |
- ENGL 4385 | Studies in Creative Writing                                |       |
- ENGL 4391 | Topics in Writing Studies                                  |       |
- ENGL 4398 | Applied Experience                                         |       |

### Literary Studies

1 course from Conventions, Forms, and Genres 3

1 course from Literary History 3

1 course from Literary and Cultural Studies 3

Total Hours: 39

### Note:

Students seeking teacher certification in English Language Arts (7-12) must take the courses listed above in addition to the Core Curriculum Program curriculum and all professional development courses. Please see the College of Education and Human Development for the list of professional development requirements.
Courses

ENGL 0001 Grammar I
0 Semester Credit Hours (3 Lecture Hours)
Grammatical structures that enable students to better comprehend and use academic English are the focus of the course. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0002 Listening and Speaking I
0 Semester Credit Hours (3 Lecture Hours)
This course provides short and focused activities to help students improve their English listening and speaking skills. It includes practice in both mastering the larger message and key words, phrases and specific sounds to assist students in developing better speaking and comprehension skills. Students will practice giving academic presentations as well as practice speaking in small groups and individually.

ENGL 0003 Reading I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will develop the reading skills essential for academic learning and inquiry in the context of authentic academic reading tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive reading tasks of increasing complexity. Contemporary academic and literary texts will be used to develop students' critical reading and vocabulary, writing, listening, and speaking skills.

ENGL 0004 Writing I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the writing skills essential for academic success including sentence, paragraph, and basic essay writing. This course is aimed at students planning to study, or are already studying, at university level in English.

ENGL 0005 Recitation I
0 Semester Credit Hours (3 Lecture Hours)
This course provides students with a structured, scheduled academic environment providing the opportunity to complete assignments and work closely with their language instructor. Instructors utilize materials from student courses to facilitate activities and discussions that will increase comprehension of academic material and further students' abilities to work independently in academic settings. Each week, the course will focus on the language skills and vocabulary needed for the students' courses. Additionally, there will be a focus on study skills and time management needed for success in academic settings. Students will leave the course better equipped for university level academic course work and a thorough understanding of time management and appropriate study habits for the university.

ENGL 0011 Grammar II
0 Semester Credit Hours (3 Lecture Hours)
This course will focus on high-intermediate grammatical structures that enable students to better comprehend and use academic English. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situation relevant to the American college context.

ENGL 0012 Listening and Speaking II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the listening, note-taking, and presentation skills essential for academic learning, inquiry, and communication in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminars will be used to develop students' critical thinking skills.

ENGL 0013 Reading II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will study texts across several different academic disciplines in order to develop their understanding of the rhetorical styles and conventions used and applied within the English language. Students will practice identifying audience, purpose, theme, main ideas, and details within several different genres of writing. Students will also develop a variety of strategies to improve their reading comprehension and efficiency, including annotation, vocabulary-building, and discussions regarding written materials.

ENGL 0014 Writing II
0 Semester Credit Hours
In this course, students will develop a foundation in the writing skills critical to academic success. Students will apply knowledge of audience, purpose, voice, arrangement, and style in varied writing tasks by writing across several different genres. Genres practiced in this course may include, but are not limited to: emails, newsletters, personal narratives, fiction, academic essays, and magazine/news articles. Students will learn grammar and vocabulary conventions as they apply to different genres and apply these skills in writing tasks of increasing complexity throughout the semester.

ENGL 0022 Listening and Speaking III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will learn and apply listening, note-taking, and presentation skills essential for academic learning, inquiry, and discourse in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminars will be used to develop students' critical thinking skills.

ENGL 0023 Reading and Writing III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will improve upon and apply the reading skills essential for academic learning, inquiry, and discourse in the context of authentic academic reading tasks. Students will build vocabulary through extensive and intensive reading tasks of increasing complexity. Contemporary academic tests about writing will be used to develop students' critical reading, academic vocabulary, and complex writing skills. There will be a number of in-class written tasks and prompts that will stimulate free writing practice and introduce students to various styles of writing. Students will also use these written tasks to develop editing skills through the writing process. The final project will be a collection of these written tasks in the form of a portfolio.
ENGL 0036 US Culture
0 Semester Credit Hours (3 Lecture Hours)
This course will offer English Language Learners a means for analyzing and evaluating the complex social and moral issues that are specific to the social and moral landscape of the United States. As students examine their own cultures and compare them with others, culture shock and cultural conflict may be lessened and appreciation for cultural differences may be strengthened. Students will engage in interactive tasks, including researching and case analysis of topics and social, academic and professional issues, especially those suggested by the extensive reading component of this course. Through the process of reading, discussion, analysis and writing students in this class will enrich their understanding of today’s global society while at the same time they are sharpening their academic English skills.

ENGL 0037 Critical Thinking
0 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to develop the critical thinking skills needed to interpret and assess arguments and information. This course will highlight the language skills essential for critically analyzing and discussing the quality of the information and opinions presented in authentic texts and listening selections. The course will concentrate on detecting errors of reasoning in short and long passages, evaluating evidence in written and verbal arguments, detecting logical inconsistencies, removing vagueness and ambiguity through word choice and phrasing, and identifying the point or purpose of someone’s remarks. Through examining these topics, students will be able to thoughtfully respond to others’ opinions in a clear, logical, and informed way. Students will leave the course better prepared to collect, synthesize, and evaluate information and feel more confident in presenting their perspectives in an academic setting.

ENGL 0099 Integrated Reading and Writing Non-Course Based Development
0 Semester Credit Hours
ENGL 0099 is designed to develop student’s critical reading and academic writing skills on an individualized basis through tutoring. The course fulfills TSI requirements for reading and writing. TSI compliance staff will approve each student for this course. Approval is based on test score and/or by academic standing.

ENGL 0399 Integrated Reading and Writing
3 Semester Credit Hours (3 Lecture Hours)
A portfolio-based course with required tutoring (lab) time focused on the writing and reading processes, including strategies for invention, revision, and editing, and techniques of active reading, such as analysis, inference, summary, and evaluating texts. Students will enter ENGL 0399 through Texas Success Initiative (TSI) mandated remediation. (Not counted toward graduation)

ENGL 1301 Composition I
3 Semester Credit Hours (3 Lecture Hours)
Principles, techniques, and processes of written composition, textual analysis, and critical thinking.
TCCNS: ENGL 1301

ENGL 1302 Writing and Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to writing studies, rhetoric, and academic research (information literacy). Students will read, apply, and reflect on the current research and scholarship in writing studies, especially threshold concepts, kinds of knowledge about writing, and rhetoric. Students will learn how to transfer, deepen, and extend their ability to use writing in various contexts.
Prerequisite: ENGL 1301.
TCCNS: ENGL 1302

ENGL 2303 Introduction to Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course will review current scholarship on writing studies, including threshold concepts, activity theory, and genre studies. It will consider various perspectives on the uses of writing to provide students with an intellectual and practical understanding of writing. This course provides a starting point for the more specific studies of writing that occur in other writing studies courses.

ENGL 2316 Literature and Culture
3 Semester Credit Hours (3 Lecture Hours)
Introduction to literatures that raise aesthetic, cultural, social, and/or political issues that affect and reflect the human condition across regions, cultures, and nations. Sample topics: Crossing Borders, The City in Literature, Islands and Islanders, Science and Fiction.
TCCNS: ENGL 2331

ENGL 2332 Literature of the Western World: From the Classics to the Renaissance
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Ancient World to the Renaissance.
TCCNS: ENGL 2332

ENGL 2333 Literature of the Western World: From the Enlightenment to the Present
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Enlightenment to the present.
TCCNS: ENGL 2333

ENGL 2370 Introduction to Literary Studies
3 Semester Credit Hours
An introduction to literary analysis and scholarship for the intermediate writer. Emphasis placed on genres of literature, literary research, and expository and analytical composition. Familiarizes students with the various disciplines and related conversations within English Studies. Should be taken by sophomore-level English majors in the Literary Studies emphasis, and by Literary Studies and Creative Writing minors.
Prerequisite: ENGL 1302.

ENGL 2371 Exploring Social Media
3 Semester Credit Hours (3 Lecture Hours)
In this course we will examine and discuss current issues related to social media within a rhetorical framework. We will use different social media platforms to share and discuss in order to provide hands-on experience in these environments. Social media will be explored at the micro level as students will review their online social media presence to better understand how readers view them online. From the macro level we will identify current topics that affect the design and use of social media platforms and applications.
ENGL 3167  English as a Second/Foreign Language Tutoring  
1 Semester Credit Hour  
Students pursuing the Advanced TESOL Certificate will supplement ENGL 3367 (TESOL Seminar: Methods) with practical experience tutoring English learners. Students will write reflectively about those experiences. As needed, students will undergo site-specific training.  
Co-requisite: ENGL 3367.

ENGL 3301  Technical and Professional Writing  
3 Semester Credit Hours  
A course designed to help students gain practical experience in finding and interpreting information and writing reports and documents for specialized audiences in the technical and professional world. ENGL 3301 will be held in a computer-assisted classroom.

ENGL 3302  Techniques of Creative Writing  
3 Semester Credit Hours (3 Lecture Hours)  
Introduces students to the theoretical knowledge and practical experience used in creative writing. Focuses on poetry, creative nonfiction, and short fiction. For all majors.

ENGL 3310  Technical and Professional Writing for Computer Science  
3 Semester Credit Hours (3 Lecture Hours)  
Designed specifically for computer science majors, this course focuses on developing students ability to (1) use writing to communicate effectively with a range of audiences about technology; (2) identify, analyze, and appropriately integrate relevant information in their writing; (3) make informed judgments about their uses of writing based on ACM’s and IEEE’s code of ethics; and (4) develop their ability to function effectively individually and as members of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.

ENGL 3321  Film and Literature  
3 Semester Credit Hours (3 Lecture Hours)  
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.  
Prerequisite: ENGL 1302 and 2332 or ENGL 2333, 2334 or 2335.

ENGL 3323  Young Adult Fiction  
3 Semester Credit Hours (3 Lecture Hours)  
Literary study of young adult literature through analysis, discussion, and interpretation. The course emphasizes literary issues connected with society, culture, history, and genre.

ENGL 3325  Interdisciplinary Approaches to Literature  
3 Semester Credit Hours (3 Lecture Hours)  
In recent decades, it has become common to study literature in light of other disciplinary perspectives-and to study other disciplines as they are depicted in literature. From these interdisciplinary approaches has emerged a distinct mode of analysis that examines texts within their broader social and cultural milieu. In this course students will earn to use cross-disciplinary methods to interpret literature and culture. Topics will vary, but may include Religion, Medicine, and American Literature, Disability Narratives in the Eighteenth Century, Trauma and the City in Twentieth-Century Literature.

ENGL 3330  Current Events and Literature  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines literature in the context of current issues and events. Students will place literature in conversation with social, political, and cultural trends as a means of engaging with and understanding these trends and the debates associated with them. Using reading, writing, and discussion as modes of critical inquiry, students will discover the critical role that literature plays in representing, responding to, and shaping current events.

ENGL 3339  Introduction to Linguistics  
3 Semester Credit Hours (3 Lecture Hours)  
Introductory survey course covering phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3340  Grammar  
3 Semester Credit Hours (3 Lecture Hours)  
Presents a general descriptive overview of English grammar and provides a structural framework for analyzing English sentences.

ENGL 3341  British Literature before 1800  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of poetry, drama, and prose before 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).  
* May be taken concurrently.

ENGL 3345  British Literature since 1800  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of British poetry, drama, and prose since 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).  
* May be taken concurrently.

ENGL 3348  Drama  
3 Semester Credit Hours (3 Lecture Hours)  
A genre-oriented study of dramatic literature, using a wide range of texts. Variable content.

ENGL 3349  Poetry  
3 Semester Credit Hours (3 Lecture Hours)  
A genre-oriented study of poetry using a wide range of texts. Variable content.

ENGL 3354  American Literatures before 1900  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of American poetry, drama, and prose from the country’s pre-European beginnings to 1900 with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 3303).  
* May be taken concurrently.

ENGL 3355  American Literatures since 1900  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of American poetry, drama, and prose from 1900 to the present with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 3303).  
* May be taken concurrently.
ENGL 3360  CURRENT APPROACHES TO COMPOSITION AND LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
Prepares prospective teachers to create developmentally appropriate learning environments and tasks that enable student success in writing and the study of literature in Language Arts and English courses. Prepares students to meet the increased writing and reading expectations in all subject areas, including their own writing.

ENGL 3361  STRATEGIES AND GENRES OF ADVANCED WRITING
3 Semester Credit Hours (3 Lecture Hours)
Students will practice-writing in situated contexts (such as their majors, careers, and/or other professional interests) and across genres to develop more advanced and reflective writing strategies. By studying theories of writing; engaging in writing as a craft; and drafting, revising, and editing texts; students will refine and become more reflective in their writing processes.

ENGL 3362  Creative Writing Workshop: Survey and Practice of Genres
3 Semester Credit Hours (3 Lecture Hours)
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3363  Foundations of Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
This course will study the historical and theoretical development of rhetoric through the works of principal thinkers. Students will analyze rhetorical concepts in their relation to civic, cultural, political, and pedagogical developments and the construction of knowledge and will use rhetorical concepts to produce logical, ethical, and moral arguments.

ENGL 3364  Strategies of Writing Creative Nonfiction
3 Semester Credit Hours (3 Lecture Hours)
Explores the uses of creative nonfiction through reading and writing about published works of experienced writers and scholars in the field and practicing a variety of creative nonfiction techniques and genres (e.g. literary journalism, memoir, and the personal narrative).

ENGL 3365  Second Language Acquisition
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to second language acquisition. The course is designed to be accessible to students from a wide variety of backgrounds and no basic knowledge of the linguistic structure of English will be assumed. This course will address issues related to how second language is learned by both children and adults.

ENGL 3366  Language in Society
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of language as a function of several societal variables. Introduces basic concepts of language such as linguistic varieties, dialect, speech communities, and linguistic attitudes.

ENGL 3367  TESOL Seminar
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to and a critique of current and traditional methodologies of teaching English to speakers of other languages, with emphasis on aural comprehension; speaking, reading, and writing skills; testing and assessment; and linguistic-cultural differences. This course is open to all majors, but is required for students seeking the Certificate in TESOL.
Prerequisite: ENGL 3365.

ENGL 3369  Topics in Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Exploration of topics such as second language acquisition, language assessment, history of English, and contrastive analysis. May be repeated when topics vary.

ENGL 3378  Document Design and Publishing
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the integration of text and visual rhetoric, such as graphics, for all kinds of professional publications including technical documents, media, public relations pieces, and advertisements.

ENGL 3379  Writing for the Web
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes practical concepts related to writing and communication on the internet and the World Wide Web. Attention is given to finding and analyzing information; analyzing and designing WWW sites and other digital, hypertextual environments; and analyzing and composing hypertext-hypermedia materials for digital, networked environments. For all majors.

ENGL 3380  Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123  Nonprofit Writing Project
1 Semester Credit Hour
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students' professor in the regular course will be the instructor of record for the projects course.

ENGL 4300  Technologies and Cultures of the Book
3 Semester Credit Hours (3 Lecture Hours)
Working with a range of print media, students will learn to analyze the interplay between the text's content and its formal features. Students will build the skills to think and write analytically about the materiality of texts.

ENGL 4305  Major Authors
3 Semester Credit Hours (3 Lecture Hours)
This course studies the significant works of a major literary author. Texts are viewed through a variety of critical perspectives and placed in the context of the writer's life and of the society, culture, and history of the times. May be repeated once for credit when authors vary.

ENGL 4320  Professional Writing Workshop
3 Semester Credit Hours (3 Lecture Hours)
This course is tailored for individual students' writing and publishing projects in their disciplines.

ENGL 4321  Grants and Proposals
3 Semester Credit Hours (3 Lecture Hours)
This course will teach students the grant proposal writing process, including identifying sources of funding, conducting research to support funding applications, and tailoring each proposal to a specific funding agency. Students will receive experience writing actual proposals on behalf of local organizations and agencies.
ENGL 4322 Writing in the Nonprofit Agencies
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the specific kinds writing of professionals in the nonprofit world do, including internal communication in an agency, writing for the public, document creation, fund raising, board relations, and other relevant topics.

ENGL 4324 Editing & Style
3 Semester Credit Hours (3 Lecture Hours)
Practice in methods, tools, and principles of editing for nonfiction and technical publications. Emphasis on a rhetorical understanding of levels of editing, managing the editorial process, and grammar and style.

ENGL 4325 Writing Across Cultures and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Through writing, students will study how groups perceive, understand, and communicate with and about each other. The course may focus on a specific type of writing (cross cultural expository writing, travel writing, cross cultural writing in industry), or on the linguistic and rhetorical practices of a cross-cultural community (latino/a rhetoric, African-American rhetorics, etc).

ENGL 4335 Creative Writing Studio: Development of Craft
3 Semester Credit Hours (3 Lecture Hours)
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a studio setting. Guides students to focus on a major project in one genre with sustained practice of techniques and revision. Open to students of all levels, from the novice to the advanced. For all majors.

ENGL 4340 The Novel
3 Semester Credit Hours (3 Lecture Hours)

ENGL 4345 Rhetorics, Literacies, and Writing
3 Semester Credit Hours (3 Lecture Hours)
This course examines the history and major theories of rhetoric, literacy, and composition, and explores how they influence contemporary cultural productions.

ENGL 4350 Studies in Poetics: Theory, Form, and Practice
3 Semester Credit Hours (3 Lecture Hours)
Develops students' theoretical knowledge of poetics and practical experience of writing in traditional forms, from the Anglo-American tradition to the culturally diverse movements and innovation of form. Focusing on works written by poets about poetry and poetics primarily from the 19th to the 21st centuries. For all majors.

ENGL 4351 Senior Capstone: Literature and Writing
3 Semester Credit Hours (3 Lecture Hours)
A study of literature in English for graduating seniors in the Literary Studies Emphasis. Emphasis is placed on genre, research, and analytical expository writing.
Prerequisite: ENGL 2370, 3303 or 2303.

ENGL 4352 Capstone in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course is the culminating experience for the Writing Studies emphasis in English. Students review, reflect on, integrate, and apply their learning from previous courses and experiences. Students create digital portfolios for career and publishing opportunities, emphasizing selection, revision, reflection, and presentation. In addition, students identify, evaluate, and annotate texts and resources that will be available for students in future Writing Studies courses.

ENGL 4352 Writing Across Cultures and Contexts
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to literature that explores issues of gender and sexuality. It focuses on relevant literary periods and conventions, as well as on the historical, social, and cultural contexts of artistic productions. Sample topics: women's literature, queer literature, literature and masculinity.

ENGL 4361 Race and Ethnicity in Literature
3 Semester Credit Hours (3 Lecture Hours)
Topics focus on a variety of cross-cultural issues in historical and/or contemporary texts by Caribbean, British Indian, Native American, African American, Chicano/a, and/or other underrepresented authors.

ENGL 4362 Texts and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Study of literary and cultural texts that raise issues of community and social relations, diversity, multiculturalism, and/or globalization. Sample topics: Medicine and Religion in American Literature, Traveling Histories, the Global City, and Literary Regionalism in Transnational Context. May be repeated once for credit when topics vary.

ENGL 4370 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study, primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or THEA 4323.)

ENGL 4380 CRITICAL APPROACHES TO LITERATURE AND CULTURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected perspectives and critical approaches to literature and culture, including an examination of some of the theoretical assumptions upon which they are based, as well as their implications for the way we think about literature, human identity, and the power of language.
Prerequisite: ENGL 2370.

ENGL 4385 Studies in Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Students will focus on the craft of a specific genre or type of writing through reading experts' advice, reading and analyzing examples written by practitioners, and engaging in peer-response workshops with classmates. Attention will be paid to publication opportunities available for writers in that genre.

ENGL 4390 Topics in Literary Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4391 Topics in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

ENGL 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description.
ENGL 4399 TESOL Practicum
3 Semester Credit Hours
Practical experience teaching English to second language learners. Students will observe, plan, and teach ESL lessons. Instructional support provides opportunities to discuss and reflect upon teaching experiences and help students connect theory, methods, and practice. This course enhances the TESOL Certification, but is not required for it. Cannot be repeated for credit.

English, BA with Teacher Certification in English Language Arts (Grades 4-8)

Program Description
Admission and Retention Requirements for English Certification
For admission to and retention in Teacher Education in the field of English, students must achieve and sustain a 3.0 GPA in all English coursework. To qualify to take the English TExES examination, students must meet the following criteria:

1. Have at least a 2.5 GPA on all college coursework (lower and upper level).
2. Have completed one English TExES Review Workshop at Texas A&M University-Corpus Christi. This workshop must be taken in the semester prior to the term the student takes the TExES.

Students who meet the above criteria must request permission to take the TExES certification exam via the College of Education and Human Development’s TExES Approval/Request System at <http://tar.tamucc.edu>. The English TExES Coordinator will approve all students who meet the above criteria. In addition, it is strongly recommended that students take a second English TExES Review Workshop in the semester that they take the exam.

There is no difference between a Literary Studies or Writing Studies emphasis for this certification.

Students returning to the University to complete certification must see the English TExES coordinator to identify any course deficiencies in the student’s teaching field. All criteria outlined in the plan must be met before the student will be permitted to take the English TExES.

Students seeking certification must also qualify to take the Professional Development TExES. For information, see the College of Education and Human Development section of this catalog.

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Program Requirements

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<th>Code</th>
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<td>ENGL 3360</td>
<td>CURRENT APPROACHES TO COMPOSITION AND LITERATURE</td>
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<td>ENGL 3378</td>
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<td><strong>Conventions and Genres</strong></td>
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<td>ENGL 3325</td>
<td>Interdisciplinary Approaches to Literature</td>
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<td>ENGL 3348</td>
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<td>ENGL 3349</td>
<td>Poetry</td>
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<td>ENGL 4340</td>
<td>The Novel</td>
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<td><strong>Literary and Cultural Studies</strong></td>
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<td>ENGL 3330</td>
<td>Current Events and Literature</td>
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<td>ENGL 4360</td>
<td>Gender, Sexuality and Literature</td>
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<td>ENGL 4361</td>
<td>Race and Ethnicity in Literature</td>
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<td><strong>Other Certification Requirements</strong></td>
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<td>READ 3320</td>
<td>Principles and Practices of Reading Instruction</td>
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<td>READ 3351</td>
<td>Reading Assessment and Intervention</td>
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<td>SMTE 1350</td>
<td>Fundamentals of Mathematics I</td>
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<td>Fundamentals of Mathematics II</td>
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<td>SMTE 3315</td>
<td>Foundational Approaches to the Physical Sciences</td>
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<tr>
<td>SMTE 3316</td>
<td>Foundational Approaches to the Life Sciences</td>
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<td><strong>Total Hours</strong></td>
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</table>

* Online offering
^ Blended offering

Note:

• When topic is approved for cluster - see S.A.I.L. or advisor for further information.
• Students seeking teacher certification in English Language Arts (4-8) must take the courses listed above in addition to the Core Curriculum Program curriculum and all professional development courses. Please see the College of Education and Human Development for the list of professional development requirements.

Courses

ENGL 0001 Grammar I
30 Semester Credit Hours (3 Lecture Hours)
Grammatical structures that enable students to better comprehend and use academic English are the focus of the course. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0002 Listening and Speaking I
30 Semester Credit Hours (3 Lecture Hours)
This course provides short and focused activities to help students improve their English listening and speaking skills. It includes practice in both mastering the larger message and key words, phrases and specific sounds to assist students in developing better speaking and comprehension skills. Students will practice giving academic presentations as well as practice speaking in small groups and individually.

ENGL 0003 Reading I
30 Semester Credit Hours (3 Lecture Hours)
In this course, students will develop the reading skills essential for academic learning and inquiry in the context of authentic academic reading tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive reading tasks of increasing complexity. Contemporary academic and literary texts will be used to develop students’ critical reading and vocabulary, writing, listening, and speaking skills.

ENGL 0004 Writing I
30 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the writing skills essential for academic success including sentence, paragraph, and basic essay writing. This course is aimed at students planning to study, or are already studying, at university level in English.

ENGL 0005 Recitation I
30 Semester Credit Hours (3 Lecture Hours)
This course provides students with a structured, scheduled academic environment providing the opportunity to complete assignments and work closely with their language instructor. Instructors utilize materials from student courses to facilitate activities and discussions that will increase comprehension of academic material and further students’ abilities to work independently in academic settings. Each week, the course will focus on the language skills and vocabulary needed for the students’ courses. Additionally, there will be a focus on study skills and time management needed for success in academic settings. Students will leave the course better equipped for university level academic course work and a thorough understanding of time management and appropriate study habits for the university.

ENGL 0011 Grammar II
30 Semester Credit Hours (3 Lecture Hours)
This course will focus on high-intermediate grammatical structures that enable students to better comprehend and use academic English. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0012 Listening and Speaking II
30 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the listening, note-taking, and presentation skills essential for academic learning, inquiry, and communication in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminars will be used to develop students’ critical thinking skills.

ENGL 0013 Reading II
30 Semester Credit Hours (3 Lecture Hours)
In this course, students will study texts across several different academic disciplines in order to deepen their understanding of the rhetorical styles and conventions used and applied within the English language. Students will practice identifying audience, purpose, theme, main ideas, and details within several different genres of writing. Students will also develop a variety of strategies to improve their reading comprehension and efficiency, including annotation, vocabulary-building, and discussions regarding written materials.

ENGL 0014 Writing II
30 Semester Credit Hours
In this course, students will develop a foundation in the writing skills critical to academic success. Students will apply knowledge of audience, purpose, voice, arrangement, and style in varied writing tasks by writing across several different genres. Genres practiced in this course may include, but are not limited to: emails, newsletters, personal narratives, fiction, academic essays, and magazine/news articles. Students will learn grammar and vocabulary conventions as they apply to different genres and apply these skills in writing tasks of increasing complexity throughout the semester.

ENGL 0022 Listening and Speaking III
30 Semester Credit Hours (3 Lecture Hours)
In this course students will learn and apply listening, note-taking, and presentation skills essential for academic learning, inquiry, and discourse in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminars will be used to develop students’ critical thinking skills.

ENGL 0023 Reading and Writing III
30 Semester Credit Hours (3 Lecture Hours)
In this course students will improve upon and apply the reading skills essential for academic learning, inquiry, and discourse in the context of authentic academic reading tasks. Students will build vocabulary through extensive and intensive reading tasks of increasing complexity. Contemporary academic tests about writing will be used to develop students’ critical reading, academic vocabulary, and complex writing skills. There will be a number of in-class written tasks and prompts that will stimulate free writing practice and introduce students to various styles of writing. Students will also use these written tasks to develop editing skills through the writing process. The final project will be a collection of these written tasks in the form of a portfolio.
ENGL 0036 US Culture 
0 Semester Credit Hours (3 Lecture Hours) 
This course will offer English Language Learners a means for analyzing 
and evaluating the complex social and moral issues that are specific 
to the social and moral landscape of the United States. As students 
examine their own cultures and compare them with others, culture shock 
and cultural conflict may be lessened and appreciation for cultural 
differences may be strengthened. Students will engage in interactive 
tasks, including researching and case analysis of topics and social, 
academic, and professional issues, especially those suggested by the 
extensive reading component of this course. Through the process of 
reading, discussion, analysis and writing students in this class will enrich 
their understanding of today’s global society while at the same time they 
are sharpening their academic English skills.

ENGL 0037 Critical Thinking 
0 Semester Credit Hours (3 Lecture Hours) 
The purpose of this course is to develop the critical thinking skills 
needed to interpret and assess arguments and information. This 
course will highlight the language skills essential for critically 
analyzing and discussing the quality of the information and opinions 
presented in authentic texts and listening selections. The course will 
concentrate on detecting errors of reasoning in short and long passages, 
evaluating evidence in written and verbal arguments, detecting logical 
inhomogeneities, removing vagueness and ambiguity through word choice 
and phrasing, and identifying the point or purpose of someone’s remarks. 
Through examining these topics, students will be able to thoughtfully 
respond to others’ opinions in a clear, logical, and informed way. Students 
will leave the course better prepared to collect, synthesize, and evaluate 
information and feel more confident in presenting their perspectives in an 
academic setting.

ENGL 0099 Integrated Reading and Writing Non-Course Based Development 
0 Semester Credit Hours 
ENGL 0099 is designed to develop student’s critical reading and 
academic writing skills on an individualized basis through tutoring. The 
course fulfills TSI requirements for reading and writing. TSI compliance 
staff will approve each student for this course. Approval is based on test 
score and/or by academic standing.

ENGL 0399 Integrated Reading and Writing 
3 Semester Credit Hours (3 Lecture Hours) 
A portfolio-based course with required tutoring (lab) time focused on the 
writing and reading processes, including strategies for invention, revision, 
and editing, and techniques of active reading, such as analysis, inference, 
summary, and evaluating texts. Students will enter ENGL 0399 through 
Texas Success Initiative (TSI) mandated remediation. (Not counted 
toward graduation) 

ENGL 1301 Composition I 
3 Semester Credit Hours (3 Lecture Hours) 
Principles, techniques, and processes of written composition, textual 
analysis, and critical thinking. 
TCCNS: ENGL 1301

ENGL 1302 Writing and Rhetoric 
3 Semester Credit Hours (3 Lecture Hours) 
Introduces students to writing studies, rhetoric, and academic research 
(information literacy). Students will read, apply, and reflect on the 
current research and scholarship in writing studies, especially threshold 
concepts, kinds of knowledge about writing, and rhetoric. Students will 
learn how to transfer, deepen, and extend their ability to use writing in 
various contexts. 
Prerequisite: ENGL 1301. 
TCCNS: ENGL 1302

ENGL 2303 Introduction to Writing Studies 
3 Semester Credit Hours (3 Lecture Hours) 
This course will review current scholarship on writing studies, including 
threshold concepts, activity theory, and genre studies. It will consider 
various perspectives on the uses of writing to provide students with an 
intellectual and practical understanding of writing. This course provides 

ENGL 2316 Literature and Culture 
3 Semester Credit Hours (3 Lecture Hours) 
Introduction to literatures that raise aesthetic, cultural, social, and/ 
or political issues that affect and reflect the human condition across 
regions, cultures, and nations. Sample topics: Crossing Borders, The City 
in Literature, Islands and Islanders, Science and Fiction. 
TCCNS: ENGL 2331

ENGL 2332 Literature of the Western World: From the Classics to the Renaissance 
3 Semester Credit Hours (3 Lecture Hours) 
Study of important literary texts from the Ancient World to the Renaissance. 
TCCNS: ENGL 2332

ENGL 2333 Literature of the Western World: From the Enlightenment to the Present 
3 Semester Credit Hours (3 Lecture Hours) 
Study of important literary texts from the Enlightenment to the present. 
TCCNS: ENGL 2333

ENGL 2370 Introduction to Literary Studies 
3 Semester Credit Hours 
An introduction to literary analysis and scholarship for the intermediate 
writer. Emphasis placed on genres of literature, literary research, and 
expository and analytical composition. Familiarizes students with the 
various disciplines and related conversations within English Studies. 
Should be taken by sophomore-level English majors in the Literary 
Studies emphasis, and by Literary Studies and Creative Writing minors. 
Prerequisite: ENGL 1302.

ENGL 2371 Exploring Social Media 
3 Semester Credit Hours (3 Lecture Hours) 
In this course we will examine and discuss current issues related to 
social media within a rhetorical framework. We will use different social 
media platforms to share and discuss in order to provide hands-on 
experience in these environments. Social media will be explored at the 
macro level as students will review their online social media presence to 
better understand how readers view them online. From the macro level 
we will identify current topics that affect the design and use of social 
media platforms and applications.
ENGL 3367 English as a Second/Foreign Language Tutoring
1 Semester Credit Hour
Students pursuing the Advanced TESOL Certificate will supplement ENGL 3367 (TESOL Seminar: Methods) with practical experience tutoring English learners. Students will write reflectively about those experiences. As needed, students will undergo site-specific training.

Co-requisite: ENGL 3367.

ENGL 3301 Technical and Professional Writing
3 Semester Credit Hours
A course designed to help students gain practical experience in finding and interpreting information and writing reports and documents for specialized audiences in the technical and professional world. ENGL 3301 will be held in a computer-assisted classroom.

ENGL 3302 Techniques of Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the theoretical knowledge and practical experience used in creative writing. Focuses on poetry, creative nonfiction, and short fiction. For all majors.

ENGL 3310 Technical and Professional Writing for Computer Science
3 Semester Credit Hours (3 Lecture Hours)
Designed specifically for computer science majors, this course focuses on developing students ability to (1) use writing to communicate effectively with a range of audiences about technology; (2) identify, analyze, and appropriately integrate relevant information in their writing; (3) make informed judgments about their uses of writing based on ACM's and IEEE's code of ethics; and (4) develop their ability to function effectively individually and as members of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.

ENGL 3321 Film and Literature
3 Semester Credit Hours (3 Lecture Hours)
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.

Prerequisite: ENGL 1302 and 2332 or ENGL 2333, 2334 or 2335.

ENGL 3323 Young Adult Fiction
3 Semester Credit Hours (3 Lecture Hours)
Literary study of young adult literature through analysis, discussion, and interpretation. The course emphasizes literary issues connected with society, culture, history, and genre.

ENGL 3325 Interdisciplinary Approaches to Literature
3 Semester Credit Hours (3 Lecture Hours)
In recent decades, it has become common to study literature in light of other disciplinary perspectives-and to study other disciplines as they are depicted in literature. From these interdisciplinary approaches has emerged a distinct mode of analysis that examines texts within their broader social and cultural milieu. In this course students will earn to use cross-disciplinary methods to interpret literature and culture. Topics will vary, but may include Religion, Medicine, and American Literature, Disability Narratives in the Eighteenth Century, Trauma and the City in Twentieth-Century Literature.

ENGL 3330 Current Events and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course examines literature in the context of current issues and events. Students will place literature in conversation with social, political, and cultural trends as a means of engaging with and understanding these trends and the debates associated with them. Using reading, writing, and discussion as modes of critical inquiry, students will discover the critical role that literature plays in representing, responding to, and shaping current events.

ENGL 3339 Introduction to Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Introductory survey course covering phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3340 Grammar
3 Semester Credit Hours (3 Lecture Hours)
Presents a general descriptive overview of English grammar and provides a structural framework for analyzing English sentences.

ENGL 3341 British Literature before 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of poetry, drama, and prose before 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.

Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).

* May be taken concurrently.

ENGL 3345 British Literature since 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of British poetry, drama, and prose since 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.

Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).

* May be taken concurrently.

ENGL 3348 Drama
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of dramatic literature, using a wide range of texts. Variable content.

ENGL 3349 Poetry
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of poetry using a wide range of texts. Variable content.

ENGL 3354 American Literatures before 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from the country's pre-European beginnings to 1900 with emphasis on historical context and the exploration of literary and cultural values through written texts.

Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 3303).

* May be taken concurrently.

ENGL 3355 American Literatures since 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from 1900 to the present with emphasis on historical context and the exploration of literary and cultural values through written texts.

Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 3303).

* May be taken concurrently.
ENGL 3360  CURRENT APPROACHES TO COMPOSITION AND LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
Prepares prospective teachers to create developmentally appropriate learning environments and tasks that enable student success in writing and the study of literature in Language Arts and English courses. Prepares students to meet the increased writing and reading expectations in all subject areas, including their own writing.

ENGL 3361  STRATEGIES AND GENRES OF ADVANCED WRITING
3 Semester Credit Hours (3 Lecture Hours)
Students will practice-writing in situated contexts (such as their majors, careers, and/or other professional interests) and across genres to develop more advanced and reflective writing strategies. By studying theories of writing; engaging in writing as a craft; and drafting, revising, and editing texts; students will refine and become more reflective in their writing processes.

ENGL 3362  Creative Writing Workshop: Survey and Practice of Genres
3 Semester Credit Hours (3 Lecture Hours)
develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3363  Foundations of Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
This course will study the historical and theoretical development of rhetoric through the works of principal thinkers. Students will analyze rhetorical concepts in their relation to civic, cultural, political, and pedagogical developments and the construction of knowledge and will use rhetorical concepts to produce logical, ethical, and moral arguments.

ENGL 3364  Strategies of Writing Creative Nonfiction
3 Semester Credit Hours (3 Lecture Hours)
Explores the uses of creative nonfiction through reading and writing about published works of experienced writers and scholars in the field and practicing a variety of creative nonfiction techniques and genres (e.g. literary journalism, memoir, and the personal narrative).

ENGL 3365  Second Language Acquisition
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to second language acquisition. The course is designed to be accessible to students from a wide variety of backgrounds and no basic knowledge of the linguistic structure of English will be assumed. This course will address issues related to how second language is learned by both children and adults.

ENGL 3366  Language in Society
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of language as a function of several societal variables. Introduces basic concepts of language such as linguistic varieties, dialect, speech communities, and linguistic attitudes.

ENGL 3367  TESOL Seminar
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to and a critique of current and traditional methodologies of teaching English to speakers of other languages, with emphasis on aural comprehension; speaking, reading, and writing skills; testing and assessment; and linguistic-cultural differences. This course is open to all majors, but is required for students seeking the Certificate in TESOL.
Prerequisite: ENGL 3365.

ENGL 3369  Topics in Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Exploration of topics such as second language acquisition, language assessment, history of English, and contrastive analysis. May be repeated when topics vary.

ENGL 3378  Document Design and Publishing
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the integration of text and visual rhetoric, such as graphics, for all kinds of professional publications including technical documents, media, public relations pieces, and advertisements.

ENGL 3379  Writing for the Web
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes practical concepts related to writing and communication on the internet and the World Wide Web. Attention is given to finding and analyzing information; designing and designing WWW sites and other digital, hypertextual environments; and analyzing and composing hypertext-hypermedia materials for digital, networked environments. For all majors.

ENGL 3380  Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123  Nonprofit Writing Project
1 Semester Credit Hour
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students' professor in the regular course will be the instructor of record for the projects course.

ENGL 4300  Technologies and Cultures of the Book
3 Semester Credit Hours (3 Lecture Hours)
Working with a range of print media, students will learn to analyze the interplay between the text's content and its formal features. Students will build the skills to think and write analytically about the materiality of texts.

ENGL 4305  Major Authors
3 Semester Credit Hours (3 Lecture Hours)
This course studies the significant works of a major literary author. Texts are viewed through a variety of critical perspectives and placed in the context of the writer's life and of the society, culture, and history of the times. May be repeated once for credit when authors vary.

ENGL 4320  Professional Writing Workshop
3 Semester Credit Hours (3 Lecture Hours)
This course is tailored for individual students' writing and publishing projects in their disciplines.

ENGL 4321  Grants and Proposals
3 Semester Credit Hours (3 Lecture Hours)
This course will teach students the grant proposal writing process, including identifying sources of funding, conducting research to support funding applications, and tailoring each proposal to a specific funding agency. Students will receive experience writing actual proposals on behalf of local organizations and agencies.
ENGL 4322  Writing in the Nonprofit Agencies  
3 Semester Credit Hours (3 Lecture Hours)  
Focusses on the specific kinds of writing of professionals in the nonprofit world and, including internal communication in an agency, writing for the public, document creation, fund raising, board relations, and other relevant topics.

ENGL 4324  Editing & Style  
3 Semester Credit Hours (3 Lecture Hours)  
Practice in methods, tools, and principles of editing for nonfiction and technical publications. Emphasis on a rhetorical understanding of levels of editing, managing the editorial process, and grammar and style.

ENGL 4325  Writing Across Cultures and Contexts  
3 Semester Credit Hours (3 Lecture Hours)  
Through writing, students will study how groups perceive, understand, and communicate with and about each other. The course may focus on a specific type of writing (cross cultural expository writing, travel writing, cross cultural writing in industry), or on the linguistic and rhetorical practices of a cross-cultural community (Latino/a rhetoric, African-American rhetorics, etc).

ENGL 4335  Creative Writing Studio: Development of Craft  
3 Semester Credit Hours (3 Lecture Hours)  
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a studio setting. Guides students to focus on a major project in one genre with sustained practice of techniques and revision. Open to students of all levels, from the novice to the advanced. For all majors.

ENGL 4340  The Novel  
3 Semester Credit Hours (3 Lecture Hours)  

ENGL 4345  Rhetorics, Literacies, and Writing  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines the history and major theories of rhetoric, literacy, and composition, and explores how they influence contemporary cultural productions.

ENGL 4350  Studies in Poetics: Theory, Form, and Practice  
3 Semester Credit Hours (3 Lecture Hours)  
Develops students' theoretical knowledge of poetics and practical experience of writing in traditional forms, from the Anglo-American tradition to the culturally diverse movements and innovation of form. Focusing on works written by poets about poetry and poetics primarily from the 19th to the 21st centuries. For all majors.

ENGL 4351  Senior Capstone: Literature and Writing  
3 Semester Credit Hours (3 Lecture Hours)  
A study of literature in English for graduating seniors in the Literary Studies Emphasis. Emphasis is placed on genre, research, and analytical expository writing.  
Prerequisite: ENGL 2370, 3303 or 2303.

ENGL 4352  Capstone in Writing Studies  
3 Semester Credit Hours (3 Lecture Hours)  
This course is the culminating experience for the Writing Studies emphasis in English. Students review, reflect on, integrate, and apply their learning from previous courses and experiences. Students create digital portfolios for career and publishing opportunities, emphasizing selection, revision, reflection, and presentation. In addition, students identify, evaluate, and annotate texts and resources to include in a curated digital collection/publication that will be available for students in future Writing Studies courses.

ENGL 4360  Gender, Sexuality and Literature  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to literature that explores issues of gender and sexuality. It focuses on relevant literary periods and conventions, as well as on the historical, social, and cultural contexts of artistic productions. Sample topics: women's literature, queer literature, literature and masculinity.

ENGL 4361  Race and Ethnicity in Literature  
3 Semester Credit Hours (3 Lecture Hours)  
Topics focus on a variety of cross-cultural issues in historical and/or contemporary texts by Caribbean, British Indian, Native American, African American, Chicano/a, and/or other underrepresented authors.

ENGL 4362  Texts and Contexts  
3 Semester Credit Hours (3 Lecture Hours)  
Study of literary and cultural texts that raise issues of community and social relations, diversity, multiculturalism, and/or globalization. Sample topics: Medicine and Religion in American Literature, Traveling Histories, the Global City, and Literary Regionalism in Transnational Context. May be repeated once for credit when topics vary.

ENGL 4370  Oral Interpretation of Children's Literature  
3 Semester Credit Hours (3 Lecture Hours)  
A study, primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for this course and COMM 4323 or THEA 4323.)

ENGL 4380  CRITICAL APPROACHES TO LITERATURE AND CULTURE  
3 Semester Credit Hours (3 Lecture Hours)  
A study of selected perspectives and critical approaches to literature and culture, including an examination of some of the theoretical assumptions upon which they are based, as well as their implications for the way we think about literature, human identity, and the power of language.  
Prerequisite: ENGL 2370.

ENGL 4385  Studies in Creative Writing  
3 Semester Credit Hours (3 Lecture Hours)  
Students will focus on the craft of a specific genre or type of writing through reading experts' advice, reading and analyzing examples written by practitioners, and engaging in peer-response workshops with classmates. Attention will be paid to publication opportunities available for writers in that genre.

ENGL 4390  Topics in Literary Studies  
3 Semester Credit Hours (3 Lecture Hours)  
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4391  Topics in Writing Studies  
3 Semester Credit Hours (3 Lecture Hours)  
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4396  Directed Individual Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
See College description.

ENGL 4398  Applied Experience  
3 Semester Credit Hours (3 Lecture Hours)  
See College description.
ENGL 4399 TESOL Practicum
3 Semester Credit Hours
Practical experience teaching English to second language learners. Students will observe, plan, and teach ESL lessons. Instructional support provides opportunities to discuss and reflect upon teaching experiences and help students connect theory, methods, and practice. This course enhances the TESOL Certification, but is not required for it. Cannot be repeated for credit.

Spanish, Teaching Certification EC-12

Admission and Retention Requirements for Spanish Certification

For admission to and retention in Teacher Education in the field of Spanish, students must achieve and sustain a 2.75 GPA in all Spanish coursework. To qualify to take the Spanish (All Level) TExES examination (LOTE-613), students must meet the following criteria:

1. Have at least a 2.5 GPA on all college coursework (lower and upper level).
2. Have a 2.75 GPA on all Spanish coursework (lower and upper level).
3. Have completed one Spanish TExES Review Workshop. This workshop must be taken in the semester prior to the term the student takes the TExES.
4. Provide official permit with approval of Spanish certification coordinator or designee.

Students returning to the University to complete certification must see the Spanish certification coordinator to receive a deficiency plan. All criteria outlined in the plan must be met before the student will be permitted to take the Spanish TExES.

For further information on required professional development courses, the Professional Development TExES (PPR-160), and other Teacher Certification requirements, please see the College of Education and Human Development section of this catalog. Students should also consult the Certification Office of the College of Education and Human Development for complete and current information about Teacher Certification requirements.

Students seeking Teacher Certification in Spanish must take a minimum of 36 semester hours in Spanish, at least 30 of which must be at the upper-division level.

Degree Requirements

Program Requirements

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<th>Code</th>
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<tr>
<td>UNIV 1102</td>
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Core Curriculum Program

University Core Curriculum

Requirements

Base Language

Select two of the following:

- SPAN 2311 Spanish III
- SPAN 2312 Continuing Spanish
- SPAN 2313 Spanish for Heritage Speakers
- SPAN 2315 Language and Culture for Heritage Learners

Grammar & Writing

- SPAN 3302 Spanish Composition
- SPAN 3312 Spanish Grammar

Oral Communication

- SPAN 3303 Spanish Conversation
- or SPAN 4320 Spanish in the Americas

Linguistics

- SPAN 3311 Spanish Phonetics
- SPAN 3317 Introduction to Hispanic Linguistics
- SPAN 4327 Methods in Foreign Language Instruction

Culture & Civilization

Select one of the following:

- SPAN 3304 Spanish Civilization
- SPAN 3305 Latin American Civilization
- SPAN 3315 Civilizations of the Spanish-Speaking World

Spanish Literature

Select one of the following:

- SPAN 3320 Introduction to Spanish Literature
- SPAN 4304 Miguel de Cervantes' Don Quijote
- SPAN 4306 Modern Spanish Literature
- SPAN 4390 Topics in Spanish

Latin American Literature

Select one of the following:

- SPAN 3325 Introduction to Latin American Literature
- SPAN 4302 Mexican Narrative
- SPAN 4305 Latin American Novel
- SPAN 4390 Topics in Spanish

Translation & Applied Spanish

- SPAN 3313 Introduction to Translation
- or SPAN 3316 Spanish for the Professions

Reading and Professional Development

- EDUC 3311 School and Society
- EDUC 4311 Classroom Management
- EDUC 4321 Instructional Design for Special Populations
- EDUC 4605 Planning, Teaching, Assessment and Technology
- EDUC 4995 Clinical Teaching
- READ 3353 Content Area Reading for Secondary Students

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<th>Code</th>
<th>Title</th>
<th>Hours</th>
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Total Credit Hours 120-122
Pass both the TExES examination (LOTE-613 [Languages Other Than English]) and the PPR-160 (Pedagogy and Professional Responsibilities Test) in order to receive the Teacher Certification.

### University Electives
Select 9 hours of electives

### Foreign Language Requirement
See the College of Liberal Arts for the college language requirement.

**Total Hours**

| 120-122 |
|

* *Online offering*

^+Blended offering*

### Courses

**SPAN 1100 Introduction to Service Learning**

1 Semester Credit Hour

This is a one-credit course in which students in Spanish 1311 or 1312 may enroll and participate. This service learning course aims to promote collaborative learning between college students learning Spanish and people in the community. Available upon application. Repeatable up to 2 hours.

**SPAN 1311 Spanish I**

3 Semester Credit Hours (3 Lecture Hours)

Introduction to listening, speaking, reading and writing skills within a Spanish cultural framework. For students without previous knowledge of the language. (Language laboratory required. One hour per week.) *A lab fee is required for these courses.

**SPAN 1312 Spanish II**

3 Semester Credit Hours (3 Lecture Hours)

Continued practice in listening, speaking, reading and writing skills within a Spanish cultural framework. (Language laboratory required. One hour per week.) A lab fee is required for these courses.

**SPAN 2311 Spanish III**

3 Semester Credit Hours (3 Lecture Hours)

Study of more complex Spanish sentence structure to further listening, speaking, reading and writing skills within a Spanish cultural framework. (Language laboratory required. One hour per week.) A lab fee is required for these courses.

**SPAN 2312 Continuing Spanish**

3 Semester Credit Hours (3 Lecture Hours)

Continued development and review of all language skills at an intermediate level within a Spanish framework with an emphasis in the linguistic and cultural perspective.

**SPAN 2313 Spanish for Heritage Speakers**

3 Semester Credit Hours (3 Lecture Hours)

An introductory course designed for bilingual students who wish to enhance their linguistic skills (speaking, listening, reading and writing). This course will focus on the cultural and historical aspects related to the heritage Spanish speaker.

**SPAN 2315 Language and Culture for Heritage Learners**

3 Semester Credit Hours (3 Lecture Hours)

This course is designed to guide Spanish heritage language learners, as well as advanced learners of Spanish, in the development of their oral proficiency, written communication, and grammatical accuracy while exploring different cultural aspects from the Spanish-speaking world. It is highly recommended for students who have taken SPAN 2313 and/or who are transitioning into upper-division Spanish courses. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.

**Prerequisite:** SPAN 2313.

**SPAN 3302 Spanish Composition**

3 Semester Credit Hours (3 Lecture Hours)

A course designed to develop analytical perspectives in literary criticism and to strengthen reading and writing skills in Spanish through intensive reading of Spanish, Spanish American, and Chicano fiction.

**Prerequisite:** SPAN 2312.

**SPAN 3303 Spanish Conversation**

3 Semester Credit Hours (3 Lecture Hours)

A course designed to strengthen the student's oral proficiency in the language through selected readings, videos and oral presentations.

**Prerequisite:** SPAN 2312.

**SPAN 3304 Spanish Civilization**

3 Semester Credit Hours (3 Lecture Hours)

This course has been designed to provide a general overview of the cultural, linguistic, and historical experience of the Spanish people within its larger European context. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.

**Prerequisite:** SPAN 2312.

**SPAN 3305 Latin American Civilization**

3 Semester Credit Hours (3 Lecture Hours)

This course is designed to provide a general overview of the cultural, linguistic, and historical experience of Latin American people before and after Columbus. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum in Language, Philosophy, and Culture.

**Prerequisite:** SPAN 2312.

**SPAN 3307 Spanish Literature I**

3 Semester Credit Hours (3 Lecture Hours)

A critical approach to the study of early Spanish literature from the Middle Ages through the Eighteenth Century. Literary selections include masterpieces that establish and reflect Spain's literary tradition within its larger European context.

**SPAN 3308 Spanish Literature II**

3 Semester Credit Hours (3 Lecture Hours)

A continuation of a critical approach to the study of Spanish literature from the Nineteenth Century through the present. Representative works of Spanish Romanticism, Realism, Naturalism, and contemporary literature are studied within their larger European context.

**SPAN 3309 Spanish American Literature I**

3 Semester Credit Hours (3 Lecture Hours)

A critical approach to the study of early Spanish American literature from the Pre-Columbian Period through the Nineteenth Century. Selected readings in all literary genres, major themes, writers, and early literary movements will be studied within their larger Latin American context.
SPAN 3310 Spanish American Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish American literature from the Twentieth Century through the present. Representative works of Latin American writers and literary movements: Modernism, Realism, Avant-Garde, Regionalism, Magic-Realism are studied within their larger Latin American context.

SPAN 3311 Spanish Phonetics
3 Semester Credit Hours (3 Lecture Hours)
A course designed to study the production and discrimination of the Spanish sound system with a general overview of the geographical and social distribution of phonemic and allophonic variants.

SPAN 3312 Spanish Grammar
3 Semester Credit Hours (3 Lecture Hours)
The course will serve to expand vocabulary, further develop writing skills; understand, apply, and use Spanish grammatical structures, and communicate more accurately in written and oral Spanish within a Hispanic cultural context.

SPAN 3313 Introduction to Translation
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the theory, methods and practice of English to Spanish and Spanish to English translation of general texts from different fields. Challenges related to culture and language, as well as professional ethics will be examined.

SPAN 3315 Civilizations of the Spanish-Speaking World
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the historical, sociocultural and political experience of peoples from the Spanish-Speaking world, both from Spain and Spanish America. 
Prerequisite: SPAN 2312.

SPAN 3316 Spanish for the Professions
3 Semester Credit Hours (3 Lecture Hours)
The course stresses Health, Business and Legal terminology in Spanish to enhance communication skills and cultural knowledge that will help to serve the South Texas Spanish speaking population as well as to conduct interactions with Spanish speakers and/or businesses through the United States and the world.

SPAN 3317 Introduction to Hispanic Linguistics
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the study of language, the main subfields of Hispanic linguistics, and their application to other sciences.

SPAN 3320 Introduction to Spanish Literature
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of Spanish literature from the Middle Ages through the present. Representative works of Spanish literature are studied within their larger European context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303 have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 3325 Introduction to Latin American Literature
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of Latin American literature from the Pre-Columbian Period through the present. Selected readings in all literary genres, major themes, writers, and literary movements will be studied with a wide Latin American context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 4100 Service Learning
1 Semester Credit Hour
This is a one-credit course designed specifically for students who are preparing themselves to serve the community using their Spanish language skills. Students in this course will familiarize themselves with the methodology of a particular field (heritage language teaching, translation, interpreting, etc) to be able to interact and serve Spanish-speaking individuals in the community. Available upon application. Repeatable up to 3 hours.

SPAN 4301 Spanish Civil War and Literature
3 Semester Credit Hours (3 Lecture Hours)
Significance of the Civil War for Spanish, European, and world history. Effect of war on literary and cultural life of the country and the response of writers from Spain and Latin America. Conducted in Spanish.

SPAN 4302 Mexican Narrative
3 Semester Credit Hours (3 Lecture Hours)
Examination of representative novels and short stories reflecting the emergence of a post-revolutionary society in Mexico. Conducted in Spanish.

SPAN 4303 Spanish in the Southwest
3 Semester Credit Hours (3 Lecture Hours)
Cultural and linguistic dimensions of Spanish dialects of the Southwestern United States, with special attention to Texas Spanish and its sociolinguistic perspectives in the bilingual community at large. 
Prerequisite: SPAN 2312.

SPAN 4304 Miguel de Cervantes’ Don Quijote
3 Semester Credit Hours (3 Lecture Hours)
An advanced course designed to provide an introduction to Miguel de Cervantes’ Don Quijote.

SPAN 4305 Latin American Novel
3 Semester Credit Hours (3 Lecture Hours)
This course explores major novels from Latin America from the 20th century to the present. It examines the different problems, discourses, voices, contexts, and geographies that define this genre in Latin America.

SPAN 4306 Modern Spanish Literature
3 Semester Credit Hours (3 Lecture Hours)
A course that focuses on modern Spanish literature. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated.

SPAN 4313 Spanish Interpretation
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to methodologies, requirements, terminology, and practice of interpretation, with emphasis on simultaneous, consecutive, and sight interpretation.
Certificate Programs

- Advanced TESOL, Certificate (p. 241)
- Spanish/English Translation, Certificate (p. 247)
- TESOL, Certificate (p. 250)
- Writing for Non-Profits, Certificate (p. 255)

Advanced TESOL, Certificate

**Program Description**

The Advanced TESOL (Teachers of English to Speakers of Other Languages) Certificate provides a pathway for students to acquire and further develop skills needed for teaching English internationally or teaching English to adult second language learners in the U.S. The certificate consists of 16 semester hours of five core courses plus one credit of guided independent tutoring work.

**General Requirements**

Students must have at least an overall GPA of 2.75 in the six courses. All courses must be passed with a C or better. Students must have completed ENGL 1302 Writing and Rhetoric (3 sch) and Core Curriculum Language, Philosophy, and Culture requirements (ENGL 2316, ENGL 2332, ENGL 2333, PHIL 1301, PHIL 2306, or SPAN 3307, SPAN 3308, SPAN 3309, or SPAN 3310) with a C or better. Students must pursue the certificate in conjunction with their bachelor's degree; the certificate will be awarded upon completion of their degree. Students already holding a Bachelor's degree may also pursue a TESOL certificate. This certificate will appear on transcripts. Non-degree seeking students pursuing this certificate will be eligible for financial aid.

**Program Requirements**

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENGL 3167</td>
<td>English as a Second/Foreign Language Tutoring</td>
<td>1</td>
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<tr>
<td>ENGL 3339</td>
<td>Introduction to Linguistics</td>
<td>3</td>
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<tr>
<td>ENGL 3340</td>
<td>Grammar</td>
<td>3</td>
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<tr>
<td>ENGL 3365</td>
<td>Second Language Acquisition</td>
<td>3</td>
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<tr>
<td>ENGL 3367</td>
<td>TESOL Seminar</td>
<td>3</td>
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<td>Select one of the following:</td>
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<td>ENGL 3366</td>
<td>Language in Society</td>
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<tr>
<td>ENGL 3369</td>
<td>Topics in Linguistics</td>
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<tr>
<td>ENGL 4399</td>
<td>TESOL Practicum</td>
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<tr>
<td><strong>Total Hours</strong></td>
<td><strong>16</strong></td>
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**Course Sequencing**

Certificate Coordinator: Dr. Stephen Doolan

Students should take the courses in the following sequence to complete in the most timely manner:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td><strong>First Year</strong></td>
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<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>ENGL 3339</td>
<td>Introduction to Linguistics (offered Fall &amp; Spring)</td>
<td>3</td>
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<tr>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 3340</td>
<td>Grammar (offered Fall &amp; Spring)</td>
<td>3</td>
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In this course, students will study texts across several different academic disciplines in order to deepen their understanding of the rhetorical styles and conventions used and applied within the English language. Students will practice identifying audience, purpose, theme, main ideas, and details within several different genres of writing. Students will also develop a variety of strategies to improve their reading comprehension and efficiency, including annotation, vocabulary-building, and discussions regarding written materials.

ENGL 0014 Writing II
0 Semester Credit Hours
In this course, students will develop a foundation in the writing skills critical to academic success. Students will apply knowledge of audience, purpose, voice, arrangement, and style in varied writing tasks by writing across several different genres. Genres practiced in this course may include, but are not limited to: emails, newsletters, personal narratives, fiction, academic essays, and magazine/news articles. Students will learn grammar and vocabulary conventions as they apply to different genres and apply these skills in writing tasks of increasing complexity throughout the semester.
ENGL 0022  Listening and Speaking III  
0 Semester Credit Hours (3 Lecture Hours)
In this course students will learn and apply listening, note-taking, and presentation skills essential for academic learning, inquiry, and discourse in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminar will be used to develop students’ critical thinking skills.

ENGL 0023  Reading and Writing III  
0 Semester Credit Hours (3 Lecture Hours)
In this course students will improve upon and apply the reading skills essential for academic learning, inquiry, and discourse in the context of authentic academic reading tasks. Students will build vocabulary through extensive and intensive reading tasks of increasing complexity. Contemporary academic tests about writing will be used to develop students’ critical reading, academic vocabulary, and complex writing skills. There will e a number of in-class written tasks and prompts that will stimulate free writing practice and introduce students to various styles of writing. Students will also use these written tasks to develop editing skills through the writing process. The final project will be a collection of these written tasks in the form of a portfolio.

ENGL 0036  US Culture  
0 Semester Credit Hours (3 Lecture Hours)
This course will offer English Language Learners a means for analyzing and evaluating the complex social and moral issues that are specific to the social and moral landscape of the United States. As students examine their own cultures and compare them with others, culture shock and cultural conflict may be lessened and appreciation for cultural differences may be strengthened. Students will engage in interactive tasks, including researching and case analysis of topics and social, academic and professional issues, especially those suggested by the extensive reading component of this course. Through the process of reading, discussion, analysis and writing students in this class will enrich their understanding of today’s global society while at the same time they are sharpening their academic English skills.

ENGL 0037  Critical Thinking  
0 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to develop the critical thinking skills needed to interpret and assess arguments and information. This course will highlight the language skills essential for critically analyzing and discussing the quality of the information and opinions presented in authentic texts and listening selections. The course will concentrate on detecting errors of reasoning in short and long passages, evaluating evidence in written and verbal arguments, detecting logical inconsistencies, removing vagueness and ambiguity through word choice and phrasing, and identifying the point or purpose of someone’s remarks. Through examining these topics, students will be able to thoughtfully respond to others’ opinions in a clear, logical, and informed way. Students will leave the course better prepared to collect, synthesize, and evaluate information and feel more confident in presenting their perspectives in an academic setting.

ENGL 0099  Integrated Reading and Writing Non-Course Based Development  
0 Semester Credit Hours
ENGL 0099 is designed to develop student’s critical reading and academic writing skills on an individualized basis through tutoring. The course fulfills TSI requirements for reading and writing. TSI compliance staff will approve each student for this course. Approval is based on test score and/or by academic standing.

ENGL 0399  Integrated Reading and Writing  
3 Semester Credit Hours (3 Lecture Hours)
A portfolio-based course with required tutoring (lab) time focused on the writing and reading processes, including strategies for invention, revision, and editing, and techniques of active reading, such as analysis, inference, summary, and evaluating texts. Students will enter ENGL 0399 through Texas Success Initiative (TSI) mandated remediation. (Not counted toward graduation)

ENGL 1301  Composition I  
3 Semester Credit Hours (3 Lecture Hours)
Principles, techniques, and processes of written composition, textual analysis, and critical thinking.
TCCNS: ENGL 1301

ENGL 1302  Writing and Rhetoric  
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to writing studies, rhetoric, and academic research (information literacy). Students will read, apply, and reflect on the current research and scholarship in writing studies, especially threshold concepts, kinds of knowledge about writing, and rhetoric. Students will learn how to transfer, deepen, and extend their ability to use writing in various contexts.
Prerequisite: ENGL 1301.
TCCNS: ENGL 1302

ENGL 2303  Introduction to Writing Studies  
3 Semester Credit Hours (3 Lecture Hours)
This course will review current scholarship on writing studies, including threshold concepts, activity theory, and genre studies. It will consider various perspectives on the uses of writing to provide students with an intellectual and practical understanding of writing. This course provides a starting point for the more specific studies of writing that occur in other writing studies courses.

ENGL 2316  Literature and Culture  
3 Semester Credit Hours (3 Lecture Hours)
Introduction to literatures that raise aesthetic, cultural, social, and/or political issues that affect and reflect the human condition across regions, cultures, and nations. Sample topics: Crossing Borders, The City in Literature, Islands and Islanders, Science and Fiction.
TCCNS: ENGL 2331

ENGL 2332  Literature of the Western World: From the Classics to the Renaissance  
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Ancient World to the Renaissance.
TCCNS: ENGL 2332

ENGL 2333  Literature of the Western World: From the Enlightenment to the Present  
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Enlightenment to the present.
TCCNS: ENGL 2333

ENGL 2370  Introduction to Literary Studies  
3 Semester Credit Hours
An introduction to literary analysis and scholarship for the intermediate writer. Emphasis placed on genres of literature, literary research, and expository and analytical composition. Familiarizes students with the various disciplines and related conversations within English Studies. Should be taken by sophomore-level English majors in the Literary Studies emphasis, and by Literary Studies and Creative Writing minors.
Prerequisite: ENGL 1302.
ENGL 3371 Exploring Social Media
3 Semester Credit Hours (3 Lecture Hours)
In this course we will examine and discuss current issues related to social media within a rhetorical framework. We will use different social media platforms to share and discuss in order to provide hands-on experience in these environments. Social media will be explored at the micro level as students will review their online social media presence to better understand how readers view them online. From the macro level we will identify current topics that affect the design and use of social media platforms and applications.

ENGL 3316 English as a Second/Foreign Language Tutoring
1 Semester Credit Hour
Students pursuing the Advanced TESOL Certificate will supplement ENGL 3367 (TESOL Seminar: Methods) with practical experience tutoring English learners. Students will write reflectively about those experiences. As needed, students will undergo site-specific training.
Co-requisite: ENGL 3357.

ENGL 3301 Technical and Professional Writing
3 Semester Credit Hours
A course designed to help students gain practical experience in finding and interpreting information and writing reports and documents for specialized audiences in the technical and professional world. ENGL 3301 will be held in a computer-assisted classroom.

ENGL 3302 Techniques of Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the theoretical knowledge and practical experience used in creative writing. Focuses on poetry, creative nonfiction, and short fiction. For all majors.

ENGL 3310 Technical and Professional Writing for Computer Science
3 Semester Credit Hours (3 Lecture Hours)
Designed specifically for computer science majors, this course focuses on developing students' ability to (1) use writing to communicate effectively with a range of audiences about technology; (2) identify, analyze, and appropriately integrate relevant information in their writing; (3) make informed judgments about their uses of writing based on ACM’s and IEEE’s code of ethics; and (4) develop their ability to function effectively individually and as members of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.

ENGL 3321 Film and Literature
3 Semester Credit Hours (3 Lecture Hours)
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.
Prerequisite: ENGL 1302 and 2332 or ENGL 2333, 2334 or 2335.

ENGL 3323 Young Adult Fiction
3 Semester Credit Hours (3 Lecture Hours)
Literary study of young adult literature through analysis, discussion, and interpretation. The course emphasizes literary issues connected with society, culture, history, and genre.

ENGL 3325 Interdisciplinary Approaches to Literature
3 Semester Credit Hours (3 Lecture Hours)
In recent decades, it has become common to study literature in light of other disciplinary perspectives and to study other disciplines as they are depicted in literature. From these interdisciplinary approaches has emerged a distinct mode of analysis that examines texts within their broader social and cultural milieu. In this course students will earn to use cross-disciplinary methods to interpret literature and culture. Topics will vary, but may include Religion, Medicine, and American Literature, Disability Narratives in the Eighteenth Century, Trauma and the City in Twentieth-Century Literature.

ENGL 3330 Current Events and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course examines literature in the context of current issues and events. Students will place literature in conversation with social, political, and cultural trends as a means of engaging with and understanding these trends and the debates associated with them. Using reading, writing, and discussion as modes of critical inquiry, students will discover the critical role that literature plays in representing, responding to, and shaping current events.

ENGL 3339 Introduction to Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Introductory survey course covering phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3340 Grammar
3 Semester Credit Hours (3 Lecture Hours)
Presents a general descriptive overview of English grammar and provides a structural framework for analyzing English sentences.

ENGL 3341 British Literature before 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of poetry, drama, and prose before 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370*) or (ENGL 3303*) or (ENGL 2303*).
* May be taken concurrently.

ENGL 3345 British Literature since 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of British poetry, drama, and prose since 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370*) or (ENGL 3303*) or (ENGL 2303*).
* May be taken concurrently.

ENGL 3348 Drama
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of dramatic literature, using a wide range of texts. Variable content.

ENGL 3349 Poetry
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of poetry using a wide range of texts. Variable content.

ENGL 3354 American Literatures before 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from the country’s pre-European beginnings to 1900 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370*) or (ENGL 3303*) or (ENGL 3303*).
* May be taken concurrently.
ENGL 3355  American Literatures since 1900  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of American poetry, drama, and prose from 1900 to the present with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 2303) or (ENGL 3303).  
May be taken concurrently.

ENGL 3360  CURRENT APPROACHES TO COMPOSITION AND LITERATURE  
3 Semester Credit Hours (3 Lecture Hours)  
Prepares prospective teachers to create developmentally appropriate learning environments and tasks that enable student success in writing and the study of literature in Language Arts and English courses. Prepares students to meet the increased writing and reading expectations in all subject areas, including their own writing.

ENGL 3361  STRATEGIES AND GENRES OF ADVANCED WRITING  
3 Semester Credit Hours (3 Lecture Hours)  
Students will practice-writing in situated contexts (such as their majors, careers, and/or other professional interests) and across genres to develop more advanced and reflective writing strategies. By studying theories of writing, engaging in writing as a craft; and drafting, revising, and editing texts; students will refine and become more reflective in their writing processes.

ENGL 3362  Creative Writing Workshop: Survey and Practice of Genres  
3 Semester Credit Hours (3 Lecture Hours)  
Develops students’ skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3363  Foundations of Rhetoric  
3 Semester Credit Hours (3 Lecture Hours)  
This course will study the historical and theoretical development of rhetoric through the works of principal thinkers. Students will analyze rhetorical concepts in their relation to civic, cultural, political, and pedagogical developments and the construction of knowledge and will use rhetorical concepts to produce logical, ethical, and moral arguments.

ENGL 3364  Strategies of Writing Creative Nonfiction  
3 Semester Credit Hours (3 Lecture Hours)  
Explores the uses of creative nonfiction through reading and writing about published works of experienced writers and scholars in the field and practicing a variety of creative nonfiction techniques and genres (e.g. literary journalism, memoir, and the personal narrative).

ENGL 3365  Second Language Acquisition  
3 Semester Credit Hours (3 Lecture Hours)  
This course is an introduction to second language acquisition. The course is designed to be accessible to students from a wide variety of backgrounds and no basic knowledge of the linguistic structure of English will be assumed. This course will address issues related to how second language is learned by both children and adults.

ENGL 3366  Language in Society  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to the study of language as a function of several societal variables. Introduces basic concepts of language such as linguistic varieties, dialect, speech communities, and linguistic attitudes.

ENGL 3367  TESOL Seminar  
3 Semester Credit Hours (3 Lecture Hours)  
This course presents an introduction to and a critique of current and traditional methodologies of teaching English to speakers of other languages, with emphasis on aural comprehension; speaking, reading, and writing skills; testing and assessment; and linguistic-cultural differences. This course is open to all majors, but is required for students seeking the Certificate in TESOL.  
Prerequisite: ENGL 3365.

ENGL 3369  Topics in Linguistics  
3 Semester Credit Hours (3 Lecture Hours)  
Exploration of topics such as second language acquisition, language assessment, history of English, and contrastive analysis. May be repeated when topics vary.

ENGL 3378  Document Design and Publishing  
3 Semester Credit Hours (3 Lecture Hours)  
Focuses on the integration of text and visual rhetoric, such as graphics, for all kinds of professional publications including technical documents, media, public relations pieces, and advertisements.

ENGL 3379  Writing for the Web  
3 Semester Credit Hours (3 Lecture Hours)  
Emphasizes practical concepts related to writing and communication on the internet and the World Wide Web. Attention is given to finding and analyzing information; analyzing and designing WWW sites and other digital, hypertextual environments; and analyzing and composing hypertext-hypermedia materials for digital, networked environments. For all majors.

ENGL 3380  Visual Rhetoric  
3 Semester Credit Hours (3 Lecture Hours)  
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123  Nonprofit Writing Project  
1 Semester Credit Hour  
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students’ professor in the regular course will be the instructor of record for the projects course.

ENGL 4300  Technologies and Cultures of the Book  
3 Semester Credit Hours (3 Lecture Hours)  
Working with a range of print media, students will learn to analyze the interplay between the text’s content and its formal features. Students will build the skills to think and write analytically about the materiality of texts.

ENGL 4305  Major Authors  
3 Semester Credit Hours (3 Lecture Hours)  
This course studies the significant works of a major literary author. Texts are viewed through a variety of critical perspectives and placed in the context of the writer’s life and of the society, culture, and history of the times. May be repeated once for credit when authors vary.

ENGL 4320  Professional Writing Workshop  
3 Semester Credit Hours (3 Lecture Hours)  
This course is tailored for individual students’ writing and publishing projects in their disciplines.
ENGL 4321 Grants and Proposals
3 Semester Credit Hours (3 Lecture Hours)
This course will teach students the grant proposal writing process, including identifying sources of funding, conducting research to support funding applications, and tailoring each proposal to a specific funding agency. Students will receive experience writing actual proposals on behalf of local organizations and agencies.

ENGL 4322 Writing in the Nonprofit Agencies
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the specific kinds writing of professionals in the nonprofit world do, including internal communication in an agency, writing for the public, document creation, fund raising, board relations, and other relevant topics.

ENGL 4324 Editing & Style
3 Semester Credit Hours (3 Lecture Hours)
Practice in methods, tools, and principles of editing for nonfiction and technical publications. Emphasis on a rhetorical understanding of levels of editing, managing the editorial process, and grammar and style.

ENGL 4325 Writing Across Cultures and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Through writing, students will study how groups perceive, understand, and communicate with and about each other. The course may focus on a specific type of writing (cross cultural expository writing, travel writing, cross cultural writing in industry), or on the linguistic and rhetorical practices of a cross-cultural community (latino/a rhetoric, African-American rhetorics, etc).

ENGL 4335 Creative Writing Studio: Development of Craft
3 Semester Credit Hours (3 Lecture Hours)
Develops students’ skills as critics and writers of fiction, poetry, and creative nonfiction in a studio setting. Guides students to focus on a major project in one genre with sustained practice of techniques and revision. Open to students of all levels, from the novice to the advanced. For all majors.

ENGL 4340 The Novel
3 Semester Credit Hours (3 Lecture Hours)

ENGL 4345 Rhetorics, Literacies, and Writing
3 Semester Credit Hours (3 Lecture Hours)
This course examines the history and major theories of rhetoric, literacy, and composition, and explores how they influence contemporary cultural productions.

ENGL 4350 Studies in Poetics: Theory, Form, and Practice
3 Semester Credit Hours (3 Lecture Hours)
Develops students’ theoretical knowledge of poetics and practical experience of writing in traditional forms, from the Anglo-American tradition to the culturally diverse movements and innovation of form. Focusing on works written by poets about poetry and poetics primarily from the 19th to the 21st centuries. For all majors.

ENGL 4351 Senior Capstone: Literature and Writing
3 Semester Credit Hours (3 Lecture Hours)
A study of literature in English for graduating seniors in the Literary Studies Emphasis. Emphasis is placed on genre, research, and analytical expository writing.
Prerequisite: ENGL 2370, 3303 or 2303.

ENGL 4352 Capstone in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course is the culminating experience for the Writing Studies emphasis in English. Students review, reflect on, integrate, and apply their learning from previous courses and experiences. Students create digital portfolios for career and publishing opportunities, emphasizing selection, revision, reflection, and presentation. In addition, students identify, evaluate, and annotate texts and resources to include in a curated digital collection/publication that will be available for students in future Writing Studies courses.

ENGL 4360 Gender, Sexuality and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to literature that explores issues of gender and sexuality. It focuses on relevant literary periods and conventions, as well as on the historical, social, and cultural contexts of artistic productions. Sample topics: women’s literature, queer literature, literature and masculinity.

ENGL 4361 Race and Ethnicity in Literature
3 Semester Credit Hours (3 Lecture Hours)
Topics focus on a variety of cross-cultural issues in historical and/or contemporary texts by Caribbean, British Indian, Native American, African American, Chicano/a, and/or other underrepresented authors.

ENGL 4362 Texts and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Study of literary and cultural texts that raise issues of community and social relations, diversity, multiculturalism, and/or globalization. Sample topics: Medicine and Religion in American Literature, Traveling Histories, the Global City, and Literary Regionalism in Transnational Context. May be repeated once for credit when topics vary.

ENGL 4370 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study, primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or THEA 4323.)

ENGL 4380 CRITICAL APPROACHES TO LITERATURE AND CULTURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected perspectives and critical approaches to literature and culture, including an examination of some of the theoretical assumptions upon which they are based, as well as their implications for the way we think about literature, human identity, and the power of language.
Prerequisite: ENGL 2370.

ENGL 4385 Studies in Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Students will focus on the craft of a specific genre or type of writing through reading experts’ advice, reading and analyzing examples written by practitioners, and engaging in peer-response workshops with classmates. Attention will be paid to publication opportunities available for writers in that genre.

ENGL 4390 Topics in Literary Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4391 Topics in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.
ENGL 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

ENGL 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description.

ENGL 4399 TESOL Practicum
3 Semester Credit Hours
Practical experience teaching English to second language learners. Students will observe, plan, and teach ESL lessons. Instructional support provides opportunities to discuss and reflect upon teaching experiences and help students connect theory, methods, and practice. This course enhances the TESOL Certification, but is not required for it. Cannot be repeated for credit.

Spanish/English Translation, Certificate

Program Description
The Translation Certificate is available to Spanish majors, Spanish minors, Students in Business, International Studies and Nursing, and general public from the Corpus Christi community who wish to specialize in English-Spanish and Spanish-English translation. Translators produce a written document that was originally written in another language. Students completing this program will develop or enhance their skills to obtain employment as business, financial, healthcare and legal translators. The Certificate will require completion of 16 credits and an Exit Examination.

Student Learning Outcomes
Upon Completion of this certificate, students will:

• Analyze original texts for translation and examine the conventions of the text and genre
• Differentiate type of texts, tools, language and strategies for specialized translation
• Translate specialized texts from English into Spanish and Spanish into English in the business, financial, healthcare, commercial, and legal areas at a near-professional level

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>SPAN 3312</td>
<td>Spanish Grammar</td>
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<tr>
<td>SPAN 3313</td>
<td>Introduction to Translation</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 3316</td>
<td>Spanish for the Professions</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 4322</td>
<td>Medical, Scientific and Technical Translation</td>
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<tr>
<td>SPAN 4421</td>
<td>Business, Commercial, and Legal Translation</td>
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For more information about the certificate email: spanishtranslation@tamucc.edu.

Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 1100</td>
<td>Introduction to Service Learning</td>
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</tr>
<tr>
<td>SPAN 1311</td>
<td>Spanish I</td>
<td>3</td>
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<tr>
<td>SPAN 1312</td>
<td>Spanish II</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 2311</td>
<td>Spanish III</td>
<td>3</td>
</tr>
</tbody>
</table>

Course Sequencing

Certificate Coordinator: Dr. Rossy Lima de Padilla

Students should take the courses in the following sequence to complete in the most timely manner:
SPAN 2312 Continuing Spanish
3 Semester Credit Hours (3 Lecture Hours)
Continued development and review of all language skills at an intermediate level within a Spanish framework with an emphasis in the linguistic and cultural perspective.  
Prerequisite: SPAN 2311.  
TCCNS: SPAN 2312

SPAN 2313 Spanish for Heritage Speakers
3 Semester Credit Hours (3 Lecture Hours)
An introductory course designed for bilingual students who wish to enhance their linguistic skills (speaking, listening, reading and writing). This course will focus on the cultural and historical aspects related to the heritage Spanish speaker.  
TCCNS: SPAN 2313

SPAN 2315 Language and Culture for Heritage Learners
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to guide Spanish heritage language learners, as well as advanced learners of Spanish, in the development of their oral proficiency, written communication, and grammatical accuracy while exploring different cultural aspects from the Spanish-speaking world. It is highly recommended for students who have taken SPAN 2313 and/or who are transitioning into upper-division Spanish courses. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.  
Prerequisite: SPAN 2313.

SPAN 2302 Spanish Composition
3 Semester Credit Hours (3 Lecture Hours)
A course designed to develop analytical perspectives in literary criticism and to strengthen reading and writing skills in Spanish through intensive reading of Spanish, Spanish American, and Chicano fiction.  
Prerequisite: SPAN 2312.

SPAN 2303 Spanish Conversation
3 Semester Credit Hours (3 Lecture Hours)
A course designed to strengthen the student’s oral proficiency in the language through selected readings, videos and oral presentations.  
Prerequisite: SPAN 2312.

SPAN 2304 Spanish Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the cultural, linguistic, and historical experience of the Spanish people within its larger European context. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.  
Prerequisite: SPAN 2312.

SPAN 2305 Latin American Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide a general overview of the cultural, linguistic, and historical experience of Latin American people before and after Columbus. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum in Language, Philosophy, and Culture.  
Prerequisite: SPAN 2312.

SPAN 2307 Spanish Literature I
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of early Spanish literature from the Middle Ages through the Eighteenth Century. Literary selections include masterpieces that establish and reflect Spain’s literary tradition within its larger European context.

SPAN 3308 Spanish Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish literature from the Nineteenth Century through the present. Representative works of Spanish Romanticism, Realism, Naturalism, and contemporary literature are studied within their larger European context.

SPAN 3309 Spanish American Literature I
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of early Spanish American literature from the Pre-Columbian Period through the Nineteenth Century. Selected readings in all literary genres, major themes, writers, and early literary movements will be studied within their larger Latin American context.

SPAN 3310 Spanish American Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish American literature from the Twentieth Century through the present. Representative works of Latin American writers and literary movements: Modernism, Realism, Avant-Garde, Regionalism, Magic-Realism are studied within their larger Latin American context.

SPAN 3311 Spanish Phonetics
3 Semester Credit Hours (3 Lecture Hours)
A course designed to study the production and discrimination of the Spanish sound system with a general overview of the geographical and social distribution of phonemic and allophonic variants.

SPAN 3312 Spanish Grammar
3 Semester Credit Hours (3 Lecture Hours)
The course will serve to expand vocabulary, further develop writing skills; understand, apply, and use Spanish grammatical structures, and communicate more accurately in written and oral Spanish within a Hispanic cultural context.

SPAN 3313 Introduction to Translation
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the theory, methods and practice of English to Spanish and Spanish to English translation of general texts from different fields. Challenges related to culture and language, as well as professional ethics will be examined.

SPAN 3315 Civilizations of the Spanish-Speaking World
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the historical, sociocultural and political experience of peoples from the Spanish-Speaking world, both from Spain and Spanish America.  
Prerequisite: SPAN 2312.

SPAN 3316 Spanish for the Professions
3 Semester Credit Hours (3 Lecture Hours)
The course stresses Health, Business and Legal terminology in Spanish to enhance communication skills and cultural knowledge that will help to serve the South Texas Spanish speaking population as well as to conduct interactions with Spanish speakers and/or businesses through the United States and the world.

SPAN 3317 Introduction to Hispanic Linguistics
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the study of language, the main subfields of Hispanic linguistics, and their application to other sciences.
SPAN 3320  Introduction to Spanish Literature
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of Spanish literature from the Middle Ages through the present. Representative works of Spanish literature are studied within their larger European context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303 have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 3325  Introduction to Latin American Literature
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of Latin American literature from the Pre-Columbian Period through the present. Selected readings in all literary genres, major themes, writers, and literary movements will be studied with a wide Latin American context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 4100  Service Learning
1 Semester Credit Hour
This is a one-credit course designed specifically for students who are preparing themselves to serve the community using their Spanish language skills. Students in this course will familiarize themselves with the methodology of a particular field (heritage language teaching, translation, interpreting, etc.) to be able to interact and serve Spanish-speaking individuals in the community. Available upon application. Repeatable up to 3 hours.

SPAN 4301  Spanish Civil War and Literature
3 Semester Credit Hours (3 Lecture Hours)
Significance of the Civil War for Spanish, European, and world history. Effect of war on literary and cultural life of the country and the response of writers from Spain and Latin America. Conducted in Spanish.

SPAN 4302  Mexican Narrative
3 Semester Credit Hours (3 Lecture Hours)
Examination of representative novels and short stories reflecting the emergence of a post-revolutionary society in Mexico. Conducted in Spanish.

SPAN 4303  Spanish in the Southwest
3 Semester Credit Hours (3 Lecture Hours)
Cultural and linguistic dimensions of Spanish dialects of the Southwestern United States, with special attention to Texas Spanish and its sociolinguistic perspectives in the bilingual community at large. Prerequisite: SPAN 2312.

SPAN 4304  Miguel de Cervantes' Don Quijote
3 Semester Credit Hours (3 Lecture Hours)
An advanced course designed to provide an introduction to Miguel de Cervantes' Don Quijote.

SPAN 4305  Latin American Novel
3 Semester Credit Hours (3 Lecture Hours)
This course explores major novels from Latin America from the 20th century to the present. It examines the different problems, discourses, voices, contexts, and geographies that define this genre in Latin America.

SPAN 4306  Modern Spanish Literature
3 Semester Credit Hours (3 Lecture Hours)
A course that focuses on modern Spanish literature. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated.

SPAN 4313  Spanish Interpretation
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to methodologies, requirements, terminology, and practice of interpretation, with emphasis on simultaneous, consecutive, and sight interpretation.

SPAN 4320  Spanish in the Americas
3 Semester Credit Hours (3 Lecture Hours)
A study of the Spanish that was brought to the Americas, its development, propagation and contact with native-American languages, including the sociocultural factors that have contributed to the linguistic variation in contemporary Spanish-speaking societies.

SPAN 4322  Medical, Scientific and Technical Translation
3 Semester Credit Hours (3 Lecture Hours)
An advanced course in translation concentrating on medical, scientific and technical translation. The course is designed to extend student’s knowledge of translation theory and consolidate their skills in specialized translation. Prerequisite: (SPAN 3313).

SPAN 4327  Methods in Foreign Language Instruction
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to study the current methods in foreign languages, their application in maximizing language proficiency, and the role of the students’ culture and language during the learning process.

SPAN 4390  Topics in Spanish
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics in language or literature. These courses may also be designed to develop terminology and overall Spanish proficiency regarding specific professions: Business, Medical, Criminal Justice, Sociology, etc. May be repeated when topics vary.

SPAN 4396  Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

SPAN 4398  Applied Experience
3 Semester Credit Hours
A practical work experience related to the Spanish area and related careers. It is intended to provide an opportunity for a student to gain first-hand experience in an unfamiliar field. Consequently, Applied Experience credit may not be granted for a student’s regular work assignment or for previous work experience. Registration is by application. The application must include a clearly written description of the duties and responsibilities involved in the Applied Experience project, and be signed by the student, the on-site supervisor, and the faculty supervisor. Completed applications must be received in the Dean’s Office by the last class day of the semester preceding intended registration. This course is graded “credit” or “no credit.” No more than three semester hours of Applied Experience credit may be counted toward the baccalaureate degree. Undergraduate Applied Experience course will include no less than one hundred hours and no more than 150 hours of work experience per semester.
SPAN 4421 Business, Commercial, and Legal Translation
4 Semester Credit Hours (4 Lecture Hours)
An advanced course in translation concentrating on business, commercial and legal texts. The course is designed to extend student's knowledge of translation theory and consolidate their skills in specialized translation.
Prerequisite: (SPAN 3313).

TESOL, Certificate
Program Description
The TESOL (Teachers of English to Speakers of Other Languages) Certificate provides a pathway for students to acquire skills needed for teaching English internationally or teaching English to adult second language learners in the U.S. The certificate consists of 12 semester hours of four core courses. Students must have at least an overall GPA of 2.75 in the four courses. All courses must be passed with a C or better. Students must have completed ENGL 1302 Writing and Rhetoric (3 sch) and core curriculum Language Philosophy and Culture requirements (ENGL 2332, ENGL 2333, PHIL 1301, PHIL 2306, SPAN 3307, SPAN 3308, SPAN 3309, or SPAN 3310) with a C or better. Students must pursue the certificate in conjunction with their bachelor's degree; the certificate will be awarded upon completion of their degree. Students already holding a bachelor's degree may also pursue a TESOL certificate.

Program Requirements

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<td>Required Courses:</td>
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<tr>
<td>ENGL 3339</td>
<td>Introduction to Linguistics</td>
<td>3</td>
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<tr>
<td>ENGL 3340</td>
<td>Grammar</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3365</td>
<td>Second Language Acquisition</td>
<td>3</td>
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<tr>
<td>ENGL 3367</td>
<td>TESOL Seminar</td>
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Course Sequencing
Certificate Coordinator: Dr. Stephen Doolan

Students should take the courses in the following sequence to complete in the most timely manner:

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<th>Course</th>
<th>Title</th>
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</tr>
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<tr>
<td>First Year</td>
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<tr>
<td>Fall</td>
<td>ENGL 3339 Introduction to Linguistics (offered Fall &amp; Spring)</td>
<td>3</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENGL 3340 Grammar (offered Fall &amp; Spring)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Hours</td>
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<tr>
<td>Second Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>ENGL 3365 Second Language Acquisition (only offered in the Fall)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Hours</td>
<td>3</td>
</tr>
</tbody>
</table>

NOTE: While three courses (ENGL 3339, ENGL 3340, ENGL 3365) can be taken with multiple courses in the same semester, we recommend that ENGL 3365 is taken prior to ENGL 3367. Taking ENGL 3365 and ENGL 3367 in the same semester requires instructor approval.

Courses

ENGL 0001 Grammar I
0 Semester Credit Hours (3 Lecture Hours)
Grammatical structures that enable students to better comprehend and use academic English are the focus of the course. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0002 Listening and Speaking I
0 Semester Credit Hours (3 Lecture Hours)
This course provides short and focused activities to help students improve their English listening and speaking skills. It includes practice in both mastering the larger message and key words, phrases and specific sounds to assist students in developing better speaking and comprehension skills. Students will practice giving academic presentations as well as practice speaking in small groups and individually.

ENGL 0003 Reading I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will develop the reading skills essential for academic learning and inquiry in the context of authentic academic reading tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive reading tasks of increasing complexity. Contemporary academic and literary texts will be used to develop students' critical reading and vocabulary, writing, listening, and speaking skills.

ENGL 0004 Writing I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the writing skills essential for academic success including sentence, paragraph, and basic essay writing. This course is aimed at students planning to study, or are already studying, at university level in English.

ENGL 0005 Recitation I
0 Semester Credit Hours (3 Lecture Hours)
This course provides students with a structured, scheduled academic environment providing the opportunity to complete assignments and work closely with their language instructor. Instructors utilize materials from student courses to facilitate activities and discussions that will increase comprehension of academic material and further students' abilities to work independently in academic settings. Each week, the course will focus on the language skills and vocabulary needed for the students' courses. Additionally, there will be a focus on study skills and time management needed for success in academic settings. Students will leave the course better equipped for university level academic course work and a thorough understanding of time management and appropriate study habits for the university.
ENGL 0011 Grammar II
0 Semester Credit Hours (3 Lecture Hours)
This course will focus on high-intermediate grammatical structures that enable students to better comprehend and use academic English. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situation relevant to the American college context.

ENGL 0012 Listening and Speaking II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the listening, note-taking, and presentation skills essential for academic learning, inquiry, and communication in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminars will be sued to develop students' critical thinking skills.

ENGL 0013 Reading II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will study texts across several different academic disciplines in order to deepen their understanding of the rhetorical styles and conventions used and applied within the English language. Students will practice identifying audience, purpose, theme, main ideas, and details within several different genres of writing. Students will also develop a variety of strategies to improve their reading comprehension and efficiency, including annotation, vocabulary-building, and discussions regarding written materials.

ENGL 0014 Writing II
0 Semester Credit Hours
In this course, students will develop a foundation in the writing skills critical to academic success. Students will apply knowledge of audience, purpose, voice, arrangement, and style in varied writing tasks by writing across several different genres. Genres practiced in this course may include, but are not limited to: emails, newsletters, personal narratives, fiction, academic essays, and magazine/news articles. Students will learn grammar and vocabulary conventions as they apply to different genres and apply these skills in writing tasks of increasing complexity throughout the semester.

ENGL 0022 Listening and Speaking III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will learn and apply listening, note-taking, and presentation skills essential for academic learning, inquiry, and discourse in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminar will be used to develop students' critical thinking skills.

ENGL 0023 Reading and Writing III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will improve upon and apply the reading skills essential for academic learning, inquiry, and discourse in the context of authentic academic reading tasks. Students will build vocabulary through extensive and intensive reading tasks of increasing complexity. Contemporary academic tests about writing will be used to develop students' critical reading, academic vocabulary, and complex writing skills. There will be a number of in-class written tasks and prompts that will stimulate free writing practice and introduce students to various styles of writing. Students will also use these written tasks to develop editing skills through the writing process. The final project will be a collection of these written tasks in the form of a portfolio.

ENGL 0036 US Culture
0 Semester Credit Hours (3 Lecture Hours)
This course will offer English Language Learners a means for analyzing and evaluating the complex social and moral issues that are specific to the social and moral landscape of the United States. As students examine their own cultures and compare them with others, culture shock and cultural conflict may be lessened and appreciation for cultural differences may be strengthened. Students will engage in interactive tasks, including researching and case analysis of topics and social, academic and professional issues, especially those suggested by the extensive reading component of this course. Through the process of reading, discussion, analysis and writing students in this class will enrich their understanding of today's global society while at the same time they are sharpening their academic English skills.

ENGL 0037 Critical Thinking
0 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to develop the critical thinking skills needed to interpret and assess arguments and information. This course will highlight the language skills essential for critically analyzing and discussing the quality of the information and opinions presented in authentic texts and listening selections. The course will concentrate on detecting errors of reasoning in short and long passages, evaluating evidence in written and verbal arguments, detecting logical inconsistencies, removing vagueness and ambiguity through word choice and phrasing, and identifying the point or purpose of someone's remarks. Through examining these topics, students will be able to thoughtfully respond to others' opinions in a clear, logical, and informed way. Students will leave the course better prepared to collect, synthesize, and evaluate information and feel more confident in presenting their perspectives in an academic setting.

ENGL 0099 Integrated Reading and Writing Non-Course Based Development
0 Semester Credit Hours
ENGL 0099 is designed to develop student's critical reading and academic writing skills on an individualized basis through tutoring. The course fulfills TSI requirements for reading and writing. TSI compliance staff will approve each student for this course. Approval is based on test score and/or by academic standing.

ENGL 0399 Integrated Reading and Writing
3 Semester Credit Hours (3 Lecture Hours)
A portfolio-based course with required tutoring (lab) time focused on the writing and reading processes, including strategies for invention, revision, and editing, and techniques of active reading, such as analysis, inference, summary, and evaluating texts. Students will enter ENGL 0399 through Texas Success Initiative (TSI) mandated remediation. (Not counted toward graduation)

ENGL 1301 Composition I
3 Semester Credit Hours (3 Lecture Hours)
Principles, techniques, and processes of written composition, textual analysis, and critical thinking.
TCCNS: ENGL 1301
ENGL 1302 Writing and Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to writing studies, rhetoric, and academic research (information literacy). Students will read, apply, and reflect on the current research and scholarship in writing studies, especially threshold concepts, kinds of knowledge about writing, and rhetoric. Students will learn how to transfer, deepen, and extend their ability to use writing in various contexts.
Prerequisite: ENGL 1301.
TCCNS: ENGL 1302

ENGL 2303 Introduction to Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course will review current scholarship on writing studies, including threshold concepts, activity theory, and genre studies. It will consider various perspectives on the uses of writing to provide students with an intellectual and practical understanding of writing. This course provides a starting point for the more specific studies of writing that occur in other writing studies courses.

ENGL 2316 Literature and Culture
3 Semester Credit Hours (3 Lecture Hours)
Introduction to literatures that raise aesthetic, cultural, social, and/or political issues that affect and reflect the human condition across regions, cultures, and nations. Sample topics: Crossing Borders, The City in Literature, Islands and Islanders, Science and Fiction.
TCCNS: ENGL 2331

ENGL 2332 Literature of the Western World: From the Classics to the Renaissance
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Ancient World to the Renaissance.
TCCNS: ENGL 2332

ENGL 2333 Literature of the Western World: From the Enlightenment to the Present
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Enlightenment to the present.
TCCNS: ENGL 2333

ENGL 2370 Introduction to Literary Studies
3 Semester Credit Hours
An introduction to literary analysis and scholarship for the intermediate writer. Emphasis placed on genres of literature, literary research, and expository and analytical composition. Familiarizes students with the various disciplines and related conversations within English Studies. Should be taken by sophomore-level English majors in the Literary Studies emphasis, and by Literary Studies and Creative Writing minors.
Prerequisite: ENGL 1302.

ENGL 2371 Exploring Social Media
3 Semester Credit Hours (3 Lecture Hours)
In this course we will examine and discuss current issues related to social media within a rhetorical framework. We will use different social media platforms to share and discuss in order to provide hands-on experience in these environments. Social media will be explored at the micro level as students will review their online social media presence to better understand how readers view them online. From the macro level we will identify current topics that affect the design and use of social media platforms and applications.

ENGL 3167 English as a Second/Foreign Language Tutoring
1 Semester Credit Hour
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.
Co-requisite: ENGL 3367.

ENGL 3301 Technical and Professional Writing
3 Semester Credit Hours
A course designed to help students gain practical experience in finding and interpreting information and writing reports and documents for specialized audiences in the technical and professional world. ENGL 3301 will be held in a computer-assisted classroom.

ENGL 3302 Techniques of Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the theoretical knowledge and practical experience used in creative writing. Focuses on poetry, creative nonfiction, and short fiction. For all majors.

ENGL 3310 Technical and Professional Writing for Computer Science
3 Semester Credit Hours (3 Lecture Hours)
Designed specifically for computer science majors, this course focuses on developing students' ability to (1) use writing to communicate effectively within a range of audiences about technology; (2) identify, analyze, and appropriately integrate relevant information in their writing; (3) make informed judgments about their uses of writing based on ACM's and IEEE's code of ethics; and (4) develop their ability to function effectively individually and as members of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.

ENGL 3321 Film and Literature
3 Semester Credit Hours (3 Lecture Hours)
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.
Prerequisite: ENGL 1302 and 2332 or ENGL 2333, 2334 or 2335.

ENGL 3323 Young Adult Fiction
3 Semester Credit Hours (3 Lecture Hours)
Literary study of young adult literature through analysis, discussion, and interpretation. The course emphasizes literary issues connected with society, culture, history, and genre.

ENGL 3325 Interdisciplinary Approaches to Literature
3 Semester Credit Hours (3 Lecture Hours)
In recent decades, it has become common to study literature in light of other disciplinary perspectives-and to study other disciplines as they are depicted in literature. From these interdisciplinary approaches has emerged a distinct mode of analysis that examines texts within their broader social and cultural milieu. In this course students will earn to use cross-disciplinary methods to interpret literature and culture. Topics will vary, but may include Religion, Medicine, and American Literature, Disability Narratives in the Eighteenth Century, Trauma and the City in Twentieth-Century Literature.
ENGL 3330  Current Events and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course examines literature in the context of current issues and events. Students will place literature in conversation with social, political, and cultural trends as a means of engaging with and understanding these trends and the debates associated with them. Using reading, writing, and discussion as modes of critical inquiry, students will discover the critical role that literature plays in representing, responding to, and shaping current events.

ENGL 3339  Introduction to Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Introductory survey course covering phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3340  Grammar
3 Semester Credit Hours (3 Lecture Hours)
Prepares students for teaching English as a second language by exploring phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3341  British Literature before 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of poetry, drama, and prose before 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).
* May be taken concurrently.

ENGL 3345  British Literature since 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of British poetry, drama, and prose since 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).
* May be taken concurrently.

ENGL 3348  Drama
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of dramatic literature, using a wide range of texts. Variable content.

ENGL 3349  Poetry
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of poetry using a wide range of texts. Variable content.

ENGL 3354  American Literatures before 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from the country’s pre-European beginnings to 1900 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 3303).
* May be taken concurrently.

ENGL 3355  American Literatures since 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from 1900 to the present with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 3303).
* May be taken concurrently.

ENGL 3360  CURRENT APPROACHES TO COMPOSITION AND LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
Prepares prospective teachers to create developmentally appropriate learning environments and tasks that enable student success in writing and the study of literature in Language Arts and English courses. Prepares students to meet the increased writing and reading expectations in all subject areas, including their own writing.

ENGL 3361  STRATEGIES AND GENRES OF ADVANCED WRITING
3 Semester Credit Hours (3 Lecture Hours)
Students will practice-writing in situated contexts (such as their majors, careers, and/or other professional interests) and across genres to develop more advanced and reflective writing strategies. By studying theories of writing; engaging in writing as a craft; and drafting, revising, and editing texts; students will refine and become more reflective in their writing processes.

ENGL 3362  Creative Writing Workshop: Survey and Practice of Genres
3 Semester Credit Hours (3 Lecture Hours)
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3363  Foundations of Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
This course will study the historical and theoretical development of rhetoric through the works of principal thinkers. Students will analyze rhetorical concepts in their relation to civic, cultural, political, and pedagogical developments and the construction of knowledge and will use rhetorical concepts to produce logical, ethical, and moral arguments.

ENGL 3364  Strategies of Writing Creative Nonfiction
3 Semester Credit Hours (3 Lecture Hours)
Explores the uses of creative nonfiction through reading and writing about published works of experienced writers and scholars in the field and practicing a variety of creative nonfiction techniques and genres (e.g. literary journalism, memoir, and the personal narrative).

ENGL 3365  Second Language Acquisition
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to second language acquisition. The course is designed to be accessible to students from a wide variety of backgrounds and no basic knowledge of the linguistic structure of English will be assumed. This course will address issues related to how second language is learned by both children and adults.

ENGL 3366  Language in Society
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of language as a function of several societal variables. Introduces basic concepts of language such as linguistic varieties, dialect, speech communities, and linguistic attitudes.

ENGL 3367  TESOL Seminar
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to and a critique of current and traditional methodologies of teaching English to speakers of other languages, with emphasis on aural comprehension; speaking, reading, and writing skills; testing and assessment; and linguistic-cultural differences. This course is open to all majors, but is required for students seeking the Certificate in TESOL.
Prerequisite: ENGL 3365.
ENGL 3369  Topics in Linguistics  
3 Semester Credit Hours (3 Lecture Hours)  
Exploration of topics such as second language acquisition, language assessment, history of English, and contrastive analysis. May be repeated when topics vary.

ENGL 3378  Document Design and Publishing  
3 Semester Credit Hours (3 Lecture Hours)  
Focuses on the integration of text and visual rhetoric, such as graphics, for all kinds of professional publications including technical documents, media, public relations pieces, and advertisements.

ENGL 3379  Writing for the Web  
3 Semester Credit Hours (3 Lecture Hours)  
Emphasizes practical concepts related to writing and communication on the internet and the World Wide Web. Attention is given to finding and analyzing information; analyzing and designing WWW sites and other digital, hypertextual environments; and analyzing and composing hypertext-hypermedia materials for digital, networked environments. For all majors.

ENGL 3380  Visual Rhetoric  
3 Semester Credit Hours (3 Lecture Hours)  
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123  Nonprofit Writing Project  
1 Semester Credit Hour  
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students’ professor in the regular course will be the instructor of record for the projects course.

ENGL 4300  Technologies and Cultures of the Book  
3 Semester Credit Hours (3 Lecture Hours)  
Working with a range of print media, students will learn to analyze the interplay between the text’s content and its formal features. Students will build the skills to think and write analytically about the materiality of texts.

ENGL 4305  Major Authors  
3 Semester Credit Hours (3 Lecture Hours)  
This course studies the significant works of a major literary author. Texts are viewed through a variety of critical perspectives and placed in the context of the writer’s life and of the society, culture, and history of the times. May be repeated once for credit when authors vary.

ENGL 4320  Professional Writing Workshop  
3 Semester Credit Hours (3 Lecture Hours)  
This course is tailored for individual students’ writing and publishing projects in their disciplines.

ENGL 4321  Grants and Proposals  
3 Semester Credit Hours (3 Lecture Hours)  
This course will teach students the grant proposal writing process, including identifying sources of funding, conducting research to support funding applications, and tailoring each proposal to a specific funding agency. Students will receive experience writing actual proposals on behalf of local organizations and agencies.

ENGL 4322  Writing in the Nonprofit Agencies  
3 Semester Credit Hours (3 Lecture Hours)  
Focuses on the specific kinds writing of professionals in the nonprofit world do, including internal communication in an agency, writing for the public, document creation, fund raising, board relations, and other relevant topics.

ENGL 4324  Editing & Style  
3 Semester Credit Hours (3 Lecture Hours)  
Practice in methods, tools, and principles of editing for nonfiction and technical publications. Emphasis on a rhetorical understanding of levels of editing, managing the editorial process, and grammar and style.

ENGL 4325  Writing Across Cultures and Contexts  
3 Semester Credit Hours (3 Lecture Hours)  
Through writing, students will study how groups perceive, understand, and communicate with and about each other. The course may focus on a specific type of writing (cross cultural expository writing, travel writing, cross cultural writing in industry), or on the linguistic and rhetorical practices of a cross-cultural community (latino/a rhetoric, African-American rhetorics, etc).

ENGL 4335  Creative Writing Studio: Development of Craft  
3 Semester Credit Hours (3 Lecture Hours)  
Develops students’ skills as critics and writers of fiction, poetry, and creative nonfiction in a studio setting. Guides students to focus on a major project in one genre with sustained practice of techniques and revision. Open to students of all levels, from the novice to the advanced. For all majors.

ENGL 4340  The Novel  
3 Semester Credit Hours (3 Lecture Hours)  

ENGL 4345  Rhetorics, Literacies, and Writing  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines the history and major theories of rhetoric, literacy, and composition, and explores how they influence contemporary cultural productions.

ENGL 4350  Studies in Poetics: Theory, Form, and Practice  
3 Semester Credit Hours (3 Lecture Hours)  
Develops students’ theoretical knowledge of poetics and practical experience of writing in traditional forms, from the Anglo-American tradition to the culturally diverse movements and innovation of form. Focusing on works written by poets about poetry and poetics primarily from the 19th to the 21st centuries. For all majors.

ENGL 4351  Senior Capstone: Literature and Writing  
3 Semester Credit Hours (3 Lecture Hours)  
A study of literature in English for graduating seniors in the Literary Studies Emphasis. Emphasis is placed on genre, research, and analytical expository writing.  
Prerequisite: ENGL 2370, 3303 or 2303.

ENGL 4352  Capstone in Writing Studies  
3 Semester Credit Hours (3 Lecture Hours)  
This course is the culminating experience for the Writing Studies emphasis in English. Students review, reflect on, integrate, and apply their learning from previous courses and experiences. Students create digital portfolios for career and publishing opportunities, emphasizing selection, revision, reflection, and presentation. In addition, students identify, evaluate, and annotate texts and resources to include in a curated digital collection/publication that will be available for students in future Writing Studies courses.
ENGL 4360 Gender, Sexuality and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to literature that explores issues of gender and sexuality. It focuses on relevant literary periods and conventions, as well as on the historical, social, and cultural contexts of artistic productions. Sample topics: women's literature, queer literature, literature and masculinity.

ENGL 4361 Race and Ethnicity in Literature
3 Semester Credit Hours (3 Lecture Hours)
Topics focus on a variety of cross-cultural issues in historical and/or contemporary texts by Caribbean, British Indian, Native American, African American, Chicano/a, and/or other underrepresented authors.

ENGL 4362 Texts and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Study of literary and cultural texts that raise issues of community and social relations, diversity, multiculturalism, and/or globalization. Sample topics: Medicine and Religion in American Literature, Traveling Histories, the Global City, and Literary Regionalism in Transnational Context. May be repeated once for credit when topics vary.

ENGL 4370 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study, primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or THEA 4323.)

ENGL 4380 CRITICAL APPROACHES TO LITERATURE AND CULTURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected perspectives and critical approaches to literature and culture, including an examination of some of the theoretical assumptions upon which they are based, as well as their implications for the way we think about literature, human identity, and the power of language. Prerequisite: ENGL 2370.

ENGL 4385 Studies in Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Students will focus on the craft of a specific genre or type of writing through reading experts’ advice, reading and analyzing examples written by practitioners, and engaging in peer-response workshops with classmates. Attention will be paid to publication opportunities available for writers in that genre.

ENGL 4390 Topics in Literary Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4391 Topics in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

ENGL 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description.

ENGL 4399 TESOL Practicum
3 Semester Credit Hours
Practical experience teaching English to second language learners. Students will observe, plan, and teach ESL lessons. Instructional support provides opportunities to discuss and reflect upon teaching experiences and help students connect theory, methods, and practice. This course enhances the TESOL Certification, but is not required for it. Cannot be repeated for credit.

Writing for Non-Profits, Certificate

Program Description
The Writing for Non-Profits Certificate is a fully online program available to students in all majors and disciplines who wish to develop or enhance their skills to obtain employment in hospital research and development departments, corporate writing departments, military installations, and non-profit agencies. Students completing this program will develop a portfolio, suitable for presentation to an employer, that will demonstrate the ability to adjust to real world expectations and engage a setting that is less controlled and less predictable than the classroom.

Student Learning Outcomes
Upon completion of this certificate, students will:

- Demonstrate competence with the kinds of writing most commonly used in nonprofit agencies.
- Acquire experience working in conjunction with leaders/administrators of nonprofit agencies.
- Create a portfolio of professional work to present to their employers and to prospective employers.¹

¹ Every semester, each student will store his/her projects in an e-portfolio. With each additional course, each student will continue to build the e-portfolio.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td></td>
<td><strong>Required Courses</strong></td>
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<tr>
<td>ENGL 3301</td>
<td>Technical and Professional Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3378</td>
<td>Document Design and Publishing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3379</td>
<td>Writing for the Web</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4123</td>
<td>Nonprofit Writing Project</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 4321</td>
<td>Grants and Proposals</td>
<td>3</td>
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<tr>
<td>ENGL 4322</td>
<td>Writing in the Nonprofit Agencies</td>
<td>3</td>
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<td></td>
<td><strong>Total Hours</strong></td>
<td>16</td>
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</tbody>
</table>

Course Sequencing
Certificate Coordinator: Dr. Christopher Andrews

Students should take the courses in the following sequence to complete in the most timely manner:

If completing the certificate in one year.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td></td>
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<tr>
<td>Fall</td>
<td></td>
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<tr>
<td>ENGL 3301</td>
<td>Technical and Professional Writing</td>
<td>3</td>
</tr>
</tbody>
</table>
Courses

ENGL 0001 Grammar I
0 Semester Credit Hours (3 Lecture Hours)
Grammatical structures that enable students to better comprehend and use academic English are the focus of the course. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0002 Listening and Speaking I
0 Semester Credit Hours (3 Lecture Hours)
This course provides short and focused activities to help students improve their English listening and speaking skills. It includes practice in both mastering the larger message and key words, phrases and specific sounds to assist students in developing better speaking and comprehension skills. Students will practice giving academic presentations as well as practice speaking in small groups and individually.

ENGL 0003 Reading I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will develop the reading skills essential for academic learning and inquiry in the context of authentic academic reading tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive reading tasks of increasing complexity. Contemporary academic and literary texts will be used to develop students’ critical reading and vocabulary, writing, listening, and speaking skills.

ENGL 0004 Writing I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the writing skills essential for academic success including sentence, paragraph, and basic essay writing. This course is aimed at students planning to study, or are already studying, at university level in English.

ENGL 0005 Recitation I
0 Semester Credit Hours (3 Lecture Hours)
This course provides students with a structured, scheduled academic environment providing the opportunity to complete assignments and work closely with their language instructor. Instructors utilize materials from student courses to facilitate activities and discussions that will increase comprehension of academic material and further students’ abilities to work independently in academic settings. Each week, the course will focus on the language skills and vocabulary needed for the students’ courses. Additionally, there will be a focus on study skills and time management needed for success in academic settings. Students will leave the course better equipped for university level academic course work and a thorough understanding of time management and appropriate study habits for the university.

ENGL 0011 Grammar II
0 Semester Credit Hours (3 Lecture Hours)
This course will focus on high-intermediate grammatical structures that enable students to better comprehend and use academic English. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0012 Listening and Speaking II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will study texts across several different academic disciplines in order to deepen their understanding of the rhetorical styles and conventions used and applied within the English language. Students will practice identifying audience, purpose, theme, main ideas, and details within several different genres of writing. Students will also develop a variety of strategies to improve their reading comprehension and efficiency, including annotation, vocabulary-building, and discussions regarding written materials.
ENGL 0014 Writing II
0 Semester Credit Hours
In this course, students will develop a foundation in the writing skills critical to academic success. Students will apply knowledge of audience, purpose, voice, arrangement, and style in varied writing tasks by writing across several different genres. Genres practiced in this course may include, but are not limited to: emails, newsletters, personal narratives, fiction, academic essays, and magazine/news articles. Students will learn grammar and vocabulary conventions as they apply to different genres and apply these skills in writing tasks of increasing complexity throughout the semester.

ENGL 0022 Listening and Speaking III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will learn and apply listening, note-taking, and presentation skills essential for academic learning, inquiry, and discourse in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminar will be used to develop students’ critical thinking skills.

ENGL 0023 Reading and Writing III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will improve upon and apply the reading skills essential for academic learning, inquiry, and discourse in the context of authentic academic reading tasks. Students will build vocabulary through extensive and intensive reading tasks of increasing complexity. Contemporary academic tests about writing will be used to develop students’ critical reading, academic vocabulary, and complex writing skills. There will e a number of in-class written tasks and prompts that will stimulate free writing practice and introduce students to various styles of writing. Students will also use these written tasks to develop editing skills through the writing process. The final project will be a collection of these written tasks in the form of a portfolio.

ENGL 0036 US Culture
0 Semester Credit Hours (3 Lecture Hours)
This course will offer English Language Learners a means for analyzing and evaluating the complex social and moral issues that are specific to the social and moral landscape of the United States. As students examine their own cultures and compare them with others, culture shock and cultural conflict may be lessened and appreciation for cultural differences may be strengthened. Students will engage in interactive tasks, including researching and case analysis of topics and social, academic and professional issues, especially those suggested by the extensive reading component of this course. Through the process of reading, discussion, analysis and writing students in this class will enrich their understanding of today’s global society while at the same time they are sharpening their academic English skills.

ENGL 0037 Critical Thinking
0 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to develop the critical thinking skills needed to interpret and assess arguments and information. This course will highlight the language skills essential for critically analyzing and discussing the quality of the information and opinions presented in authentic texts and listening selections. The course will concentrate on detecting errors of reasoning in short and long passages, evaluating evidence in written and verbal arguments, detecting logical inconsistencies, removing vagueness and ambiguity through word choice and phrasing, and identifying the point or purpose of someone’s remarks. Through examining these topics, students will be able to thoughtfully respond to others’ opinions in a clear, logical, and informed way. Students will leave the course better prepared to collect, synthesize, and evaluate information and feel more confident in presenting their perspectives in an academic setting.

ENGL 0099 Integrated Reading and Writing Non-Course Based Development
0 Semester Credit Hours
ENGL 0099 is designed to develop student’s critical reading and academic writing skills on an individualized basis through tutoring. The course fulfills TSI requirements for reading and writing. TSI compliance staff will approve each student for this course. Approval is based on test score and/or by academic standing.

ENGL 0399 Integrated Reading and Writing
3 Semester Credit Hours (3 Lecture Hours)
A portfolio-based course with required tutoring (lab) time focused on the reading and writing processes, including strategies for invention, revision, and editing, and techniques of active reading, such as analysis, inference, summary, and evaluating texts. Students will enter ENGL 0399 through Texas Success Initiative (TSI) mandated remediation. (Not counted toward graduation)

ENGL 1301 Composition I
3 Semester Credit Hours (3 Lecture Hours)
Principles, techniques, and processes of written composition, textual analysis, and critical thinking.
TCCNS: ENGL 1301

ENGL 1302 Writing and Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to writing studies, rhetoric, and academic research (information literacy). Students will read, apply, and reflect on the current research and scholarship in writing studies, especially threshold concepts, kinds of knowledge about writing, and rhetoric. Students will learn how to transfer, deepen, and extend their ability to use writing in various contexts.
Prerequisite: ENGL 1301.
TCCNS: ENGL 1302

ENGL 2303 Introduction to Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course will review current scholarship on writing studies, including threshold concepts, activity theory, and genre studies. It will consider various perspectives on the uses of writing to provide students with an intellectual and practical understanding of writing. This course provides a starting point for the more specific studies of writing that occur in other writing studies courses.
ENGL 2316 Literature and Culture
3 Semester Credit Hours (3 Lecture Hours)
Introduction to literatures that raise aesthetic, cultural, social, and/or political issues that affect and reflect the human condition across regions, cultures, and nations. Sample topics: Crossing Borders, The City in Literature, Islands and Islanders, Science and Fiction.
TCCNS: ENGL 2331

ENGL 2332 Literature of the Western World: From the Classics to the Renaissance
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Ancient World to the Renaissance.
TCCNS: ENGL 2332

ENGL 2333 Literature of the Western World: From the Enlightenment to the Present
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Enlightenment to the present.
TCCNS: ENGL 2333

ENGL 2370 Introduction to Literary Studies
3 Semester Credit Hours
An introduction to literary analysis and scholarship for the intermediate writer. Emphasis placed on genres of literature, literary research, and expository and analytical composition. Familiarizes students with the various disciplines and related conversations within English Studies. Should be taken by sophomore-level English majors in the Literary Studies emphasis, and by Literary Studies and Creative Writing minors.
Prerequisite: ENGL 1302.

ENGL 2371 Exploring Social Media
3 Semester Credit Hours (3 Lecture Hours)
In this course we will examine and discuss current issues related to social media within a rhetorical framework. We will use different social media platforms to share and discuss in order to provide hands-on experience in these environments. Social media will be explored at the micro level as students will review their online social media presence to better understand how readers view them online. From the macro level we will identify current topics that affect the design and use of social media platforms and applications.

ENGL 3167 English as a Second/Foreign Language Tutoring
1 Semester Credit Hour
Students pursuing the Advanced TESOL Certificate will supplement ENGL 3367 (TESOL Seminar: Methods) with practical experience tutoring English learners. Students will write reflectively about those experiences. As needed, students will undergo site-specific training.
Co-requisite: ENGL 3367.

ENGL 3301 Technical and Professional Writing
3 Semester Credit Hours
A course designed to help students gain practical experience in finding and interpreting information and writing reports and documents for specialized audiences in the technical and professional world. ENGL 3301 will be held in a computer-assisted classroom.

ENGL 3302 Techniques of Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the theoretical knowledge and practical experience used in creative writing. Focuses on poetry, creative nonfiction, and short fiction. For all majors.

ENGL 3310 Technical and Professional Writing for Computer Science
3 Semester Credit Hours (3 Lecture Hours)
Designed specifically for computer science majors, this course focuses on developing students ability to (1) use writing to communicate effectively with a range of audiences about technology; (2) identify, analyze, and appropriately integrate relevant information in their writing; (3) make informed judgments about their uses of writing based on ACM's and IEEE's code of ethics; and (4) develop their ability to function effectively individually and as members of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.

ENGL 3321 Film and Literature
3 Semester Credit Hours (3 Lecture Hours)
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.
Prerequisite: ENGL 1302 and 2332 or ENGL 2333, 2334 or 2335.

ENGL 3323 Young Adult Fiction
3 Semester Credit Hours (3 Lecture Hours)
Literary study of young adult literature through analysis, discussion, and interpretation. The course emphasizes literary issues connected with society, culture, history, and genre.

ENGL 3325 Interdisciplinary Approaches to Literature
3 Semester Credit Hours (3 Lecture Hours)
In recent decades, it has become common to study literature in light of other disciplinary perspectives-and to study other disciplines as they are depicted in literature. From these interdisciplinary approaches has emerged a distinct mode of analysis that examines texts within their broader social and cultural milieu. In this course students will earn to use cross-disciplinary methods to interpret literature and culture. Topics will vary, but may include Religion, Medicine, and American Literature, Disability Narratives in the Eighteenth Century, Trauma and the City in Twentieth-Century Literature.

ENGL 3330 Current Events and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course examines literature in the context of current issues and events. Students will place literature in conversation with social, political, and cultural trends as a means of engaging with and understanding these trends and the debates associated with them. Using reading, writing, and discussion as modes of critical inquiry, students will discover the critical role that literature plays in representing, responding to, and shaping current events.

ENGL 3339 Introduction to Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Introductory survey course covering phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3340 Grammar
3 Semester Credit Hours (3 Lecture Hours)
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).

ENGL 3341 British Literature before 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of poetry, drama, and prose before 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).
* May be taken concurrently.
ENGL 3345  British Literature since 1800  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of British poetry, drama, and prose since 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).  
* May be taken concurrently.

ENGL 3348  Drama  
3 Semester Credit Hours (3 Lecture Hours)  
A genre-oriented study of dramatic literature, using a wide range of texts. Variable content.

ENGL 3349  Poetry  
3 Semester Credit Hours (3 Lecture Hours)  
A genre-oriented study of poetry using a wide range of texts. Variable content.

ENGL 3354  American Literatures before 1900  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of American poetry, drama, and prose from the country's pre-European beginnings to 1900 with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 2303) or (ENGL 3303).  
* May be taken concurrently.

ENGL 3355  American Literatures since 1900  
3 Semester Credit Hours (3 Lecture Hours)  
Study of significant works of American poetry, drama, and prose from 1900 to the present with emphasis on historical context and the exploration of literary and cultural values through written texts.  
Prerequisite: (ENGL 2370) or (ENGL 2303) or (ENGL 3303).  
* May be taken concurrently.

ENGL 3360  CURRENT APPROACHES TO COMPOSITION AND LITERATURE  
3 Semester Credit Hours (3 Lecture Hours)  
Prepares prospective teachers to create developmentally appropriate learning environments and tasks that enable student success in writing and the study of literature in Language Arts and English courses. Prepares students to meet the increased writing and reading expectations in all subject areas, including their own writing. 

ENGL 3361  STRATEGIES AND GENRES OF ADVANCED WRITING  
3 Semester Credit Hours (3 Lecture Hours)  
Students will practice-writing in situated contexts (such as their majors, careers, and/or other professional interests) and across genres to develop more advanced and reflective writing strategies. By studying theories of writing; engaging in writing as a craft; and drafting, revising, and editing texts; students will refine and become more reflective in their writing processes.

ENGL 3362  Creative Writing Workshop: Survey and Practice of Genres  
3 Semester Credit Hours (3 Lecture Hours)  
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3363  Foundations of Rhetoric  
3 Semester Credit Hours (3 Lecture Hours)  
This course will study the historical and theoretical development of rhetoric through the works of principal thinkers. Students will analyze rhetorical concepts in their relation to civic, cultural, political, and pedagogical developments and the construction of knowledge and will use rhetorical concepts to produce logical, ethical, and moral arguments.

ENGL 3364  Strategies of Writing Creative Nonfiction  
3 Semester Credit Hours (3 Lecture Hours)  
Explores the uses of creative nonfiction through reading and writing about published works of experienced writers and scholars in the field and practicing a variety of creative nonfiction techniques and genres (e.g. literary journalism, memoir, and the personal narrative).

ENGL 3365  Second Language Acquisition  
3 Semester Credit Hours (3 Lecture Hours)  
This course is an introduction to second language acquisition. The course is designed to be accessible to students from a wide variety of backgrounds and no basic knowledge of the linguistic structure of English will be assumed. This course will address issues related to how second language is learned by both children and adults.

ENGL 3366  Language in Society  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to the study of language as a function of several societal variables. Introduces basic concepts of language such as linguistic varieties, dialect, speech communities, and linguistic attitudes.

ENGL 3367  TESOL Seminar  
3 Semester Credit Hours (3 Lecture Hours)  
This course presents an introduction to and a critique of current and traditional methodologies of teaching English to speakers of other languages, with emphasis on aural comprehension; speaking, reading, and writing skills; testing and assessment; and linguistic-cultural differences. This course is open to all majors, but is required for students seeking the Certificate in TESOL.  
Prerequisite: ENGL 3365.

ENGL 3369  Topics in Linguistics  
3 Semester Credit Hours (3 Lecture Hours)  
Exploration of topics such as second language acquisition, language assessment, history of English, and contrastive analysis. May be repeated when topics vary.

ENGL 3378  Document Design and Publishing  
3 Semester Credit Hours (3 Lecture Hours)  
Focuses on the integration of text and visual rhetoric, such as graphics, for all kinds of professional publications including technical documents, media, public relations pieces, and advertisements.

ENGL 3379  Writing for the Web  
3 Semester Credit Hours (3 Lecture Hours)  
Emphasizes practical concepts related to writing and communication on the internet and the World Wide Web. Attention is given to finding and analyzing information; analyzing and designing WWW sites and other digital, hypertextual environments; and analyzing and composing hypertext-hypermedia materials for digital, networked environments. For all majors.

ENGL 3380  Visual Rhetoric  
3 Semester Credit Hours (3 Lecture Hours)  
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123  Nonprofit Writing Project  
1 Semester Credit Hour  
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students’ professor in the regular course will be the instructor of record for a the projects course.
ENGL 4300  Technologies and Cultures of the Book  
3 Semester Credit Hours (3 Lecture Hours)  
Working with a range of print media, students will learn to analyze the  
interplay between the text's content and its formal features. Students  
will build the skills to think and write analytically about the materiality  
of texts.

ENGL 4305  Major Authors  
3 Semester Credit Hours (3 Lecture Hours)  
This course studies the significant works of a major literary author. Texts  
are viewed through a variety of critical perspectives and placed in the  
context of the writer's life and of the society, culture, and history of the  
times. May be repeated once for credit when authors vary.

ENGL 4320  Professional Writing Workshop  
3 Semester Credit Hours (3 Lecture Hours)  
This course is tailored for individual students' writing and publishing  
projects in their disciplines.

ENGL 4321  Grants and Proposals  
3 Semester Credit Hours (3 Lecture Hours)  
This course will teach students the grant proposal writing process,  
including identifying sources of funding, conducting research to support  
funding applications, and tailoring each proposal to a specific funding  
agency. Students will receive experience writing actual proposals on  
behalf of local organizations and agencies.

ENGL 4322  Writing in the Nonprofit Agencies  
3 Semester Credit Hours (3 Lecture Hours)  
Focuses on the specific kinds writing of professionals in the nonprofit  
world, including internal communication in an agency, writing for the  
public, document creation, fund raising, board relations, and other  
relevant topics.

ENGL 4324  Editing & Style  
3 Semester Credit Hours (3 Lecture Hours)  
Practice in methods, tools, and principles of editing for nonfiction and  
technical publications. Emphasis on a rhetorical understanding of levels  
of editing, managing the editorial process, and grammar and style.

ENGL 4325  Writing Across Cultures and Contexts  
3 Semester Credit Hours (3 Lecture Hours)  
Through writing, students will study how groups perceive, understand,  
and communicate with and about each other. The course may focus on a  
specific type of writing (cross cultural expository writing, travel writing,  
cross cultural writing in industry), or on the linguistic and rhetorical  
practices of a cross-cultural community (latino/a rhetoric, African-  
American rhetorics, etc).

ENGL 4335  Creative Writing Studio: Development of Craft  
3 Semester Credit Hours (3 Lecture Hours)  
Develops students' skills as critics and writers of fiction, poetry, and  
creative nonfiction in a studio setting. Guides students to focus on a  
project in one genre with sustained practice of techniques and  
revision. Open to students of all levels, from the novice to the advanced.  
For all majors.

ENGL 4340  The Novel  
3 Semester Credit Hours (3 Lecture Hours)  
A genre-oriented study of long-form prose fictions, using a wide range of  
texts. Variable content.

ENGL 4345  Rhetorics, Literacies, and Writing  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines the history and major theories of rhetoric, literacy,  
and composition, and explores how they influence contemporary cultural  
productions.

ENGL 4350  Studies in Poetics: Theory, Form, and Practice  
3 Semester Credit Hours (3 Lecture Hours)  
Develops students' theoretical knowledge of poetics and practical  
experience of writing in traditional forms, from the Anglo-American  
tradition to the culturally diverse movements and innovation of form.  
Focusing on works written by poets about poetry and poetics primarily  
from the 19th to the 21st centuries. For all majors.

ENGL 4351  Senior Capstone: Literature and Writing  
3 Semester Credit Hours (3 Lecture Hours)  
A study of literature in English for graduating seniors in the Literary  
Studies Emphasis. Emphasis is placed on genre, research, and analytical  
expository writing.  
Prerequisite: ENGL 2370, 3303 or 2303.

ENGL 4352  Capstone in Writing Studies  
3 Semester Credit Hours (3 Lecture Hours)  
This course is the culminating experience for the Writing Studies  
emphasis in English. Students review, reflect on, integrate, and apply their  
learning from previous courses and experiences. Students create digital  
portfolios for career and publishing opportunities, emphasizing selection,  
revision, reflection, and presentation. In addition, students identify,  
evaluate, and annotate texts and resources to include in a curated digital  
collection/publication that will be available for students in future Writing  
Studies courses.

ENGL 4360  Gender, Sexuality and Literature  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to literature that explores issues of  
gender and sexuality. It focuses on relevant literary periods and  
conventions, as well as on the historical, social, and cultural contexts of  
artistic productions. Sample topics: women's literature, queer literature,  
literature and masculinity.

ENGL 4361  Race and Ethnicity in Literature  
3 Semester Credit Hours (3 Lecture Hours)  
Topics focus on a variety of cross-cultural issues in historical and/or  
contemporary texts by Caribbean, British Indian, Native American, African  
American, Chicano/a, and/or other underrepresented authors.

ENGL 4362  Texts and Contexts  
3 Semester Credit Hours (3 Lecture Hours)  
Study of literary and cultural texts that raise issues of community and  
social relations, diversity, multiculturalism, and/or globalization. Sample  
topics: Medicine and Religion in American Literature, Traveling Histories,  
the Global City, and Literary Regionalism in Transnational Context. May  
be repeated once for credit when topics vary.

ENGL 4370  Oral Interpretation of Children's Literature  
3 Semester Credit Hours (3 Lecture Hours)  
A study, primarily through the medium of performance, of various types  
and forms of literature for children. Strongly oriented toward teaching  
literature in the elementary school classroom. (Credit may not be given  
for both this course and COMM 4323 or THEA 4323.)

ENGL 4380  CRITICAL APPROACHES TO LITERATURE AND CULTURE  
3 Semester Credit Hours (3 Lecture Hours)  
A study of selected perspectives and critical approaches to literature and  
culture, including an examination of some of the theoretical assumptions  
upon which they are based, as well as their implications for the way we  
think about literature, human identity, and the power of language.  
Prerequisite: ENGL 2370.
ENGL 4385  Studies in Creative Writing  
3 Semester Credit Hours (3 Lecture Hours)  
Students will focus on the craft of a specific genre or type of writing through reading experts’ advice, reading and analyzing examples written by practitioners, and engaging in peer-response workshops with classmates. Attention will be paid to publication opportunities available for writers in that genre.

ENGL 4390  Topics in Literary Studies  
3 Semester Credit Hours (3 Lecture Hours)  
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4391  Topics in Writing Studies  
3 Semester Credit Hours (3 Lecture Hours)  
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4396  Directed Individual Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
See College description.

ENGL 4398  Applied Experience  
3 Semester Credit Hours (3 Lecture Hours)  
See College description.

ENGL 4399  TESOL Practicum  
3 Semester Credit Hours  
Practical experience teaching English to second language learners. Students will observe, plan, and teach ESL lessons. Instructional support provides opportunities to discuss and reflect upon teaching experiences and help students connect theory, methods, and practice. This course enhances the TESOL Certification, but is not required for it. Cannot be repeated for credit.

Certificate Programs - School of Arts, Media & Communication  
- Dance, Certificate (p. 261)

Dance, Certificate  

Program Description  
The Dance Certificate is available to all majors in all disciplines and professions or for educators seeking a certificate to develop their skill and knowledge in the area of Dance. This Certificate will enhance the marketability of those students who are working towards Teacher Certification and would like to teach Dance as a second discipline and for Theatre majors who are looking to pursue careers as professionals in the arts or for those graduates who are looking to enhance their careers working in arts education, community Theatre or health therapies.

Student Learning Outcomes  
- Students obtaining a certificate in Dance will demonstrate proficiency in the technical, historical, cultural and choreographic dimensions of dance. Specifically the student will have the ability to;  
- Develop relationships with world dance cultures and choreographic elements;  
- Demonstrate written competencies in the historical, cultural and critical analysis of Dance;  
- Demonstrate competencies in ballet, jazz and modern Dance technique.

Program Requirements  
In order to receive a Dance Certificate, 16 semester hours with at least 9 semester hours in residence is required.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANC 1141</td>
<td>Ballet I</td>
<td>1</td>
</tr>
<tr>
<td>DANC 1147</td>
<td>Jazz Dance I</td>
<td>1</td>
</tr>
<tr>
<td>DANC 1148</td>
<td>Modern Dance I</td>
<td>1</td>
</tr>
<tr>
<td>DANC 1304</td>
<td>Dance in Performance (may be repeated for credit)</td>
<td>3</td>
</tr>
<tr>
<td>DANC 3303</td>
<td>World Dance and Culture</td>
<td>3</td>
</tr>
<tr>
<td>DANC 3306</td>
<td>Dance Choreography I</td>
<td>3</td>
</tr>
<tr>
<td>DANC 4306</td>
<td>Dance Choreography II (may be repeated for credit)</td>
<td>3</td>
</tr>
</tbody>
</table>

Dance Electives  
Select one of the following:  
- DANC 2141 | Ballet II                                 | 1     |
- DANC 2147 | Jazz Dance II                              |       |
- DANC 2148 | Modern Dance II                            |       |
- DANC 3141 | Ballet III                                 |       |
- DANC 3147 | Jazz Dance III                             |       |
- DANC 3148 | Modern Dance III                           |       |
- DANC 4141 | Ballet IV (may be repeated for credit)     |       |
- DANC 4147 | Jazz Dance IV (may be repeated for credit) |       |
- DANC 4148 | Modern Dance IV (may be repeated for credit) |       |

Total Hours  
16

Course Sequencing  
Certificate Coordinator: Ms. Jilissa Cotten  
Students should take the courses in the following sequence to complete in the most timely manner:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td></td>
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<tr>
<td>Fall</td>
<td></td>
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</tr>
<tr>
<td>DANC 1141</td>
<td>Ballet I</td>
<td>1</td>
</tr>
<tr>
<td>or DANC 1147</td>
<td>Jazz Dance I</td>
<td></td>
</tr>
<tr>
<td>or DANC 1148</td>
<td>Modern Dance I</td>
<td></td>
</tr>
<tr>
<td>DANC 3303</td>
<td>World Dance and Culture</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td></td>
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<tr>
<td>DANC 1141</td>
<td>Ballet I</td>
<td>1</td>
</tr>
<tr>
<td>or DANC 1147</td>
<td>Jazz Dance I</td>
<td></td>
</tr>
<tr>
<td>or DANC 1148</td>
<td>Modern Dance I</td>
<td></td>
</tr>
<tr>
<td>DANC 1304</td>
<td>Dance in Performance</td>
<td>3</td>
</tr>
<tr>
<td>Second Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
<td></td>
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<tr>
<td>DANC 1141</td>
<td>Ballet I</td>
<td>1</td>
</tr>
<tr>
<td>or DANC 1147</td>
<td>Jazz Dance I</td>
<td></td>
</tr>
<tr>
<td>or DANC 1148</td>
<td>Modern Dance I</td>
<td></td>
</tr>
<tr>
<td>DANC 3306</td>
<td>Dance Choreography I</td>
<td>3</td>
</tr>
</tbody>
</table>
Courses

DANC 1141 Ballet I
1 Semester Credit Hour (3 Lab Hours)
A beginning ballet dance course aligned with the Theatre, Dance, and Musical Theatre disciplines. The student will learn fundamentals of classical ballet; terminology, alignment, barre and floor technique, as well as genres of the contemporary styles.
Co-requisite: SMTE 0098.

DANC 1147 Jazz Dance I
1 Semester Credit Hour (3 Lab Hours)
A beginning jazz dance course aligned with the Theatre, Dance, and Musical Theatre disciplines. Students will be introduced to genres of the jazz dance from primitive ritual through contemporary musical theatre compositions.
Co-requisite: SMTE 0098.

DANC 1148 Modern Dance I
1 Semester Credit Hour (3 Lab Hours)
A beginning modern dance course aligned with the Theatre, Dance, and Musical Theatre disciplines. Students will be introduced to the fundamentals of Modern Dance using a variety of modern dance styles, including technique, progressive movement and dance performance.
Co-requisite: SMTE 0098.

DANC 1304 Dance in Performance
3 Semester Credit Hours (3 Lecture Hours)
Students will be introduced to the fundamentals of choreography using a variety of dance styles and, using those skills, create dance intended for public performance. May be repeated for credit.
Co-requisite: SMTE 0098.

DANC 2141 Ballet II
1 Semester Credit Hour (3 Lab Hours)
This course focuses on further development of classical ballet as an art form with an emphasis on intermediate to advanced level technique, musicality and performance.
Co-requisite: SMTE 0098.

DANC 2147 Jazz Dance II
1 Semester Credit Hour (3 Lab Hours)
This course is for the student with previous jazz dance training. Jazz Dance II emphasizes technique and terminology. The course will focus on improving quality of movement and developing complex rhythms and patterns through the understanding and flexibility of the variety of jazz styles taught.
Co-requisite: SMTE 0098.

DANC 2148 Modern Dance II
1 Semester Credit Hour (3 Lab Hours)
This course is geared toward the student with previous modern dance training. The student will continue to develop physical, conceptual and aesthetic skills and explore the principles of movement and language common with variety of modern dance techniques.
Co-requisite: SMTE 0098.

DANC 3141 Ballet III
1 Semester Credit Hour (1 Lab Hour)
This course focuses on further development of classical ballet, based on previous training in Ballet I and II, as an art form with an emphasis on intermediate/advanced level technique, musicality and performance.
Prerequisite: (DANC 1141 and 2141).
Co-requisite: SMTE 0098.

DANC 3147 Jazz Dance III
1 Semester Credit Hour (1 Lab Hour)
This course focuses on the student who has taken Jazz I and II and executes the movement at an intermediate/advanced level. The course will focus on improving artistic expression within the quality of movement and developing complex technique and style through the understanding on rhythms and patterns of a variety of jazz styles.
Prerequisite: (DANC 1147 and 2147).
Co-requisite: SMTE 0098.

DANC 3148 Modern Dance III
1 Semester Credit Hour (1 Lab Hour)
This course focuses on the student who has taken Modern Dance I and II. The student will continue to develop physical, conceptual and aesthetic skills and explore principles of movement and language common with the variety of modern dance techniques.
Prerequisite: (DANC 1148 and 2148).
Co-requisite: SMTE 0098.

DANC 3303 World Dance and Culture
3 Semester Credit Hours (3 Lecture Hours)
Offers a cross cultural and historical view of a variety of theatrical, vernacular and sacred dance forms and investigates ways that dance functions across societies. No background in dance is necessary to successfully complete this course.
Co-requisite: SMTE 0098.

DANC 3306 Dance Choreography I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to techniques and principles of the craft and art of choreography. Solo and group choreography is expected. May be repeated for credit.
Co-requisite: SMTE 0098.

DANC 3310 History of Dance
3 Semester Credit Hours (3 Lecture Hours)
In this course, the student will explore the history of dance from an interactive arts approach, examining and investigating dance from ancient civilization throughout the world to the emerging times of dance in the U.S.
DANC 4141  Ballet IV  
1 Semester Credit Hour (1 Lab Hour)  
This course focuses on further development of classical ballet, based on previous training in Ballet I, II and III as an art form with an emphasis on advanced level technique, musicality and performance. Can be repeated for credit.  
Prerequisite: (DANC 1141, 2141 and 3141).  
Co-requisite: SMTE 0098.

DANC 4147  Jazz Dance IV  
1 Semester Credit Hour (1 Lab Hour)  
This course focuses on the student who has taken Jazz Dance I, II and III and executes the movement at an advanced level. The course will focus on improving artistic expression within the quality of movement from Jazz Dance III and developing complex technique and jazz styles. Can be repeated for credit.  
Prerequisite: (DANC 1147, 2147 and 3147).  
Co-requisite: SMTE 0098.

DANC 4148  Modern Dance IV  
1 Semester Credit Hour (1 Lab Hour)  
This course focuses on the student who has taken Modern Dance I, II and III. The student will continue to develop physical, conceptual and aesthetic skills and explore the principles of movement and language common with a variety of modern and contemporary modern dance techniques. Can be repeated for credit.  
Prerequisite: (DANC 1148, 2148 and 3148).  
Co-requisite: SMTE 0098.

DANC 4306  Dance Choreography II  
3 Semester Credit Hours (3 Lecture Hours)  
Demonstrate choreographic tools in the dance making process as it relates to group work; explore and create movement studies in groups as it pertains to art. May be repeated for credit.  
Prerequisite: DANC 3306.  
Co-requisite: SMTE 0098.

DANC 4310  Dance Instruction  
3 Semester Credit Hours (3 Lecture Hours)  
In this course, the student will research and explore the various modern philosophies of instruction and learn to apply those that are congruous with instructing dance as art in a variety of settings and to different age levels. Observation and instruction, combined with research satisfies the practical application portion of the course, while critiques from professionals in the field will serve as encouragement and confidence building for the future instructor in dance. May be repeated for credit.  
Co-requisite: SMTE 0098.

DANC 4390  Topics in Dance  
1-3 Semester Credit Hours  
This course will explore aspects of various dance techniques (ballet, jazz, contemporary, and hip hop infused) at the intermediate/advanced level, as well as repertory and yoga for dancers. Time allowing, we will delve into basic elements of choreographic composition.  
Co-requisite: SMTE 0098.

DANC 4396  Directed Individual Study (DIS)  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
See college description. Course is available by application.  
Co-requisite: SMTE 0098.

DANC 4398  Applied Experience  
3 Semester Credit Hours (3 Lecture Hours)  
See college description. Course is available by application.

Certification Programs - School of Arts, Media & Communication  
- Art, BFA with Teacher Certification (p. 263)  
- Music, BM with EC-12 Teacher Certification (p. 268)  
- Theatre Arts, Teacher Certification (p. 277)  

Art, BFA with Teacher Certification  
Program Description  
The curriculum for the Bachelor of Fine Arts degree leading to teacher certification is also designed to provide professional development at the undergraduate level for the prospective teacher in the visual arts, through in-depth study in studio art. The degree requires a minimum of 60 semester hours in art, at least 30 of which must be in upper-division coursework.

Admission to the BFA leading to teacher certification is by special application. Such application can be made upon completion of 30 semester hours of Art coursework, and must be made before completion of 48 semester hours of Art coursework. A portfolio consisting of ten to fifteen works representing a variety of media must be submitted in addition to the application form. Copies of specific admission policies and instructions for submitting an application to the program are available from the Department of Art website (https://cla.tamucc.edu/art/Current%20Students.html). Completed applications should be submitted to the office of the Department Chair.

The purposes of the art curriculum are:

1. To provide a general program that allows students access to a variety of art media, studio techniques, and instruction;  
2. To provide students with opportunities to study past and present forms of art and to understand the function of art in society;  
3. To provide courses that will help expand the knowledge and interest of non-majors in the area of art; and  
4. To contribute to the cultural life of the University and the community by presenting quality art exhibitions in the Weil Gallery.

Two minors are also available. The minor in Studio Art is 21 semester hours and will allow a student to concentrate in one studio area. The minor in Art History is 18 semester hours. Interested students should contact the department academic advisor.

Student Learning Outcomes  
- demonstrate competencies in studio art;  
- be able to successfully pass the test for State Board for Educator Certification enabling them to teach K-12 within the State of Texas;  
- have the ability to articulate principles and theories of contemporary art as it applies to the teaching/learning environment.

Specific Degree Requirements  
All art majors must meet all general University and College graduation requirements, including First Year Seminars, regardless of the following specific degree requirements, unless specifically excused. All art degrees require ARTS 1303 Art History Survey I (3 sch), which also meets the Core Curriculum Program Fine Arts requirement. All and only coursework
with the prefix ARTS will be included in the grade point average for the students declared major field of study.

**General Requirements**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>Core Curriculum Program</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Art Major Requirements</td>
<td>57</td>
</tr>
<tr>
<td>Professional Development and Certification Requirements</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td>126-128</td>
</tr>
</tbody>
</table>

1 Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

**Program Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
<td>1</td>
</tr>
</tbody>
</table>

**Core Curriculum Program**

University Core Curriculum 42

Note: ARTS 1303 and 1304 need to be taken as part of the University Core Curriculum. Both are required for the BFA with Teacher Certification in Art degree.

**Art Major Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS 1311</td>
<td>Design I</td>
<td>3</td>
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<tr>
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<tr>
<td>ARTS 1316</td>
<td>Drawing I</td>
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<tr>
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<td>Drawing II</td>
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<td>Painting I</td>
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<td>ARTS 2333</td>
<td>Printmaking I</td>
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<td>ARTS 2346</td>
<td>Ceramics I</td>
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<td>Life Drawing</td>
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<td>ARTS 3311</td>
<td>Color Theory</td>
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<td>Art Activities I</td>
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Select 6 hours of the following: 6

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<th>Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>ARTS 3304</td>
<td>Fabrication Sculpture</td>
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<tr>
<td>ARTS 3305</td>
<td>Mold Making and Casting Sculpture</td>
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<td>ARTS 3306</td>
<td>Figurative Sculpture</td>
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<td>ARTS 3324</td>
<td>Wheel Throwing</td>
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<td>ARTS 3325</td>
<td>Handbuilt Ceramic Techniques</td>
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<td>Intermediate Painting</td>
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<td>ARTS 3307</td>
<td>Lithography and Planographic Process</td>
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<td>ARTS 3313</td>
<td>Figure Painting</td>
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**Art History**

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<tr>
<td>or ARTS 3353</td>
<td>Art Since 1945</td>
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<td>Pre-Columbian Art of Mesoamerica</td>
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<td>ARTS 4352</td>
<td>Modern Art of Mexico</td>
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<td>ARTS 4354</td>
<td>Global Currents in Contemporary Art</td>
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<td>ARTS 4356</td>
<td>Contemporary Art Since 1980</td>
<td></td>
</tr>
<tr>
<td>ARTS 4390</td>
<td>Topics in Art History</td>
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**Capstone**

This course must be taken in your final semester before graduation.

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<tr>
<td>ARTS 4085</td>
<td>Senior Capstone</td>
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**Total Hours** 101

* Online Offering

**Note:**

All art majors must meet all general University and College graduation requirements, including First Year Seminars, regardless of the following specific degree requirements, unless specifically excused. All art degrees require ARTS 1303 Art History Survey I (3 sch), which also meets the Core Curriculum Program Fine Arts requirement. All and only coursework with the prefix ARTS will be included in the grade point average for the students declared major field of study.

All students graduating with a Bachelor of Fine Arts Degree with Teachers Certification are required to submit an exit portfolio. The portfolio consists of six .jpg images that best represent their most successful coursework during their educational careers in the Department of Art. A written formal discussion of some aspect of their work is also required. The senior capstone class sets the standards and format for these materials and coordinates the collection of the materials. These materials are due on or before the last class day of the semester in which the students plan to graduate. Students in the program are expected to spend one additional hour per week in the studio for each upper division semester hour of studio enrollment.

**Other Certification Requirements**

For information on required professional development courses and other teacher certification requirements, please see the College of Education and Human Development section of this catalog. Students should also consult the Certification Office of the College of Education and Human Development for complete and current information about teacher certification requirements.

To qualify to take the TExES (Texas Examinations of Educator Standards) in the field of Art, students must meet the following criteria:

1. Make pre-specified acceptable scores on TExES practice tests, or departmental equivalent, and participate in practice test review and analysis session.
2. Provide official permit with signature of Program Coordinator or designated person for each teaching field on the student’s certification plan.
Students must also qualify to take the Professional Development TExES.

**Courses**

**ARTS 1301 Art and Society**  
3 Semester Credit Hours (3 Lecture Hours)  
Designated for non-art majors. Establishes a working vocabulary for evaluating works of art in various media. Objects are interpreted in terms of their specific historical contexts and the changing relationships between art and society. This course does not fulfill the art history requirement for art majors.  
TCCNS: ARTS 1301

**ARTS 1303 Art History Survey I**  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of painting, sculpture, architecture, and other arts from the ancient through medieval periods.  
TCCNS: ARTS 1303

**ARTS 1304 Art History Survey II**  
3 Semester Credit Hours (3 Lecture Hours)  
A further examination of painting, sculpture, architecture, and other arts from the Renaissance through Modern periods. This course satisfies the university core curriculum requirement in fine arts.  
Prerequisite: ARTS 1303.  
TCCNS: ARTS 1304

**ARTS 1311 Design I**  
3 Semester Credit Hours  
A studio course concerning the fundamentals of art with emphasis on two-dimensional concepts.  
TCCNS: ARTS 1311

**ARTS 1312 Design II**  
3 Semester Credit Hours  
A studio course concerning the fundamentals of art with emphasis on three-dimensional concepts. This 3D foundations course utilizes creative problem-solving strategies and basic sculpture tools to explore spatial relationships and to create sculptural forms in space.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 1312

**ARTS 1316 Drawing I**  
3 Semester Credit Hours (3 Lecture Hours)  
A studio course investigating a variety of media techniques, including their descriptive and expressive possibilities.  
TCCNS: ARTS 1316

**ARTS 1317 Drawing II**  
3 Semester Credit Hours  
A further investigation of media techniques explored in Drawing I, including their descriptive and expressive possibilities.  
Prerequisite: ARTS 1316.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 1317

**ARTS 2311 Design III: Color**  
3 Semester Credit Hours  
Investigation of the properties of color. Color is studied and applied to studio-oriented design assignments.  
Co-requisite: SMTE 0097.

**ARTS 2316 Painting I**  
3 Semester Credit Hours (3 Lecture Hours)  
A studio course exploring the potentials of painting media.  
Prerequisite: ARTS 1316.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 2316

**ARTS 2323 Drawing III**  
3 Semester Credit Hours  
A studio course continuing the investigation of media and techniques explored in Drawing I and Drawing II. Students investigate how formal aspects and selected media along with conceptual choices create specific visual ideas.  
Prerequisite: ARTS 1317.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 2323

**ARTS 2326 Sculpture I**  
3 Semester Credit Hours  
An introductory studio course exploring sculptural approaches, materials, concepts, and technical processes. Materials include wood, plaster, steel, and plastics.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 2326

**ARTS 2333 Printmaking I**  
3 Semester Credit Hours  
An introductory studio course in basic printmaking processes and techniques.  
Prerequisite: ARTS 1316 or 1311.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 2333

**ARTS 2346 Ceramics I**  
3 Semester Credit Hours (3 Lecture Hours)  
An introductory studio course in basic ceramic processes.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 2346

**ARTS 2356 Photography I**  
3 Semester Credit Hours  
This course is an introduction to digital photography capture, processing, and basic editing software. While focusing on the fundamentals of digital photography and printing techniques, it will introduce students to the theory and practice of photography and assist them in producing a conceptually devised and technically consistent portfolio.  
Co-requisite: SMTE 0097.  
TCCNS: ARTS 2356

**ARTS 2367 Watercolor**  
3 Semester Credit Hours (3 Lecture Hours)  
A studio course exploring techniques in water-base media.  
Co-requisite: SMTE 0097.

**ARTS 3301 Life Drawing**  
3 Semester Credit Hours  
Drawing from the model using a variety of techniques and media.  
Prerequisite: (ARTS 1317).  
Co-requisite: SMTE 0097.

**ARTS 3302 Screen Printing**  
3 Semester Credit Hours  
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to screenprinting.  
Prerequisite: ARTS 1311 or 1316.  
Co-requisite: SMTE 0097.
ARTS 3303 Intermediate Painting
3 Semester Credit Hours (3 Lecture Hours)
Explores the issues of content, imagery, application, and influences of master artists.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.

ARTS 3304 Fabrication Sculpture
3 Semester Credit Hours
Building upon introductory skills, this course explores construction and fabrication in sculpture focusing on a primary material for the semester and applying advanced techniques and processes for this material. Through this material and techniques, students begin defining and developing their visual vocabulary relative to art history and contemporary sculptural issues.
Prerequisite: ARTS 2326.
Co-requisite: SMTE 0097.

ARTS 3305 Mold Making and Casting Sculpture
3 Semester Credit Hours
This course is designed to build upon the fundamental principles of mold making and casting while exploring more complex concepts, materials, and techniques. Creating multi-part molds, flexible molds, and investment molds, the project assignments incorporate the unique versatility of mold making and casting for exchanging media and making a series of multiples. In addition to making casts, students compare methods for assembling cast forms together to create larger sculptural artworks and installations.
Co-requisite: SMTE 0097.

ARTS 3306 Figurative Sculpture
3 Semester Credit Hours
A study of the human figure from an anatomical and artistic perspective. Examines the skeletal and muscular components of the figure in order to create lifelike and emotive sculptures. Discussion of the figure in both classical and contemporary art. Working with armature and modeling clay.
Co-requisite: SMTE 0097.

ARTS 3307 Lithography and Planographic Process
3 Semester Credit Hours
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to lithography and monoprinting.
Prerequisite: ARTS 2311 or 1316.
Co-requisite: SMTE 0097.

ARTS 3311 Color Theory
3 Semester Credit Hours
This course develops an understanding of color properties and relationships through formal exercises, research and creative thinking. Students build a vocabulary for analyzing and identifying color and color phenomena. Concepts of color theorists and color use in a variety of fields are examined to understand the application of color theory. Students will investigate the use of color in their own work and in the work of others to understand the conceptual and aesthetic application of color.
Prerequisite: ARTS 1311.

ARTS 3313 Figure Painting
3 Semester Credit Hours
This course addresses the structure and anatomy of the human figure using oil paint. Painting techniques and color theory exercises will familiarize students with tradition painting methods. Students will render proportions, balance, form and mass of the human figure. Research and discussions will address the human form throughout history as well as in the contemporary context. Image presentations, critiques and live model sessions will supplement studio work.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.

ARTS 3316 Art Activities I
3 Semester Credit Hours (3 Lecture Hours)
Practical experience with basic design, drawing, painting, and sculpture, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the elementary school.

ARTS 3322 Art Activities II
3 Semester Credit Hours (3 Lecture Hours)
Practical experiences with basic design, drawing, painting, printmaking, sculpture, and crafts, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the secondary school.

ARTS 3324 Wheel Throwing
3 Semester Credit Hours
Covers wheel-thrown ceramics (other production techniques may be included), basic glazemaking, and an introduction to kiln firing and loading.
Prerequisite: ARTS 2346.
Co-requisite: SMTE 0097.

ARTS 3325 Handbuilt Ceramic Techniques
3 Semester Credit Hours
This course is a continuation of hand-building covered in Ceramics I ARTS 2346. The course will cover more advanced forming techniques such as extrusion, hump, slump, and press molds, and slip-casting. New surface and firing techniques will include more advanced techniques such as underglazes, onglaze techniques such as majolica, fired decal application, raku, and an introduction to low fire glazes and surfaces.
Prerequisite: ARTS 2346.

ARTS 3350 Art of the United States
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major developments in the art of North America from Pre-Columbian times to the modern era.

ARTS 3352 Modern Art
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major movements of 20th century art and aesthetics, which developed primarily in Europe. Includes a review of late 19th century modernist antecedents with emphasis placed on the principal movements of the early 20th century: Fauvism, German Expressionism, Cubism, Futurism, Abstract Art, Dada, and Surrealism.

ARTS 3353 Art Since 1945
3 Semester Credit Hours (3 Lecture Hours)
An examination of the dispersal of European artists and Modernism, primarily to America, as a result of World War II. Examines the development of Abstract Expressionism in New York in the 1940s and 50s, followed by a survey of recent trends in contemporary art to the present day.
ARTS 3360  Graphic Design I
3 Semester Credit Hours (3 Lecture Hours)
Introduce fundamental graphic communication techniques, software and theory. Explores hand skills by using tools and techniques to produce professional presentations as well as the correct procedures for presenting designs to a client.

ARTS 3365  Photography II
3 Semester Credit Hours
An intermediate studio course using digital cameras and image manipulation software. Prior completion of ARTS 2356 is required. This course will enhance and expand skills developed in Photography I. It is geared toward informing students in the many ways we can make photographs; by seeking them out, framing them, forming them, extracting them, building them, and finally sequencing and presenting them. Students will engage in the theory and practice of photography, refine their photographic technique, and create a conceptually devised and technically consistent portfolio. Emphasis is placed on the development of a strong conceptual foundation from which to approach the making and understanding of photography as an art form. This knowledge will be achieved through photographic assignments, slide lectures of relevant works, and in-class critiques. It can be repeated twice for credit.
Prerequisite: ARTS 2356.
Co-requisite: SMTE 0097.

ARTS 3366  Analogue Photography
3 Semester Credit Hours
An introductory studio course in analogue photography using film cameras and the silver gelatin darkroom process. While focusing on the fundamentals of black and white, analogue photography and printing techniques this course will assist students in producing a conceptually devised and technically consistent portfolio.
Prerequisite: ARTS 2356.
Co-requisite: SMTE 0097.

ARTS 3367  Digital Design Tools and Applications
3 Semester Credit Hours
This studio course explores the fundamental principles, standard creative processes and basic digital tools utilized in graphic design. The concepts and software learned are employed in projects specifically targeted to serve the professional and promotional needs of studio artists and design enthusiasts.

ARTS 4085  Senior Capstone
0 Semester Credit Hours
Required for all art students in partial fulfillment of the requirements for the BA in Art, BFA in Art studio track and the BFA with Teacher Certification in Art tracks. This course collects capstone materials for ARTS degrees. The course must be taken in the student’s final semester before graduation.

ARTS 4301  Advanced Drawing
3 Semester Credit Hours
Emphasis on the development of content through drawing. Research on contemporary trends and process investigation will aid students in the development of visual ideas and lead to a cohesive body or work. May be taken three times for credit.
Prerequisite: ARTS 2323.
Co-requisite: SMTE 0097.

ARTS 4302  Advanced Printmaking
3 Semester Credit Hours
Furthers competencies attained in Printmaking I and Intermediate I & II courses. May be taken three times for credit.
Prerequisite: ARTS 3302 and 3307.
Co-requisite: SMTE 0097.

ARTS 4303  Advanced Painting
3 Semester Credit Hours (3 Lecture Hours)
 Assumes competencies attained in ARTS 3303. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4304  Advanced Sculpture
3 Semester Credit Hours (3 Lecture Hours)
 Assumes competencies attained in ARTS 3304. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4324  Advanced Ceramics
3 Semester Credit Hours (3 Lecture Hours)
 Assumes competencies attained in ARTS 3324. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4350  Pre-Columbian Art of Mesoamerica
3 Semester Credit Hours (3 Lecture Hours)
Explores the history of Pre-Columbian art from Mexico and Central America, from the Olmec through the Aztec cultures. May be taken three times for credit.

ARTS 4352  Modern Art of Mexico
3 Semester Credit Hours (3 Lecture Hours)
Explores the history of art during the nineteenth and twentieth centuries in Mexico. May be taken three times for credit.

ARTS 4354  Global Currents in Contemporary Art
3 Semester Credit Hours (3 Lecture Hours)
The course will cover key developments in contemporary art from the post-World War II era in the Western context to global currents in the present international arena. From a socio-political perspective, artistic tendencies will be considered as part of a trajectory that saw the center of the art world shift from being Euro- and Anglo-centric in the mid-twentieth century, to one without a discernible center in the early twenty-first century. Analysis of artworks from this decentralized cultural climate will focus on the evolution of conceptualism, the persistence of traditional modes of aesthetic practice, the role of the art market, and notions of environmentalism and sustainability as related to these "transnational transition." The course will consider works from Eastern Europe, South and Central America, the Caribbean, East/West/South/Southeast Asia, Oceania, and Africa.

ARTS 4356  Contemporary Art Since 1980
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the evolution of architecture, sculpture, painting, digital media, installation, and interdisciplinary arts in the global context from 1980 to the present, in light of the historical and intellectual background of the period. Topics covered will include the transition from postmodernism to contemporaneity, considering notions of appropriation, commodification, consumerism, memory, history, and globalization. Lectures will be constructed upon thematic analysis of contemporary, primary sources coupled with secondary source material, and complemented by presentation opportunities and class discussion.
ARTS 4365 Advanced Photography
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3365. Covers content as creative expression in addition to basic photographic skills. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4390 Topics in Art History
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary.

ARTS 4391 Topics in Studio Art
3 Semester Credit Hours
May be repeated when topics vary.
Co-requisite: SMTE 0097.

ARTS 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description. Offered on application
Co-requisite: SMTE 0097.

ARTS 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description. Offered on application.
Co-requisite: SMTE 0097.

Music, BM with EC-12 Teacher Certification

Music Degree Programs
Texas A&M University-Corpus Christi offers three distinct degree programs, a minor in music, and a minor in music industry.

- Music, BA (p. 191)
- Music, BM with EC-12 Teacher Certification (p. 268)
- Performance (Instrumental), BM (p. 201)
- Performance (Voice), BM (p. 211)

The mission of the Texas A&M University-Corpus Christi Department of Music is to assist students in the development of their aural, aesthetic, and analytical capacities in music. This mission is accomplished within a nurturing, student-centered environment where faculty and students strive together for attainment of the following program goals:

1. To prepare music majors for successful professional careers in music education, studio teaching, music industry, and performance;
2. To provide music courses for all students that will acquaint them with fundamental music skills, various musical styles, historical periods and literature, the functions of music in the community, and to provide opportunities to participate in the live performance of music;
3. To encourage students to be continually aware of music as an art form, and to seek opportunities for creative experiences and personal enrichment that are inherent in the study, performance, and production of music; and
4. To contribute to the artistic and cultural life of the community by providing public concerts and recitals, and other forms of appropriate musical involvement of faculty and students.

Texas A&M University-Corpus Christi is an accredited institutional member of the National Association of Schools of Music.

Music Courses Designed Specifically for Non-Majors
Music course offerings of special interest to students majoring in fields outside music include various kinds of ensemble experience:

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<td>MUSI 1302</td>
<td>Non-major Class Piano I</td>
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<td>MUSI 1303</td>
<td>Basic Guitar I</td>
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<td>MUSI 1306</td>
<td>Understanding and Enjoying Music</td>
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<td>History of Rock and Roll</td>
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<td>History of Jazz</td>
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<td>MUSI 2303</td>
<td>Basic Guitar II</td>
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<td>MUSI 3334</td>
<td>Music Cultures of the World</td>
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<tr>
<td>MUSI 3370</td>
<td>Class Voice</td>
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Admission to Music Degree Programs
Degree-seeking music majors are expected to perform at increasingly higher levels of technical and artistic performance throughout the course of undergraduate study. Assessment of growth in performance is accomplished at the final examination for each semester of Principal Studio enrollment. This consists of a performance before a jury committee composed of music faculty members. Jury committees are charged with two tasks: first, they recommend an advisory jury grade to each student’s studio teacher, and second, they determine if students will pass to the next course in the studio sequence. In order to avoid a situation in which a student attempts the pursuit of a music degree for which there is little or no practical hope of success, the following procedures governing admission to Texas A&M-Corpus Christi music degree programs are closely followed.

All music majors share a common first-year music course enrollment, consisting of Musicianship I and II, Aural Training I and II, Class Piano I and II, First Year Principal Applied Studio I and II, and an appropriate major ensemble. The jury examination for First Year Principal Applied Studio II will serve as an application audition for the Bachelor of Music or Bachelor of Music with Teacher Certification. Jury committees will approve applications based upon the jury performance and recommendation of the student’s principal studio instructor. Because the Bachelor of Arts program is more broadly focused and not as dependent upon performance, students who are not accepted into the Bachelor of Music or Bachelor of Music with Teacher Certification programs may continue with the BA. Transfer students who have completed two or more semesters of principal studio at another institution should audition for admission to the BM or BMTC degrees at auditions held during the first week of classes each semester for that purpose. Students may attempt to qualify for the Bachelor of Music or the Bachelor of Music with Teacher Certification program only twice.

Ensemble Participation and Requirements
1. Every full-time music major must enroll, participate and receive a passing grade in a major ensemble every semester except the student teaching semester.
2. Major ensemble requirements must be satisfied in the following ways:
   - A student in any instrumental music degree program whose major instrument is a woodwind, brass, or percussion instrument must register for MUEN 1122 Concert Band (1 sch)/MUEN 3122 Concert Band (1 sch), MUEN 1123 Symphonic Winds (1 sch).
Students whose personal learning styles do not respond well to such rigorous and time consuming. Although the program can be completed in 9 regular semesters, it requires very heavy course loads to do so.

EC-12 teacher certification in music. General and instrumental music are available. This degree leads to Texas Certification, or the Bachelor of Music in Performance, with the following specific degree requirements, unless specifically excused. All music degrees require MUSI 1307 Elements of Musical Style (3 sch), which also meets the Core Curriculum Program Fine Arts requirement.

Policy on Course Substitutions
At times, it may be necessary for a student nearing graduation to substitute a secondary applied lesson for a techniques course when there are class scheduling conflicts. In such cases, the student may be allowed to enroll in an applied lesson with the instructor or instructors in that area or in lieu of that specific methods course. Courses may include Woodwind Techniques I (MUSI 3166), Woodwind Techniques II (MUSI 3167), Brass Techniques I (MUSI 3168), Brass Techniques II (MUSI 3169), Voice Techniques (MUSI 3170), Percussion Techniques (MUSI 3188), and String Techniques (MUSI 3189). These substitutions are exceptions to be determined on a case-by-case basis by permission of the Music Department Chair.

Program Requirements

- UNIV 1101 First-Year Seminar I (1 sch)
- UNIV 1102 First-Year Seminar II (1 sch)

Program Description

Bachelor of Music with Teacher Certification
This is the appropriate professional degree for students who seek careers in elementary and/or secondary music education. Degree tracks in vocal/general and instrumental music are available. This degree leads to Texas EC-12 teacher certification in music.

The Bachelor of Music with Teacher Certification curriculum has been designed to insure reasonable competence in all graduates, but it is rigorous and time consuming. Although the program can be completed in 9 regular semesters, it requires very heavy course loads to do so. Students whose personal learning styles do not respond well to such pressure, or those who must continue partial employment, should consider attending several summer sessions and/or extending their programs to 10 full semesters. In all cases, however, students are strongly urged to consult with the Music Department Chair or their assigned faculty advisor prior to beginning the program and frequently throughout.

All students seeking the Bachelor of Music with Teacher Certification degree must complete a 122 hr. set of Common Requirements consisting of the Core Curriculum Program (42 hrs.), Common Musicianship coursework (40 hrs.), Common Pedagogy Core (10 hrs.), and Professional Development (27 hrs.). In addition, a 10 hr. Track Specific Techniques Block must be completed.

Student Learning Outcomes
Student will:
- be able to assess and critique student performances
- have knowledge of music theory, history, literature, and culture
- be able to structure and apply appropriate music pedagogy to form effective instruction in classrooms or ensembles

Specific Degree Requirements
All music majors must meet all general University and College graduation requirements, including First Year Seminars, regardless of the following specific degree requirements, unless specifically excused. All music degrees require MUSI 1307 Elements of Musical Style (3 sch), which also meets the Core Curriculum Program Fine Arts requirement.

Understanding and Enjoying Music (MUSI 1306 Understanding and Enjoying Music (3 sch)) cannot count towards any degree requirement of the Bachelor of Music with Teacher Certification. No music coursework with a grade lower than “C” will be counted toward the completion of the Bachelor of Arts in Music, the Bachelor of Music with Teacher Certification, or the Bachelor of Music in Performance, with the following exception. In order to progress to the next level of applied principal lessons (MUAP courses), a student must earn at least an “A” or “B” in his/her lessons and also be recommended to advance by the jury committee. A student who does not advance to the next level of lessons, as recommended by the jury committee, can earn no higher than a “C” in applied music. Students who do not advance in lessons due to their ineligibility to take the Basic Music Skills Assessment due to other factors (i.e. theory sequence issues) are not held to this grading policy.

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)¹</td>
<td>0-2</td>
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<tr>
<td>Music Major Requirements</td>
<td>60</td>
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<tr>
<td>Professional Development</td>
<td>24</td>
</tr>
<tr>
<td>Teacher Certification Requirements</td>
<td>3</td>
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<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>129-131</strong></td>
</tr>
</tbody>
</table>

¹ Full-time, first time in college students are required to take the first-year seminars.

- UNIV 1101 First-Year Seminar I (1 sch)
- UNIV 1102 First-Year Seminar II (1 sch)
**Core Curriculum Program**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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**Teacher Certification Common Music Core**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MUSI 1311</td>
<td>Musicianship I</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1312</td>
<td>Musicianship II</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 2311</td>
<td>Musicianship III</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 2312</td>
<td>Musicianhip IV</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1116</td>
<td>Aural Training I</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 1117</td>
<td>Aural Training II</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 2116</td>
<td>Aural Training III</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 2117</td>
<td>Aural Training IV</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 1181</td>
<td>Class Piano I</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 1182</td>
<td>Class Piano II</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 2181</td>
<td>Class Piano III</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 2182</td>
<td>Class Piano IV</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 3346</td>
<td>Form and Analysis of Tonal Music</td>
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<tr>
<td>MUSI 1307</td>
<td>Elements of Musical Style</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 4334</td>
<td>History of Western Music I</td>
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<td>MUSI 4335</td>
<td>History of Western Music II</td>
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<tr>
<td>MUSI 4085</td>
<td>Senior Recital</td>
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**Teacher Certification Common Pedagogy Core**

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<tr>
<td>MUSI 3252</td>
<td>Foundations of Music Programs</td>
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</tr>
<tr>
<td>MUSI 3253</td>
<td>Basic Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 3354</td>
<td>Advanced Conducting</td>
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</tr>
<tr>
<td>MUSI 4355</td>
<td>Music for Young Children</td>
<td>3</td>
</tr>
</tbody>
</table>

**Professional Development Coursework**

For more information on required professional development courses, see the College of Education section of this catalog. Students should also consult the Certification Office of the College of Education for complete and current information about teacher certification requirements.

**Track-Specific Techniques Blocks**

Select one of the following Tracks:

**Vocal/General**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MUAP 31XX</td>
<td>Secondary Guitar Studio</td>
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</tr>
<tr>
<td>MUSI 3166</td>
<td>Woodwind Techniques I</td>
<td></td>
</tr>
</tbody>
</table>

or MUSI 316 Woodwind Techniques II

or MUSI 3166 Brass Techniques II

or MUSI 3188 Percussion Techniques

or MUSI 3162 Diction for Singers I

or MUSI 3165 Diction for Singers II

or MUSI 4357 Choral Literature and Techniques

**Instrumental**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MUSI 3166</td>
<td>Woodwind Techniques I</td>
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</tr>
<tr>
<td>MUSI 3167</td>
<td>Woodwind Techniques II</td>
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</tr>
<tr>
<td>MUSI 3168</td>
<td>Brass Techniques I</td>
<td></td>
</tr>
<tr>
<td>MUSI 3169</td>
<td>Brass Techniques II</td>
<td></td>
</tr>
<tr>
<td>MUSI 3170</td>
<td>Voice Techniques for Instrumentalists</td>
<td></td>
</tr>
<tr>
<td>MUSI 3188</td>
<td>Percussion Techniques</td>
<td></td>
</tr>
<tr>
<td>MUSI 3189</td>
<td>String Techniques</td>
<td></td>
</tr>
<tr>
<td>MUSI 4358</td>
<td>Instrumental Literature and Techniques</td>
<td></td>
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</tbody>
</table>

**Total Hours** 131

1. Students with adequate keyboard skills may substitute Secondary Piano Studio courses for Class Piano I-IV with permission of the Music Department Chair.

2. Students are not required to take the instrumental techniques course that includes their own major instrument.

**Other Certification Requirements**

For more information on teacher certification requirements, see the College of Education section of this catalog. Students should also consult the Certification Office of the College of Education for complete and current information about teacher certification requirements.

Upon satisfactory completion of all subject field and professional development courses, a student may register for the subject field certification examination, called TExES (Texas Examinations of Educator Standards). A student wishing to take the TExES prior to program completion must satisfy the following:

1. Make pre-specified acceptable scores on TExES practice tests, or departmental equivalent, and participate in practice test review and analysis session.

2. Provide official permit with signature of Department Chair or designated person for each teaching field on the student’s certification plan.

Students must also qualify to take the Professional Development TExES.

**Courses**

**Music Courses**

MUSI 1116 Aural Training I

1 Semester Credit Hour (1 Lecture Hour)

A companion course to MUSI 1311, designed to strengthen the understanding of theoretical principles through the development of aural perception and skills; exercises in melodic, harmonic, and rhythmic dictation; and drill in sight singing.

TCCNS: MUSI 1116
MUSI 1117  Aural Training II
1 Semester Credit Hour (1 Lecture Hour)
Continuation of MUSI 1116; a companion course to MUSI 1312.
Prerequisite: MUSI 1116 and 1311.
TCCNS: MUSI 1117

MUSI 1181  Class Piano I
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 1181

MUSI 1182  Class Piano II
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 1182

MUSI 1301  Fundamentals of Music
3 Semester Credit Hours (3 Lecture Hours)
Designed to teach beginning music students the basic tenet of music theory: note reading, rhythm, scales, key signatures, basic intervals and triads, and solfeggio.

MUSI 1302  Non-major Class Piano I
3 Semester Credit Hours (3 Lecture Hours)
Group instruction in the elements of piano playing, designed for the non-major. No previous experience necessary.

MUSI 1303  Basic Guitar I
3 Semester Credit Hours (3 Lecture Hours)
Group instruction in the fundamentals of guitar playing, designed for the non-major. The student must furnish an acceptable instrument. No previous experience necessary.
TCCNS: MUSI 1303

MUSI 1306  Understanding and Enjoying Music
3 Semester Credit Hours (3 Lecture Hours)
A course for the non-music major. Study of selected music literature of contrasting styles and forms with emphasis on listening to music with understanding.
TCCNS: MUSI 1306

MUSI 1307  Elements of Musical Style
3 Semester Credit Hours (3 Lecture Hours)
A survey of selected western and non-western musical styles, based upon the analysis of the characteristic use of the elements of music. Required for music majors and recommended for non-majors with a significant high school music background.
TCCNS: MUSI 1307

MUSI 1310  History of Rock and Roll
3 Semester Credit Hours (3 Lecture Hours)
A general survey of composers, performers, and styles of rock and roll. Emphasis on understanding stylistic elements of music, including rhythm, texture, form, and harmony.
TCCNS: MUSI 1310

MUSI 1311  Musicianship I
3 Semester Credit Hours (3 Lecture Hours)
First principles of chord progression and phrase harmonization. Theory assessment required prior to enrollment.
TCCNS: MUSI 1311

MUSI 1312  Musicianship II
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 1311, with a study of more advanced chord structures and their placement within the phrase through written exercises, analysis, and correlated keyboard projects.
Prerequisite: MUSI 1311 and 1116.
TCCNS: MUSI 1312

MUSI 2116  Aural Training III
1 Semester Credit Hour (1 Lecture Hour)
Continuation of MUSI 1117; a companion course to MUSI 2311. Designed to further the understanding of advanced theoretical principles and techniques through related aural exercises, dictation, and sight singing.
Prerequisite: MUSI 1117 and 1312.
TCCNS: MUSI 2116

MUSI 2117  Aural Training IV
1 Semester Credit Hour (1 Lecture Hour)
Continuation of MUSI 2116; a companion course to MUSI 2311.
Prerequisite: MUSI 2116 and 2311.
TCCNS: MUSI 2117

MUSI 2181  Class Piano III
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
Prerequisite: MUSI 1182.
TCCNS: MUSI 2181

MUSI 2182  Class Piano IV
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 2182

MUSI 2302  Non-major Class Piano II
3 Semester Credit Hours (3 Lecture Hours)
Extension of skill development begun in MUSI 1302 Non-Major Class Piano I.
Prerequisite: MUSI 1302.

MUSI 2303  Basic Guitar II
3 Semester Credit Hours (3 Lecture Hours)
Extension of skill development begun in MUSI 1303 - BASIC GUITAR I. The student must furnish an acceptable instrument.
Prerequisite: MUSI 1303.
MUSI 2311  Musicianship III  
3 Semester Credit Hours (3 Lecture Hours)  
Continuation of MUSI 1312. A broad summary of classical and chromatic harmony, explored through written exercises, analysis, and correlated keyboard drill.  
Prerequisite: MUSI 1312 and 1117.  
TCCNS: MUSI 2311

MUSI 2312  Musicianship IV  
3 Semester Credit Hours (3 Lecture Hours)  
Continuation of MUSI 2311. An exploration of 20th-century techniques through written exercises, analysis, and correlated keyboard drill.  
Prerequisite: MUSI 2311 and 2116.  
TCCNS: MUSI 2312

MUSI 3085  Junior Recital  
0 Semester Credit Hours  
Required for all students presenting a Junior Recital in partial fulfillment of the requirements for the Bachelor of Music in Performance Degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Department Chair.

MUSI 3162  Diction for Singers I  
1 Semester Credit Hour (1 Lecture Hour)  
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in English and French.

MUSI 3165  Diction for Singers II  
1 Semester Credit Hour (1 Lecture Hour)  
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in Italian and German.

MUSI 3166  Woodwind Techniques I  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the oboe, bassoon, and saxophone. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3167  Woodwind Techniques II  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the flute and clarinet. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3168  Brass Techniques I  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the trumpet and French horn. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3169  Brass Techniques II  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the trombone, euphonium, and tuba. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3170  Voice Techniques for Instrumentalists  
1 Semester Credit Hour (1 Lab Hour)  
Group instruction and practical experience in the fundamentals of voice production and song interpretation for the instrumental music educator. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3188  Percussion Techniques  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the instruments of the percussion family. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3189  String Techniques  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the violin, viola, ’cello, and string bass. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3252  Foundations of Music Programs  
2 Semester Credit Hours (2 Lecture Hours)  
A survey of the historical, social, and philosophical bases of music education in the United States, psychological theories of learning and musical responsiveness, and studies of how these foundations have been applied in various types of music curricula.  
Prerequisite: MUSI 2311 and 2116.

MUSI 3253  Basic Conducting  
2 Semester Credit Hours (2 Lecture Hours)  
A skills acquisition course designed to give students competence in basic baton techniques and musical control of an ensemble. Includes score study and musical terminology.  
Prerequisite: MUSI 2311 and 2116.

MUSI 3310  History of Jazz  
3 Semester Credit Hours (3 Lecture Hours)  
A study of jazz styles, influences, trends, innovators, and literature. Readings include interviews and articles that discuss origins of jazz, definitions of jazz, and race politics of jazz. No previous experience is necessary.

MUSI 3334  Music Cultures of the World  
3 Semester Credit Hours (3 Lecture Hours)  
The course introduces the student to ethnomusicology and the cross-cultural study of music and society. It emphasizes the role of music in human life, and explores music and performance from around the world. The student will learn about classical, folk and popular styles found on all seven continents. This course is appropriate for any student of any musical background.

MUSI 3345  Composition  
1-3 Semester Credit Hours  
Creative writing with a view toward developing an individual style of musical composition. Variable credit, 1, 2, or 3 hrs. One private lesson per week.  
Prerequisite: MUSI 2312 and 2117.

MUSI 3346  Form and Analysis of Tonal Music  
3 Semester Credit Hours (3 Lecture Hours)  
Analysis of the melodic and harmonic design of tonal music, including the aural and visual analysis of scores for piano, voice, chamber ensembles, and orchestra.  
Prerequisite: MUSI 2312 and 2117.

MUSI 3354  Advanced Conducting  
3 Semester Credit Hours (3 Lecture Hours)  
A continuation of MUSI 3252. Advanced experiences with score preparation and effective ensemble rehearsal and management techniques.  
Prerequisite: MUSI 3252.
MUSI 3370  Class Voice  
3 Semester Credit Hours (3 Lecture Hours)
Group instruction and practical experience in the fundamentals of voice production, music reading, and song interpretation. Dramatic stage movement and singing will be explored using Classical and Broadway song literature. This course is designed for the non-major. No previous experience is necessary.

MUSI 4085  Senior Recital  
0 Semester Credit Hours  
Required for all students presenting a Senior Recital in partial fulfillment of the requirements for any music degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Program Coordinator.

MUSI 4334  History of Western Music I  
3 Semester Credit Hours (3 Lecture Hours)
An in-depth study of the evolution of Western musical style from antiquity through the 18th-century.  
Prerequisite: MUSI 1307, 2312 and 2117.

MUSI 4335  History of Western Music II  
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 4334, an in-depth study of the evolution of Western musical style from the age of Beethoven to the present.  
Prerequisite: MUSI 4334.

MUSI 4340  Studies in Repertoire  
3 Semester Credit Hours  
Systematic examination of the history and literature of a specific performance medium.

MUSI 4346  Orchestration and Arranging  
3 Semester Credit Hours (3 Lecture Hours)
The compass, timbre, and techniques of arranging and/or orchestration for instruments and/or voices. Practical experience in arranging for orchestra, band, and other instrumental and vocal combinations.  
Prerequisite: MUSI 2312 and 2117.

MUSI 4355  Music for Young Children  
3 Semester Credit Hours (3 Lecture Hours)
Study of musical development in children in grades K-6. Study of and practical experience with pedagogical approaches and materials appropriate for that age group.  
Prerequisite: MUSI 3252.

MUSI 4357  Choral Literature and Techniques  
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the literature, pedagogy, and management techniques required for successful vocal ensembles in secondary schools.  
Prerequisite: MUSI 3253.

MUSI 4358  Instrumental Literature and Techniques  
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the literature, pedagogy, and management techniques required for successful instrumental ensembles in secondary schools. Includes a segment pertaining to the development of marching band shows.  
Prerequisite: MUSI 3253.

MUSI 4360  STUDIES IN PEDAGOGY  
3 Semester Credit Hours  
Methods, materials and psychology of presenting musical materials to students at various ages. Evaluation of teaching materials and techniques. Classes are organized by specific performance areas.

MUSI 4385  Senior Capstone  
3 Semester Credit Hours  
The Senior Capstone is intended to provide students seeking the Bachelor of Arts in Music with an opportunity to demonstrate their musical scholarship through scholarly analysis and writing within a field of music of their choosing. May include a performance component, as in a lecture recital, but musical performance may comprise no more than 40% of the capstone project.

MUSI 4390  Topics in Music  
1-3 Semester Credit Hours (1-3 Lecture Hours)
May be repeated for credit when topics vary.

MUSI 4396  Directed Individual Study  
1-3 Semester Credit Hours
See College description.

MUSI 4398  Applied Experience  
3 Semester Credit Hours
See College description.

Music Ensemble Courses

MUEN 1122  Concert Band  
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1123  Symphonic Winds  
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1124  Concert Orchestra  
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 1127  Pep Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1128  Stage Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1131  Piano Accompanying
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1132  Classical Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1133  Percussion Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1135  Brass Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1136  Woodwind Choir
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1137  Clarinet/Sax Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1138  Jazz Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1139  Flute Ensemble
1 Semester Credit Hour (1 Lecture Hour, 1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 1140  String Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1143  Chorale  
1 Semester Credit Hour (1 Lecture Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1151  University Singers  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1153  Chamber Choir  
1 Semester Credit Hour (1 Lecture Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1157  Opera Workshop  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1159  Mariachi Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
This course is designed to assist the student in developing an increased proficiency in the art of Mariachi Performance. In accomplishing this goal, this course will allow each student to develop: 1.) performance skills on the instruments of the mariachi (including violin, trumpet, guitar, guitarron, vihuela, and harp), and 2.) knowledge of the repertoire and history of mariachi literature. Performance of an instrument in the mariachi also requires singing when the repertoire calls for it. The objective is to study the literature of Mexican Folk music; to engage in the technical study of mastering performance on the instruments of the mariachi; to represent TAMUCC in the immediate and global community through musical excellence.

MUEN 3122  Concert Band  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3123  Symphonic Winds  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3124  Concert Orchestra  
1 Semester Credit Hour (35 Lab Hours)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3127  Pep Band  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 3128 Stage Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3132 Classical Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3133 Percussion Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3135 Brass Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3136 Woodwind Ensemble
1 Semester Credit Hour (2 Lab Hours)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3139 Flute Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3140 String Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3143 Chorale
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3151 University Singers
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3153 Chamber Choir
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 3157 Opera Workshop  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3159 Mariachi Ensemble  
1 Semester Credit Hour (15 Lab Hours)  
This course is designed to assist the student in developing an increased proficiency in the art of Mariachi Performance. In accomplishing this goal, this course will allow each student to develop: 1) performance skills on the instruments of the mariachi (including violin, trumpet, guitar, guitarron, vihuela, and harp), and 2) knowledge of the repertoire and history of mariachi literature. Performance of an instrument in the mariachi also requires singing when the repertoire calls for it. The objective is to study the literature of Mexican Folk music; to engage in the technical study of mastering performance on the instruments of the mariachi; to represent TAMUCC in the immediate and global community through musical excellence.

Theatre Arts, Teacher Certification  
Program Description  
The mission of the Texas A&M University-Corpus Christi Theatre Program is to provide students with the tools needed for preparation as Theatre educators or professional practitioners, or for continuation of their studies on the graduate level.

The goal of the program is to provide students with meaningful experiences that promote an understanding of theatre as a medium of expression and collaboration. Students are given opportunities for creative and critical thinking, problem solving, and exploration in an environment that values artistic integrity, understands failure as well as success, and respects the viewpoints of others in the encouragement of artistic truth. The extensive season of the Theatre Program serves not only as a training lab for the students, but also enhances the cultural and aesthetic experience of the campus and is a major cultural resource for the residents of South Texas.

Student Learning Outcomes  
BA in Theatre graduates with Teaching Certification will demonstrate the following:

- Communicate historical and cultural dimensions of Theatre during a required exit jury with the Theatre faculty.
- Communicate competencies in historical research and script analysis during a required exit jury with the Theatre faculty.
- Communicate visual and aural perceptions of Theatre performance during a required exit jury with the Theatre faculty. The student will use specific examples from their participation in University Theatre productions.

Teacher Certification in Theatre Arts (grades Early Childhood – 12)  
All students seeking certification in Theatre should select a Theatre faculty advisor to help them choose appropriate courses and co-curricular activities.

For information on required professional development courses and other teacher certification requirements, please see the complete and current information about teacher certification requirements.

To qualify to take the TExES (Texas Examinations of Educator Standards), in the field of Theatre, students must meet the following criteria:

1. Make pre-specified acceptable scores on TExES practice tests, or departmental equivalent, and participate in practice test review and analysis session.
2. Provide official permit with signature of Program Coordinator or designated person for each teaching field on the student’s certification plan.

Students must also qualify to take the Professional Development TExES.

General Requirements  
<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
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<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
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<tr>
<td>Theatre Major Requirements (Design/Tech or Acting/Directing)</td>
<td>51</td>
</tr>
<tr>
<td>Professional Development</td>
<td>27</td>
</tr>
<tr>
<td>Foreign Language Requirements</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>126-128</strong></td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.  
   - UNIV 1101 First-Year Seminar I (1 sch)  
   - UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements  
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
<td>1</td>
</tr>
</tbody>
</table>

Core Curriculum Program  
University Core Curriculum | 42

Teacher Certification in Theatre Arts Requirements  
Select one of the following Concentrations: 51

**Acting/Directing Concentration**  
THEA 1120 Theatre Practicum 1  
THEA 1121 Theatre Practicum 2  
THEA 2336 Voice for the Actor  
THEA 1351 Acting I  
THEA 1352 Acting II  
THEA 1371 Costume Technology  
THEA 2120 Theatre Practicum 3  
THEA 2121 Theatre Practicum 4
THEA 1330 Theatre Stagecraft
THEA 3120 Theatre Practicum 5
THEA 3302 Creative Dramatics
THEA 3311 Script Analysis
THEA 3335 UIL Debate and Speech
THEA 3370 History of the Theatre I
THEA 3371 History of the Theatre II
THEA 3373 Principles of Design
THEA 3375 Acting III: Period Styles
THEA 4314 Collaborative Approaches to Design
THEA 4360 Stage Direction I
THEA 4361 Stage Direction II

**Design/Technical Theatre Concentration**

THEA 1120 Theatre Practicum 1
THEA 1121 Theatre Practicum 2
THEA 1341 Stage Makeup
THEA 1330 Theatre Stagecraft
THEA 1340 Theatre Practicum 4
THEA 2120 Theatre Practicum 5
THEA 2121 Theatre Practicum 6
THEA 3302 Creative Dramatics
THEA 3311 Script Analysis
THEA 3335 UIL Debate and Speech (highly recommended)
THEA 3335 Production Management
THEA 3370 History of the Theatre I
THEA 3371 History of the Theatre II
THEA 3373 Principles of Design
THEA 4314 Collaborative Approaches to Design
THEA 4360 Stage Direction I
THEA 4365 Costume Design
THEA 4370 Set Design
THEA 4375 Lighting Design

**Professional Development**

27 hours of professional development

**Foreign Language Requirements**

See the College of Liberal Arts for more information.

| Total Hours | 128 |

**Courses**

**THEA 1120 Theatre Practicum 1**

1 Semester Credit Hour (1 Lab Hour)

Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Linked with THEA 1342 - Costume Technology.

Co-requisite: SMTE 0098, THEA 1342.

**THEA 1121 Theatre Practicum 2**

1 Semester Credit Hour (1 Lab Hour)

Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Linked with THEA 1330 - Theatre Stagecraft.

Co-requisite: SMTE 0098, THEA 1330.

**THEA 1310 Theatre Appreciation**

3 Semester Credit Hours (3 Lecture Hours)

Survey of theatre including its history, dramatic works, stage techniques, production procedures, and relation to other art forms. Participation in productions may be required.

TCCNS: DRAM 1310

**THEA 1330 Theatre Stagecraft**

3 Semester Credit Hours (3 Lab Hours)

Study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, and sound.

Co-requisite: SMTE 0098.

**THEA 1341 Stage Makeup**

3 Semester Credit Hours (3 Lecture Hours)

A practical exploration of basic stage makeup techniques. The student will also investigate the relationships of character to makeup and begin to understand the work needed to design makeup for a production.

TCCNS: DRAM 1341

**THEA 1351 Acting I**

3 Semester Credit Hours (3 Lecture Hours)

The development of basic skills and techniques of acting, including sensory awareness, ensemble performing, character analysis, and script analysis. Emphasis on the mechanics of voice, body, emotion, and analysis as tools for the actor.

TCCNS: DRAM 1351

**THEA 1352 Acting II**

3 Semester Credit Hours (3 Lecture Hours)

A continuation of Acting I with emphasis on characterization and working with extended realism. The student will study the theories of Constantin Stanislavski.

Prerequisite: THEA 1351.

TCCNS: DRAM 1352

**THEA 1371 Costume Technology**

3 Semester Credit Hours (3 Lecture Hours)

A beginning overview of the vocabulary and basic sewing methods of theatrical costuming.

Co-requisite: SMTE 0098, THEA 1120.

TCCNS: DRAM 1342

**THEA 2120 Theatre Practicum 3**

1 Semester Credit Hour (1 Lab Hour)

Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.

Co-requisite: SMTE 0098.

**THEA 2121 Theatre Practicum 4**

1 Semester Credit Hour (1 Lab Hour)

Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.

Co-requisite: SMTE 0098.
Prerequisite: theories of Aristotle and Eugene Scribe's "Well Made Play Formula".

THEA 3310 Theatre Practicum 5
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Co-requisite: SMTE 0098.

THEA 3311 Theatre Practicum 6
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Co-requisite: SMTE 0098.

THEA 3165 The Design and Technical Portfolio.
1 Semester Credit Hour (1 Lecture Hour)
A basic course in the development of the student portfolio for the areas of design and technology with emphasis in the theatrical job market or graduate school.

THEA 3300 Stage Movement
3 Semester Credit Hours (3 Lecture Hours)
Students will gain insights into the physical skills, practices, exercises, and staging techniques developed and used by actors and directors in theatrical performance, with an emphasis on relaxation, freedom, expressiveness, spatial relationships, and composition.
Prerequisite: THEA 1351 and 1352.

THEA 3302 Creative Dramatics
3 Semester Credit Hours (3 Lecture Hours)
Theories and practices incorporating the techniques of creative drama in the elementary, middle, and high school classroom. Especially recommended for elementary education, recreation, and the social sciences.

THEA 3303 Theatre in the Public Schools
3 Semester Credit Hours (3 Lecture Hours)
Theories and practices of incorporating theatre activities in the public schools. Especially recommended to students of elementary and secondary education, recreation and the social sciences.

THEA 3310 Contemporary Theatre
3 Semester Credit Hours (3 Lecture Hours)
An overview of the nature and function of theatre in our contemporary society with discussion of representative plays and playwrights, theatrical styles, and avant-garde theatre. Students will explore multicultural, political, and experimental themes, attend theatrical productions, and meet with actors, designers, and directors to discuss contemporary practices.

THEA 3311 Script Analysis
3 Semester Credit Hours (3 Lecture Hours)
Students will learn the principles, techniques, and processes of dramatic structure found in written scripts as seen through the perception of the stage director, actor, and designer. A written intensive analysis of each script studied during the semester will be required. Focus will be on the theories of Aristotle and Eugene Scribe's "Well Made Play Formula".
Prerequisite: THEA 1352 and 2370.

THEA 3312 Stage Combat I
3 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Stage combat is a unique form of acting and movement; integral to the training of the professional actor and an extremely marketable skill. This course is an introduction to the stage fight discipline. It is important as actors that we develop a keen sense of duality in performance; a seemingly impromptu, theatrically engaging moment of violence built upon a foundation of safe, consistent physical dialogue. In this way, we can enhance the physical lives of all the characters we play; especially those engaged in acts of violence. This course explores many fundamental acting techniques in a new light including responsibility to a partner, listening and responding, projection, articulation, spatial awareness and above all intent. May be repeated for credit.

THEA 3335 UIL Debate and Speech
3 Semester Credit Hours (3 Lecture Hours)
This course will prepare students to coach High School speech events as extra-curricular and co-curricular activities. The class will focus primarily on Texas University Interscholastic Leagues (UIL competitions) but will also cover events sponsored by the Texas Forensics Association (TFA) and the National Forensics League (NFL). Areas covered will include oral interpretation, extemporaneous speaking, and debate.

THEA 3340 Audition Preparation
3 Semester Credit Hours (3 Lecture Hours)
Provides the student with the information and skills needed for auditioning in both professional and educational theatre.
Prerequisite: THEA 1351 and 1352.

THEA 3350 Production Management
3 Semester Credit Hours (3 Lecture Hours)
This course is a survey of stage management and theatre administration. Topics to be studied include stage management, production management, professional unions, publicity/marketing, box office and house management.
Prerequisite: THEA 1371, 2370 and 3311.

THEA 3370 History of the Theatre I
3 Semester Credit Hours (3 Lecture Hours)
Historical investigation of the nature and function of theatre from primitive rituals through the Renaissance periods with discussions of representative plays/playwrights, theatrical styles and stage design.
Prerequisite: THEA 3311.

THEA 3371 History of the Theatre II
3 Semester Credit Hours (3 Lecture Hours)
Historical investigation of theatre from the Restoration era to the present. Focus on the nature and function as well as the critical analysis of theatre and design, various movements, and influential people.
Prerequisite: THEA 3311.

THEA 3373 Principles of Design
3 Semester Credit Hours (3 Lecture Hours)
Builds upon the student's practical lab experience and understanding of theatrical design begun in costume construction and theatre stagecraft. Students will explore the creative process of theatre production as it pertains to lighting, set, sound, props, and costume design projects.
Prerequisite: THEA 1371 and 2370.

THEA 3375 Acting III: Period Styles
3 Semester Credit Hours (3 Lecture Hours)
Specific training for actors in period plays. Emphasis on training the actor for the Classical, Renaissance, Shakespearean, and Modern Periods.
Prerequisite: THEA 1351 and 1352.
THEA 3380 History of Theatrical Styles
3 Semester Credit Hours (3 Lecture Hours)
A survey and research-oriented course which studies the major impact of the visual, artistic, historical, and social period movements. The course will focus on the approach that the actor, designer, director, and playwright take in developing the understanding of the environment of a play’s location and time period.

THEA 3381 Drawing and Rendering for the Stage
3 Semester Credit Hours (3 Lecture Hours)
Examination of the uses of the various materials used and the development of the techniques employed in the creation and presentation of theatrical renderings and models.

THEA 3382 Drafting and Computer-Aided Design for the Stage
3 Semester Credit Hours (3 Lecture Hours)
Practical examination and practice in theatrical drafting conventions with an emphasis on the development of hand drafting techniques and CAD (computer-aided design).
Prerequisite: THEA 2370.

THEA 3385 Musical Theatre
3 Semester Credit Hours (3 Lecture Hours)
The focus of the course is on musical theatre history, exploring trends in the genre, audition techniques, characterization, staging and choreography.

THEA 3386 Playwriting
3 Semester Credit Hours (3 Lab Hours)
is a fundamentals course in writing for the stage. The course will cover playwriting for monologues, 10 Minute Plays, and One Act Plays. Completion of Script Analysis is strongly suggested but not required. May be repeated for credit.

THEA 3387 Dramaturgy
3 Semester Credit Hours (3 Lecture Hours)
This class will provide a brief overview of many of the skills and tools that dramaturgs possess. We will study the history of the field and learn about currently working dramaturgs, while also covering the foundational skills of historical research, structural analysis, and theoretical application. Completion of Script Analysis is strongly suggested but not required. May be repeated for credit.

THEA 4100 Senior Seminar
1 Semester Credit Hour (1 Lecture Hour)
A seminar class for the graduating senior. The student will be given the opportunity to address individual weaknesses and strengths in preparation for graduate school or entering the job market.

THEA 4200 Senior Capstone
2 Semester Credit Hours (2 Lab Hours)
The course is designed to provide the graduating senior an opportunity to complete a final project in the acting/directing or design/tech focus areas. The student’s project will be judged by the entire faculty and include a research and production component.

THEA 4312 Stage Combat II
3 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Stage combat is a continuation of the skills of acting and movement; integral to the training of the professional actor and an extremely marketable skill. This course is an advanced weaponry course in the stage fight discipline. It is important as actors that we develop a keen sense of duality in performance; a seemingly impromptu, theatrically engaging moment of violence built upon a foundation of safe, consistent physical dialogue. In this way, we can enhance the physical lives of all the characters we play, especially those engaged in acts of violence. May be repeated for credit.
Prerequisite: THEA 3312.

THEA 4313 Theatre Technologies
3 Semester Credit Hours (3 Lecture Hours)
Designed to provide a forum for intensive study of a particular aspect of modern theatrical technologies. Various topics may be selected based on current industry trends, student needs and available resources.
Prerequisite: THEA 2370, 3381 and 3382.

THEA 4314 Collaborative Approaches to Design
3 Semester Credit Hours (3 Lecture Hours)
An advanced design course where the student will examine the process of design from the standpoint of the relationship created within the design team. Through class projects, the student will participate in a design process which fosters communication of ideas, written analysis and collaboration in pursuit of a unified design in all aspects of production.
Prerequisite: THEA 3373.

THEA 4323 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study, primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or ENGL 4370.)

THEA 4333 Technical Direction
3 Semester Credit Hours (3 Lecture Hours)
An advanced technical class geared for the student who wishes to receive training and employment as a technical director.

THEA 4360 Stage Direction I
3 Semester Credit Hours (3 Lecture Hours)
The study and practical application of directing principals for the beginning director. Elements of script analysis, blocking, movement, character development, tempo, and design will be investigated as part of the directing process. The student will direct a ten-minute play for public performance.
Prerequisite: THEA 1352 and 3311.

THEA 4361 Stage Direction II
3 Semester Credit Hours (3 Lecture Hours)
An advanced study in directing with actual experience in organization, interpretation, casting, and producing the one-act play. The student will direct a one-act play for public performance.
Prerequisite: THEA 4360.

THEA 4365 Costume Design
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of costume design utilizing the human form as a design element for the stage. Encompasses theatre form, style, and drafting and drawing techniques. Students are required to work on University Theatre productions as part of this course.
THEA 4366 Scene Painting  
3 Semester Credit Hours  
The examination and practice of the various materials and techniques of professional scenic painting, including material mixing, faux techniques, and textural applications.

THEA 4370 Set Design  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the theory and practice of set design. Students will learn the fundamentals of theatre design and will apply this knowledge to projects. Projects will encompass theatre form, style, and concept utilization. Students are required to work on University Theatre productions as a part of this course.

THEA 4371 Acting for the Camera  
3 Semester Credit Hours (3 Lecture Hours)  
Emphasizes the practice of various acting styles for television, video, and film. The student will receive practical experience in commercial styles, public service announcements, television and video style acting, and film scene study. (Credit may not be given for both this course and COMM 4371.)

THEA 4372 Theatre Practicum  
3 Semester Credit Hours (3 Lecture Hours)  
Advanced practice and participation in set construction, lighting implementation, and stagecraft. Students will build upon skills in the areas of theatre production and design for production in the University Theatre. Class meets twice weekly with additional crew/lab work requirements as well. Students are required to work on University Theatre productions as a part of this course. May be repeated twice for credit.

THEA 4373 Improvisation Skills Level I  
3 Semester Credit Hours (3 Lecture Hours)  
is a fundamentals of improvisation course that teaches the guidelines for successful improvisation skills. The course reinforces the basics of successful improvisation as it pertains to Theatre, Communication, and the student who wants to improve their communication skills. May be repeated for credit.

THEA 4374 Improvisation Skills Level II  
3 Semester Credit Hours (3 Lecture Hours)  
is a continuation of improvisation course level I that instructs the student in the guidelines for advanced improvisation skills. The course teaches the skills necessary for advanced individual and group improvisation. Emphasis is on ensemble performance. May be repeated for credit.  
Prerequisite: THEA 4373.

THEA 4375 Lighting Design  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the theory and practice of lighting design. Practical experiences in University Theatre are included to provide exposure to the total design and implementation of lighting design. Students will become familiar with the techniques and aesthetics of lighting theatrical performances and will apply skills to create designs for projects and actual plays. Students are required to work on University Theatre productions as a part of this course.

THEA 4380 Advanced Stage Makeup  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the theory and practice of designing makeup for the stage. Students will learn about aesthetics, application, and techniques of stage makeup. Students will do makeup designs as projects in the class. Students are required to work on University Theatre productions as a part of this course.

THEA 4384 Theatre Production  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
An applied production experience in which students perform in a play, work back stage or on a stage crew, or learn to design a play or musical from conception to final production. Students enrolling in the course but not cast in the shows will work backstage (technical production) or in another production capacity. Enrollment is by application only, and must be approved by the instructor in advance of registration. As part of the application process the number of credit hours will be determined by the instructor. May be repeated for credit.

THEA 4390 Topics in Theatre  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Study of specialized topics and themes in the areas of acting, directing, and theatre history. May be repeated when topics vary.

THEA 4396 Directed Individual Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
See College description. By application.

THEA 4398 Applied Experience  
3 Semester Credit Hours  
See College description. By application.

Minors

- Creative Writing, Minor (p. 281)
- Criminal Justice, Minor (p. 287)
- History, Minor (p. 289)
- Latin American Studies, Minor (p. 292)
- Literary Studies, Minor (p. 298)
- Mexican American Studies, Minor (p. 303)
- Philosophy, Minor (p. 308)
- Political Science, Minor (p. 310)
- Pre-Law, Minor (p. 312)
- Psychology, Minor (p. 316)
- Social Work, Minor (p. 318)
- Sociology, Minor (p. 319)
- Spanish, Minor (p. 320)
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- Women, Gender, and Sexuality Studies, Minor (p. 329)

Creative Writing, Minor  
Program Description  
This minor is for students who have a desire to develop their creative writing skills (mainly in short fiction and poetry) through the imaginative consideration of literature, including published American literature and their own and their peers’ writing. Students of all majors are welcome. The minor consists of 18 semester hours and includes four core courses. Prerequisite courses for the minor are ENGL 1302 Writing and Rhetoric (3 sch)*, and core curriculum literature (ENGL 2316, ENGL 2332, ENGL 2333, or SPAN 2315, SPAN 3304, SPAN 3305, SPAN 3320 and SPAN 3325) passed with a C or better. Student may take individual courses in the minor as long as they have met the prerequisites.

Students who select this minor must consult with an Academic Advisor in the College of Liberal Arts prior to completing 6 hours of coursework listed for the program. Students are also encouraged to discuss the program with faculty members who teach the courses. The minor plan must be filed with an Academic Advisor in the College of Liberal Arts and
Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENGL 2303</td>
<td>Introduction to Writing Studies</td>
<td>3</td>
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<tr>
<td>ENGL 3302</td>
<td>Techniques of Creative Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3362</td>
<td>Creative Writing Workshop: Survey and Practice of Genres</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3364</td>
<td>Strategies of Writing Creative Nonfiction</td>
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Electives

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<tr>
<td>ENGL 4335</td>
<td>Creative Writing Studio: Development of Craft</td>
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<tr>
<td>ENGL 4350</td>
<td>Studies in Poetics: Theory, Form, and Practice</td>
</tr>
<tr>
<td>ENGL 4385</td>
<td>Studies in Creative Writing</td>
</tr>
<tr>
<td>ENGL 4391</td>
<td>Topics in Writing Studies (when topic is Creative Writing)</td>
</tr>
</tbody>
</table>

Total Hours 18

Courses

ENGL 0001 Grammar I
0 Semester Credit Hours (3 Lecture Hours)
Grammatical structures that enable students to better comprehend and use academic English are the focus of the course. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0002 Listening and Speaking I
0 Semester Credit Hours (3 Lecture Hours)
This course provides short and focused activities to help students improve their English listening and speaking skills. It includes practice in both mastering the larger message and key words, phrases and specific sounds to assist students in developing better speaking and comprehension skills. Students will practice giving academic presentations as well as practice speaking in small groups and individually.

ENGL 0003 Reading I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will develop the reading skills essential for academic learning and inquiry in the context of authentic academic reading tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive reading tasks of increasing complexity. Contemporary academic and literary texts will be used to develop students’ critical reading and vocabulary, writing, listening, and speaking skills.

ENGL 0004 Writing I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the writing skills essential for academic success including sentence, paragraph, and basic essay writing. This course is aimed at students planning to study, or are already studying, at university level in English.

ENGL 0005 Recitation I
0 Semester Credit Hours (3 Lecture Hours)
This course provides students with a structured, scheduled academic environment providing the opportunity to complete assignments and work closely with their language instructor. Instructors utilize materials from student courses to facilitate activities and discussions that will increase comprehension of academic material and further students’ abilities to work independently in academic settings. Each week, the course will focus on the language skills and vocabulary needed for the students’ courses. Additionally, there will be a focus on study skills and time management needed for success in academic settings. Students will leave the course better equipped for university level academic course work and a thorough understanding of time management and appropriate study habits for the university.

ENGL 0011 Grammar II
0 Semester Credit Hours (3 Lecture Hours)
This course will focus on high-intermediate grammatical structures that enable students to better comprehend and use academic English. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0012 Listening and Speaking II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the listening, note-taking, and presentation skills essential for academic learning, inquiry, and communication in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminars will be used to develop students’ critical thinking skills.

ENGL 0013 Reading II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will study texts across several different academic disciplines in order to deepen their understanding of the rhetorical styles and conventions used and applied within the English language. Students will practice identifying audience, purpose, theme, main ideas, and details within several different genres of writing. Students will also develop a variety of strategies to improve their reading comprehension and efficiency, including annotation, vocabulary-building, and discussions regarding written materials.

ENGL 0014 Writing II
0 Semester Credit Hours
In this course, students will develop a foundation in the writing skills critical to academic success. Students will apply knowledge of audience, purpose, voice, arrangement, and style in varied writing tasks by writing across several different genres. Genres practiced in this course may include, but are not limited to: emails, newsletters, personal narratives, fiction, academic essays, and magazine/news articles. Students will learn grammar and vocabulary conventions as they apply to different genres and apply these skills in writing tasks of increasing complexity throughout the semester.
ENGL 0022  Listening and Speaking III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will learn and apply listening, note-taking, and presentation skills essential for academic learning, inquiry, and discourse in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminar will be used to develop students' critical thinking skills.

ENGL 0023  Reading and Writing III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will improve upon and apply the reading skills essential for academic learning, inquiry, and discourse in the context of authentic academic reading tasks. Students will build vocabulary through extensive and intensive reading tasks of increasing complexity. Contemporary academic tests about writing will be used to develop students' critical reading, academic vocabulary, and complex writing skills. There will be a number of in-class written tasks and prompts that will stimulate free writing practice and introduce students to various styles of writing. Students will also use these written tasks to develop editing skills through the writing process. The final project will be a collection of these written tasks in the form of a portfolio.

ENGL 0036  US Culture
0 Semester Credit Hours (3 Lecture Hours)
This course will offer English Language Learners a means for analyzing and evaluating the complex social and moral issues that are specific to the social and moral landscape of the United States. As students examine their own cultures and compare them with others, culture shock and cultural conflict may be lessened and appreciation for cultural differences may be strengthened. Students will engage in interactive tasks, including researching and case analysis of topics and social, academic and professional issues, especially those suggested by the extensive reading component of this course. Through the process of reading, discussion, analysis and writing students in this class will enrich their understanding of today's global society while at the same time they are sharpening their academic English skills.

ENGL 0037  Critical Thinking
0 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to develop the critical thinking skills needed to interpret and assess arguments and information. This course will highlight the language skills essential for critically analyzing and discussing the quality of the information and opinions presented in authentic texts and listening selections. The course will concentrate on detecting errors of reasoning in short and long passages, evaluating evidence in written and verbal arguments, detecting logical inconsistencies, removing vagueness and ambiguity through word choice and phrasing, and identifying the point or purpose of someone's remarks. Through examining these topics, students will be able to thoughtfully respond to others' opinions in a clear, logical, and informed way. Students will leave the course better prepared to collect, synthesize, and evaluate information and feel more confident in presenting their perspectives in an academic setting.

ENGL 0099  Integrated Reading and Writing Non-Course Based Development
0 Semester Credit Hours
ENGL 0099 is designed to develop student's critical reading and academic writing skills on an individualized basis through tutoring. The course fulfills TSI requirements for reading and writing. TSI compliance staff will approve each student for this course. Approval is based on test score and/or by academic standing.

ENGL 0399  Integrated Reading and Writing
3 Semester Credit Hours (3 Lecture Hours)
A portfolio-based course with required tutoring (lab) time focused on the writing and reading processes, including strategies for invention, revision, and editing, and techniques of active reading, such as analysis, inference, summary, and evaluating texts. Students will enter ENGL 0399 through Texas Success Initiative (TSI) mandated remediation. (Not counted toward graduation)

ENGL 1301  Composition I
3 Semester Credit Hours (3 Lecture Hours)
Principles, techniques, and processes of written composition, textual analysis, and critical thinking.
TCCNS: ENGL 1301

ENGL 1302  Writing and Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to writing studies, rhetoric, and academic research (information literacy). Students will read, apply, and reflect on the current research and scholarship in writing studies, especially threshold concepts, kinds of knowledge about writing, and rhetoric. Students will learn how to transfer, deepen, and extend their ability to use writing in various contexts.
Prerequisite: ENGL 1301.
TCCNS: ENGL 1302

ENGL 2303  Introduction to Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course will review current scholarship on writing studies, including threshold concepts, activity theory, and genre studies. It will consider various perspectives on the uses of writing to provide students with an intellectual and practical understanding of writing. This course provides a starting point for the more specific studies of writing that occur in other writing studies courses.

ENGL 2316  Literature and Culture
3 Semester Credit Hours (3 Lecture Hours)
Introduction to literatures that raise aesthetic, cultural, social, and/or political issues that affect and reflect the human condition across regions, cultures, and nations. Sample topics: Crossing Borders, The City in Literature, Islands and Islanders, Science and Fiction.
TCCNS: ENGL 2331

ENGL 2332  Literature of the Western World: From the Classics to the Renaissance
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Ancient World to the Renaissance.
TCCNS: ENGL 2332

ENGL 2333  Literature of the Western World: From the Enlightenment to the Present
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Enlightenment to the present.
TCCNS: ENGL 2333

ENGL 2370  Introduction to Literary Studies
3 Semester Credit Hours
An introduction to literary analysis and scholarship for the intermediate writer. Emphasis placed on genres of literature, literary research, and expository and analytical composition. Familiarizes students with the various disciplines and related conversations within English Studies. Should be taken by sophomore-level English majors in the Literary Studies emphasis, and by Literary Studies and Creative Writing minors.
Prerequisite: ENGL 1302.
ENGL 3271 Exploring Social Media
3 Semester Credit Hours (3 Lecture Hours)
In this course we will examine and discuss current issues related to social media within a rhetorical framework. We will use different social media platforms to share and discuss in order to provide hands-on experience in these environments. Social media will be explored at the micro level as students will review their online social media presence to better understand how readers view them online. From the macro level we will identify current topics that affect the design and use of social media platforms and applications.

ENGL 3167 English as a Second/Foreign Language Tutoring
1 Semester Credit Hour
Students pursuing the Advanced TESOL Certificate will supplement ENGL 3367 (TESOL Seminar: Methods) with practical experience tutoring English learners. Students will write reflectively about those experiences. As needed, students will undergo site-specific training.
Co-requisite: ENGL 3367.

ENGL 3301 Technical and Professional Writing
3 Semester Credit Hours
A course designed to help students gain practical experience in finding and interpreting information and writing reports and documents for specialized audiences in the technical and professional world. ENGL 3301 will be held in a computer-assisted classroom.

ENGL 3302 Techniques of Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the theoretical knowledge and practical experience used in creative writing. Focuses on poetry, creative nonfiction, and short fiction. For all majors.

ENGL 3310 Technical and Professional Writing for Computer Science
3 Semester Credit Hours (3 Lecture Hours)
Designed specifically for computer science majors, this course focuses on developing students ability to (1) use writing to communicate effectively with a range of audiences about technology; (2) identify, analyze, and appropriately integrate relevant information in their writing; (3) make informed judgments about their uses of writing based on ACM's and IEEE's code of ethics; and (4) develop their ability to function effectively individually and as members of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.

ENGL 3321 Film and Literature
3 Semester Credit Hours (3 Lecture Hours)
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.
Prerequisite: ENGL 1302 and 2332 or ENGL 2333, 2334 or 2335.

ENGL 3323 Young Adult Fiction
3 Semester Credit Hours (3 Lecture Hours)
Literary study of young adult literature through analysis, discussion, and interpretation. The course emphasizes literary issues connected with society, culture, history, and genre.

ENGL 3325 Interdisciplinary Approaches to Literature
3 Semester Credit Hours (3 Lecture Hours)
In recent decades, it has become common to study literature in light of other disciplinary perspectives and to study other disciplines as they are depicted in literature. From these interdisciplinary approaches has emerged a distinct mode of analysis that examines texts within their broader social and cultural milieu. In this course students will earn to use cross-disciplinary methods to interpret literature and culture. Topics will vary, but may include Religion, Medicine, and American Literature, Disability Narratives in the Eighteenth Century, Trauma and the City in Twentieth-Century Literature.

ENGL 3330 Current Events and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course examines literature in the context of current issues and events. Students will place literature in conversation with social, political, and cultural trends as a means of engaging with and understanding these trends and the debates associated with them. Using reading, writing, and discussion as modes of critical inquiry, students will discover the critical role that literature plays in representing, responding to, and shaping current events.

ENGL 3339 Introduction to Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Introductory survey course covering phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3340 Grammar
3 Semester Credit Hours (3 Lecture Hours)
Presents a general descriptive overview of English grammar and provides a structural framework for analyzing English sentences.

ENGL 3341 British Literature before 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of poetry, drama, and prose before 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370*) or (ENGL 3303*) or (ENGL 2303*).
May be taken concurrently.

ENGL 3345 British Literature since 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of British poetry, drama, and prose since 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370*) or (ENGL 3303*) or (ENGL 2303*).
May be taken concurrently.

ENGL 3348 Drama
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of dramatic literature, using a wide range of texts. Variable content.

ENGL 3349 Poetry
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of poetry using a wide range of texts. Variable content.

ENGL 3354 American Literatures before 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from the country's pre-European beginnings to 1900 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370*) or (ENGL 2303*) or (ENGL 3303*).
May be taken concurrently.
ENGL 3355  American Literatures since 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from 1900 to the present with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 2303) or (ENGL 3303).
May be taken concurrently.

ENGL 3360  CURRENT APPROACHES TO COMPOSITION AND LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
Prepares prospective teachers to create developmentally appropriate learning environments and tasks that enable student success in writing and the study of literature in Language Arts and English courses. Prepares students to meet the increased writing and reading expectations in all subject areas, including their own writing.

ENGL 3361  STRATEGIES AND GENRES OF ADVANCED WRITING
3 Semester Credit Hours (3 Lecture Hours)
Students will practice writing in situated contexts (such as their majors, careers, and/or other professional interests) and across genres to develop more advanced and reflective writing strategies. By studying theories of writing; engaging in writing as a craft; and drafting, revising, and editing texts; students will refine and become more reflective in their writing processes.

ENGL 3362  Creative Writing Workshop: Survey and Practice of Genres
3 Semester Credit Hours (3 Lecture Hours)
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3363  Foundations of Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
This course will study the historical and theoretical development of rhetoric through the works of principal thinkers. Students will analyze rhetorical concepts in their relation to civic, cultural, political, and pedagogical developments and the construction of knowledge and will use rhetorical concepts to produce logical, ethical, and moral arguments.

ENGL 3364  Strategies of Writing Creative Nonfiction
3 Semester Credit Hours (3 Lecture Hours)
Explores the uses of creative nonfiction through reading and writing about published works of experienced writers and scholars in the field and practicing a variety of creative nonfiction techniques and genres (e.g. literary journalism, memoir, and the personal narrative).

ENGL 3365  Second Language Acquisition
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to second language acquisition. The course is designed to be accessible to students from a wide variety of backgrounds and no basic knowledge of the linguistic structure of English will be assumed. This course will address issues related to how second language is learned by both children and adults.

ENGL 3366  Language in Society
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of language as a function of several societal variables. Introduces basic concepts of language such as linguistic varieties, dialect, speech communities, and linguistic attitudes.

ENGL 3367  TESOL Seminar
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to and a critique of current and traditional methodologies of teaching English to speakers of other languages, with emphasis on aural comprehension; speaking, reading, and writing skills; testing and assessment; and linguistic-cultural differences. This course is open to all majors, but is required for students seeking the Certificate in TESOL.
Prerequisite: ENGL 3365.

ENGL 3369  Topics in Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Exploration of topics such as second language acquisition, language assessment, history of English, and contrastive analysis. May be repeated when topics vary.

ENGL 3370  Document Design and Publishing
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the integration of text and visual rhetoric, such as graphics, for all kinds of professional publications including technical documents, media, public relations pieces, and advertisements.

ENGL 3375  Writing for the Web
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 3377  Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Explores the interplay between the text's content and its formal features. Students will build the skills to think and write analytically about the materiality of texts.

ENGL 3378  Technologies and Cultures of the Book
3 Semester Credit Hours (3 Lecture Hours)
Working with a range of print media, students will learn to analyze the interplay between the text's content and its formal features. Students will build the skills to think and write analytically about the materiality of texts.

ENGL 3379  Nonprofit Writing Project
1 Semester Credit Hour
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students' professor in the regular course will be the instructor of record for a the projects course.

ENGL 4123  Nonprofit Writing Project
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4305  Major Authors
3 Semester Credit Hours (3 Lecture Hours)
This course studies the significant works of a major literary author. Texts are viewed through a variety of critical perspectives and placed in the context of the writer's life and of the society, culture, and history of the times. May be repeated once for credit when authors vary.

ENGL 4320  Professional Writing Workshop
3 Semester Credit Hours (3 Lecture Hours)
This course is tailored for individual students' writing and publishing projects in their disciplines.
ENGL 4321 Grants and Proposals
3 Semester Credit Hours (3 Lecture Hours)
This course will teach students the grant proposal writing process, including identifying sources of funding, conducting research to support funding applications, and tailoring each proposal to a specific funding agency. Students will receive experience writing actual proposals on behalf of local organizations and agencies.

ENGL 4322 Writing in the Nonprofit Agencies
3 Semester Credit Hours (3 Lecture Hours)
Focusing on the specific kinds writing of professionals in the nonprofit world do, including internal communication in an agency, writing for the public, document creation, fund raising, board relations, and other relevant topics.

ENGL 4324 Editing & Style
3 Semester Credit Hours (3 Lecture Hours)
Practice in methods, tools, and principles of editing for nonfiction and technical publications. Emphasis on a rhetorical understanding of levels of editing, managing the editorial process, and grammar and style.

ENGL 4325 Writing Across Cultures and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Through writing, students will study how groups perceive, understand, and communicate with and about each other. The course may focus on a specific type of writing (cross cultural expository writing, travel writing, cross cultural writing in industry), or on the linguistic and rhetorical practices of a cross-cultural community (latino/a rhetoric, African-American rhetorics, etc).

ENGL 4335 Creative Writing Studio: Development of Craft
3 Semester Credit Hours (3 Lecture Hours)
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a studio setting. Guides students to focus on a major project in one genre with sustained practice of techniques and revision. Open to students of all levels, from the novice to the advanced. For all majors.

ENGL 4340 The Novel
3 Semester Credit Hours (3 Lecture Hours)

ENGL 4345 Rhetorics, Literacies, and Writing
3 Semester Credit Hours (3 Lecture Hours)
This course examines the history and major theories of rhetoric, literacy, and composition, and explores how they influence contemporary cultural productions.

ENGL 4350 Studies in Poetics: Theory, Form, and Practice
3 Semester Credit Hours (3 Lecture Hours)
Develops students' theoretical knowledge of poetics and practical experience of writing in traditional forms, from the Anglo-American tradition to the culturally diverse movements and innovation of form. Focusing on works written by poets about poetry and poetics primarily from the 19th to the 21st centuries. For all majors.

ENGL 4351 Senior Capstone: Literature and Writing
3 Semester Credit Hours (3 Lecture Hours)
A study of literature in English for graduating seniors in the Literary Studies Emphasis. Emphasis is placed on genre, research, and analytical expository writing.
Prerequisite: ENGL 2370, 3303 or 2303.

ENGL 4352 Capstone in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course is the culminating experience for the Writing Studies emphasis in English. Students review, reflect on, integrate, and apply their learning from previous courses and experiences. Students create digital portfolios for career and publishing opportunities, emphasizing selection, revision, reflection, and presentation. In addition, students identify, evaluate, and annotate texts and resources to include in a curated digital collection/publication that will be available for students in future Writing Studies courses.

ENGL 4360 Gender, Sexuality and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to literature that explores issues of gender and sexuality. It focuses on relevant literary periods and conventions, as well as on the historical, social, and cultural contexts of artistic productions. Sample topics: women's literature, queer literature, literature and masculinity.

ENGL 4361 Race and Ethnicity in Literature
3 Semester Credit Hours (3 Lecture Hours)
A study of selected perspectives and critical approaches to literature and culture, including an examination of some of the theoretical assumptions upon which they are based, as well as their implications for the way we think about literature, human identity, and the power of language.

ENGL 4362 Texts and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Study of literary and cultural texts that raise issues of community and social relations, diversity, multiculturalism, and/or globalization. Sample topics: Medicine and Religion in American Literature, Traveling Histories, the Global City, and Literary Regionalism in Transnational Context. May be repeated once for credit when topics vary.

ENGL 4370 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study, primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or THEA 4323.)

ENGL 4380 CRITICAL APPROACHES TO LITERATURE AND CULTURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected perspectives and critical approaches to literature and culture, including an examination of some of the theoretical assumptions upon which they are based, as well as their implications for the way we think about literature, human identity, and the power of language.
Prerequisite: ENGL 2370.

ENGL 4385 Studies in Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Students will focus on the craft of a specific genre or type of writing through reading experts’ advice, reading and analyzing examples written by practitioners, and engaging in peer-response workshops with classmates. Attention will be paid to publication opportunities available for writers in that genre.

ENGL 4390 Topics in Literary Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4391 Topics in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.
ENGL 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

ENGL 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description.

ENGL 4399 TESOL Practicum
3 Semester Credit Hours
Practical experience teaching English to second language learners. Students will observe, plan, and teach ESL lessons. Instructional support provides opportunities to discuss and reflect upon teaching experiences and help students connect theory, methods, and practice. This course enhances the TESOL Certification, but is not required for it. Cannot be repeated for credit.

Criminal Justice, Minor

Program Requirements

The minor in Criminal Justice consists of 18 semester hours of Criminal Justice coursework, 15 of which must be at the upper-division level. The 18 semester hours for the Minor in Criminal Justice must be selected from the following courses.

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<th>Title</th>
<th>Hours</th>
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<td>CRIJ 1301</td>
<td>Introduction to Criminal Justice</td>
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<tr>
<td>or CRIJ 3313</td>
<td>The Juvenile Justice System</td>
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<td><strong>Theoretical Perspectives</strong></td>
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<td>CRIJ 3315</td>
<td>Crime Prevention</td>
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<td>CRIJ 4322</td>
<td>CRIME AND PUNISHMENT IN LITERATURE</td>
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<td>CRIJ 4331</td>
<td>Juvenile Delinquency</td>
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<td>CRIJ 4335</td>
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<td><strong>Corrections</strong></td>
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<td>CRIJ 4320</td>
<td>Offender Rehabilitation</td>
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<td>or CRIJ 4321</td>
<td>American Prisons and Prisoners</td>
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<td><strong>Courts</strong></td>
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<td>CRIJ 1306</td>
<td>Court Systems and Processes</td>
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<td>CRIJ 4312</td>
<td>Law and Evidence</td>
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<td>CRIJ 4313</td>
<td>Criminal Procedure</td>
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<td><strong>Law Enforcement</strong></td>
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<tr>
<td>CRIJ 3302</td>
<td>Police and Society</td>
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<tr>
<td>or CRIJ 4351</td>
<td>POLICE SUPERVISION AND MANAGEMENT</td>
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<td>Three credit hours of electives.</td>
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1 Either the three credit Systems requirement or the Elective requirement may be satisfied by lower-division transfer credit.

Courses

CRIJ 1301 Introduction to Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
History and philosophy of criminal justice. Overview of criminal justice system: police, prosecution and defense, courts, trial process, and corrections as they affect the individual, as well as their impact on society. The definition, nature, and impact of crime. The functions of criminal justice agencies will be examined in relation to common analytical themes such as ethics and discretion.

TCCNS: CRIJ 1301

CRIJ 1306 Court Systems and Processes
3 Semester Credit Hours (3 Lecture Hours)
Examination of the civil and criminal legal systems and the roles played by political, social and economic factors in the administration of justice. Consideration of the roles and interests of litigants, defendants, police, attorneys, and the judiciary in the process.

TCCNS: CRIJ 1306

CRIJ 1310 Fundamentals of Criminal Law
3 Semester Credit Hours (3 Lecture Hours)
The course will introduce students to the study of criminal law. Major topics include the sources of criminal law, the operation of the criminal courts, constitutional limitations on criminal law, the elements of criminal liability, and the classification of and punishments for different types of criminal offenses. Defenses to criminal liability will also be explored.

TCCNS: CRIJ 1310

CRIJ 2313 Correctional Systems & Practices
3 Semester Credit Hours (3 Lecture Hours)
This course is a survey of institutional and non-institutional corrections. Emphasis will be placed on the organization and operation of correctional systems; treatment and rehabilitation; populations served; Constitutional issues; and current and future issues.

TCCNS: CRIJ 2313

CRIJ 2328 Police Systems and Practices
3 Semester Credit Hours (3 Lecture Hours)
The history and development of police in America. Topics examined include: the police profession, organization of law enforcement systems, the policing role, police discretion, ethics, police-community interaction, current and future issues, and research findings.

TCCNS: CRIJ 2328

CRIJ 3302 Police and Society
3 Semester Credit Hours (3 Lecture Hours)
Examination of policing in a democratic society. A critical review of various professional and community influences on police behavior, together with a consideration of social problems created by such forces, and potential remedial actions.

CRIJ 3310 THE JUDICIAL PROCESS
3 Semester Credit Hours (3 Lecture Hours)
Examination of the civil and criminal legal systems and the roles played by political, social and economic factors in the administration of justice. Consideration of the roles and interests of litigants, defendants, police, attorneys, and the judiciary in the process.

CRIJ 3313 The Juvenile Justice System
3 Semester Credit Hours (3 Lecture Hours)
The administration of the juvenile justice process. Historical and philosophical origins of the juvenile justice system. A systematic analysis of problems and procedures at each stage of the process.
CRIJ 3315  Crime Prevention  
3 Semester Credit Hours (3 Lecture Hours)  
Examination of traditional and innovative crime-prevention strategies.  
Consideration of the citizen’s role in crime prevention. Analysis of factors  
related to the incidence and distribution of crime in relation to prevention  
tactics.

CRIJ 3320  Issues in Corrections  
3 Semester Credit Hours (3 Lecture Hours)  
Analysis of contemporary developments, controversies and management  
concerns in the field of corrections. Includes examination of theoretical  
foundations of correctional policy.

CRIJ 3325  Community-Based Corrections  
3 Semester Credit Hours (3 Lecture Hours)  
Examination of the correctional strategies and facilities available in  
community settings including diversion programs, probation, parole, half-  
way houses, boot camps, and restitution centers.

CRIJ 3340  Comparative Criminal Justice  
3 Semester Credit Hours (3 Lecture Hours)  
Comparison of the police in selected countries with the U.S. criminal  
justice system. Particular emphasis on social, political, and economic  
factors in the development and change in law enforcement.

CRIJ 3341  Terrorism  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of political violence from criminological, legal,  
and political perspectives. Application to contemporary events is  
emphasized. The sociology, psychology, and organization of terrorist  
groups are also explored as well as counter-terrorism strategies,  
methods, and dilemmas.

CRIJ 3360  Organized Crime  
3 Semester Credit Hours (3 Lecture Hours)  
The course analyzes and discusses how criminal organizations carry out  
their illegal activities while laundering money through legal enterprises.  
It discusses why people belong to organized crime syndicates despite  
the risks of death and imprisonment. The linkages of poverty, lack of  
education, social and economic inequalities, and the glorification of  
capitalist ideology by the phenomenon of organized crime are examined.

CRIJ 3361  Drugs, the Drug War, and Criminal Justice  
3 Semester Credit Hours (3 Lecture Hours)  
The course analyzes and discusses how criminal organizations carry out  
their illegal activities while laundering money through legal enterprises.  
It discusses why people belong to organized crime syndicates despite  
the risks of death and imprisonment. The linkages of poverty, lack of  
education, social and economic inequalities, and the glorification of  
capitalist ideology by the phenomenon of organized crime are examined.

CRIJ 3365  Sex Crimes  
3 Semester Credit Hours (3 Lecture Hours)  
The course analyzes the nature, etiology, and theories related to sex  
ofenses and sex offenders. It explores the history and current practices  
employed by the criminal justice systems to deal with sex offending. The  
course also examines multiple types of sexual offenses, perpetrators  
and victims, as well as the legal consequences of sexual offenses and its  
sociocultural ramifications to grasp the complexity of these crimes.

CRIJ 3370  Crime in the Media  
3 Semester Credit Hours (3 Lecture Hours)  
This course will cover the portrayal of crime, criminals, the criminal  
justice system, and criminal justice practitioners in the media.  
Specifically, the course will address the goals of the media and how those  
afflict their coverage of crime and the CJ system.

CRIJ 3375  Applied Statistics in Criminal Justice  
3 Semester Credit Hours (3 Lecture Hours)  
This course will teach students the step-by-step process for using  
statistical techniques that are most applicable in the field of criminal  
justice. It will teach them when, where, and why each statistical analysis  
individual and/or useful, and it will help students learn those skills by  
applying them to an actual project.

CRIJ 3380  Victimology  
3 Semester Credit Hours (3 Lecture Hours)  
is the scientific study of crime victims and focuses on the physical,  
emotional, and financial harm victims suffer due to crime. The purpose of  
this course is to examine victim-offender relationships, the interactions  
between victims and the criminal justice system, and the connections  
between victims and other institutions (such as the media, advocacy  
groups, and government). In exploring these connections, students will  
address the theory, research, legislation, and policy implications related  
to victimization.

Prerequisite: CRIJ 1301.

CRIJ 4085  Major Field Test  
0 Semester Credit Hours  
The Major Field Test (MFT) in Criminal Justice is a national examination  
given in the Fall and Spring semesters only. It is a graduation requirement  
for all Criminal Justice majors. Students enroll in this course during the  
semester that they plan to take the MFT. This should be the semester  
of graduation or the Spring semester for those planning a summer  
graduation. There is no cost to the student for either this course or the  
MFT. Admission is limited to students who have completed 90 or more  
semester credit hours. Graded: CR/NC

CRIJ 4310  Constitutional Law  
3 Semester Credit Hours (3 Lecture Hours)  
A case study of American constitutional law based on the leading  
decisions of the U.S. Supreme Court. Examination of the evolution of  
judicial review and the development of due process and the protection of  
individual rights.

CRIJ 4312  Law and Evidence  
3 Semester Credit Hours (3 Lecture Hours)  
A detailed examination of the use, admissibility, and presentation of  
evidence. Issues and problems dealing with the rules of evidence and the  
thories on which those rules are based.

CRIJ 4313  Criminal Procedure  
3 Semester Credit Hours (3 Lecture Hours)  
A detailed examination of the legal constraints on investigation and  
prosecution of criminal offenses. Analysis of the Texas Code of Criminal  
Procedure and of Search and Seizure Law under the Fourth Amendment,  
as well as other due process issues arising under the Fifth and Sixth  
Amendments.

CRIJ 4320  Offender Rehabilitation  
3 Semester Credit Hours (3 Lecture Hours)  
Theories of rehabilitation, treatment, and correction of criminal offenders.  
Includes analysis of the historical development of the rehabilitative  
ideal and contemporary controversies surrounding it, and a survey of  
therapeutic models and methods.

CRIJ 4321  American Prisons and Prisoners  
3 Semester Credit Hours (3 Lecture Hours)  
Analysis of the history, philosophy, and function of prisons. Examination  
of control and treatment of offenders in institutional settings. Focus is  
upon current developments, controversies and management problems.
CRIJ 4322 CRIME AND PUNISHMENT IN LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected literary classics that treat of crime and punishment. The works of literary artists from various cultures which describe experience with crime and the criminal justice system will be placed in historical and theoretical perspective.

CRIJ 4324 Women and Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
An historical and ideological analysis of the role of women in the criminal justice system as offenders, reformers, and professionals.

CRIJ 4325 Diversity in Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course is an investigation into the impact of social diversity (race, ethnicity, gender, sexual orientation, disability, and more) on crime and the criminal justice system. Students will examine the impact of these factors on both offenders and criminal justice system employees, and will discuss and critically examine historical trends, contemporary events, and criminal justice system policies and laws.

CRIJ 4330 Understanding Criminal Behavior
3 Semester Credit Hours (3 Lecture Hours)
This course examines various aspects of human behavior from a criminal justice perspective and is designed to give students a basic understanding of criminal behavior and psychological disorders which are encountered by criminal justice professionals.

CRIJ 4331 Juvenile Delinquency
3 Semester Credit Hours (3 Lecture Hours)
Examination of the nature and extent of juvenile crime today. Analysis of the history and theory of delinquency and society's response to it. (Credit may not be given for both this course and SOCI 4331.) Cross listed with SOCI 4331.

CRIJ 4335 Criminology
3 Semester Credit Hours (3 Lecture Hours)
An examination of the major sociological explanations for crime, criminal behavior, and the social responses to crime. (Credit may not be given for both this course and SOCI 4335.) Cross listed with SOCI 4335.

CRIJ 4340 Criminal Investigation
3 Semester Credit Hours (3 Lecture Hours)
Critical examination of investigation methods and comparison of these to research methods. Advanced examination of investigative procedures, theory, supervision, and evaluative research. Some practical applications.

CRIJ 4345 Research Methods in Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to help students gain a working understanding of the research process with direct application to criminal justice research. Attention will focus on various aspects of the research process including quantitative and qualitative methods. Students will complete literature reviews, create research proposals, conduct observations/interviews, and construct surveys in addition to various assignments and activities.

Prerequisite: CRIJ 4301 or 1313.

CRIJ 4351 POLICE SUPERVISION AND MANAGEMENT
3 Semester Credit Hours (3 Lecture Hours)
Study of contemporary theories of management and supervision as they relate to law enforcement. Management concerns considered include planning, motivation, organizational communication, discipline, productivity, ethics, conflict, and job stress.

CRIJ 4360 Intimate Relationship Violence
3 Semester Credit Hours (3 Lecture Hours)
Violence involving acquaintance, spouse, child, and elder abuse is examined within a theoretical construct relating violence to social responses. Alternative causal theories, prevention, counseling, administration, innovative programs, and inter-agency coordination are addressed.

CRIJ 4365 White Collar Crime
3 Semester Credit Hours (3 Lecture Hours)
Critical examination of widespread forms of offending and offenders typically omitted from traditional criminology and criminal justice courses. Critical exploration of white collar, corporate, environmental and governmental crimes/criminals.

CRIJ 4390 Topics in Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
May be repeated for credit when topics vary.

CRIJ 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

CRIJ 4398 Applied Experience
3 Semester Credit Hours
See College description.

History, Minor

Program Description
The History minor is designed for students who are interested in history but cannot commit to it as their major. It makes an excellent companion for students majoring in pre-law and criminal justice, political science, literature and modern languages, philosophy, and sociology.

Program Requirements
The minor requires just eighteen credit hours beyond the history core and can usually be completed in one academic year. After completing six hours of lower-division history surveys (HIST 2311, 2312, 2322), students choose two courses each from two large clusters of upper-division electives.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tr>
<td>Core Courses</td>
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<tr>
<td>HIST 1301</td>
<td>U.S. History to 1865 *</td>
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<tr>
<td>HIST 1302</td>
<td>U.S. History Since 1865 *</td>
<td>3</td>
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<tr>
<td>HIST 2301</td>
<td>Texas History</td>
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Lower-division Surveys
Select two of the following:

- HIST 2311 Western Civilization I
- HIST 2312 Western Civilization II
- HIST 2322 World History Since 1500

Upper-division Electives

European and World History
Select two of the following:

- HIST 3301 History of World Religions
- HIST 3303 Colonial Latin America
- HIST 3304 Modern Latin America
- HIST 3307 The Ancient World
- HIST 3315 Europe 1750?1815
HIST 3317  Europe 1815?1914
HIST 3319  Europe 1914 to the Present
HIST 3340  Modern Asia
HIST 3350  Dictators and Dirty Wars in Latin America
HIST 3385  The Art and Practice of History
HIST 4340  European Women's History
HIST 4342  The Holocaust
HIST 4345  European Thought and Culture, 1750-present
HIST 4346  The Search for Modern China: From 1600 to the Present
HIST 4347  The History of Sexuality in the West
HIST 4349  Transnational Histories of Asia and the Pacific
HIST 4350  Narratives of World War II in the Pacific
HIST 4374  Mexico: the National Period
HIST 4375  Cold War Kids: Youth in Modern Latin America
HIST 4390  Topics in History

U.S. History

Select two of the following:  6

HIST 3320  Colonial and Revolutionary U.S.
HIST 3321  The Early American Republic
HIST 3323  Civil War and Reconstruction
HIST 3324  U.S. Gilded Age and Progressive Era
HIST 3325  Emergence of Modern U.S.
HIST 3326  U.S. Since 2nd World War
HIST 3335  The U.S. Urban Experience
HIST 3345  America by Nature
HIST 3370  Introduction to Public History
HIST 3373  Oral History and Podcasting
HIST 4320  U.S. Cultural Experience
HIST 4327  U.S. Modern Popular Culture
HIST 4335  The Military and United States History
HIST 4336  Mexican American History
HIST 4337  United States Women's History
HIST 4349  Transnational Histories of Asia and the Pacific
HIST 4350  Narratives of World War II in the Pacific
HIST 4352  Mexican American Women's History
HIST 4390  Topics in History

Total Hours  27

* Online offering

Courses

HIST 1301  U.S. History to 1865
3 Semester Credit Hours (3 Lecture Hours)
A survey of the political, social, economic, military, cultural and intellectual history of the United States from 1492 to 1865.

TCCNS: HIST 1301

HIST 1302  U.S. History Since 1865
3 Semester Credit Hours (3 Lecture Hours)
A survey of the political, social, economic, military, cultural and intellectual history of the United States from 1865 to the present.

TCCNS: HIST 1302

HIST 2301  Texas History
3 Semester Credit Hours (3 Lecture Hours)
Spanish colonial period, Mexican statehood, independence, the development of the Republic, annexation and growth as a state.

TCCNS: HIST 2301

HIST 2311  Western Civilization I
3 Semester Credit Hours (3 Lecture Hours)
Survey of the cultures and civilizations of the Ancient Mediterranean world and the political, social, economic, military, cultural, and intellectual influences shaping the emergence and development of Europe to 1500.

TCCNS: HIST 2311

HIST 2312  Western Civilization II
3 Semester Credit Hours (3 Lecture Hours)
A survey of the political, social, economic, military, cultural, and intellectual development of Europe from 1500 to the present.

TCCNS: HIST 2312

HIST 2322  World History Since 1500
3 Semester Credit Hours (3 Lecture Hours)
examines major global issues over the past 500 years. Topics may include European expansion and colonialism, the integration of the Americans into world economic systems, changes in science and technology, decolonization, and modern environmental problems. This course will help students understand historical events within a global framework.

HIST 3301  History of World Religions
3 Semester Credit Hours (3 Lecture Hours)
Surveys the key beliefs, practices, rituals, figures, and historical developments of the world's major religious traditions, including Hinduism, Buddhism, Confucianism, Judaism, Christianity, Islam, and New Age religions. Gives particular attention to their encounter with modernity and their complicated place in today's global, diverse, post-modern world.

HIST 3303  Colonial Latin America
3 Semester Credit Hours (3 Lecture Hours)
An overview of Latin American history from pre-Columbian times until Independence.

HIST 3304  Modern Latin America
3 Semester Credit Hours (3 Lecture Hours)
A study of the major political, economic and cultural processes that marked the development of modern Latin America.

HIST 3307  The Ancient World
3 Semester Credit Hours (3 Lecture Hours)
This course examines the ancient history of the human race. It begins with the evolution of Homo sapiens in Africa and continues through approximately the 4th century CE. Topics examined include the formation of cultures, societies, states, and empires around the world including those in Egypt, Southwest Asia, India, China, and the Mediterranean.

HIST 3315  Europe 1750?1815
3 Semester Credit Hours (3 Lecture Hours)
Explores the processes which contributes to the establishment of a new political, economic, and social order in Europe. The course includes an in-depth focus upon the causes and consequences of the French Revolution as well as an examination of the European response to Napoleon.
HIST 3317  Europe 1815?1914
3 Semester Credit Hours (3 Lecture Hours)
The evolution of European industrial society from the Congress of Vienna to the outbreak of World War I. Themes include changes in the nature of work and family life, urbanization, and the emergence and growth of liberalism, socialism, nationalism, and romanticism as competing ideologies.

HIST 3319  Europe 1914 to the Present
3 Semester Credit Hours (3 Lecture Hours)
Political, social, economic and cultural developments since 1914: includes the impact of World War I, the Russian Revolution, Fascism, the origins of the Cold War, the tension between European unification and growing ethnic tensions and the dissolution of the Soviet empire.

HIST 3320  Colonial and Revolutionary U.S.
3 Semester Credit Hours (3 Lecture Hours)
Traces regional economic, social, and political change in the Americas from 1607 to the end of the Revolution.

HIST 3321  The Early American Republic
3 Semester Credit Hours (3 Lecture Hours)
This course examines American history from the end of the revolutionary war to 1850. Political, economic, and social issues including, but not limited to, the creation of the Constitution, the development of the first and second party systems, the market revolution, antebellum reform, the Old South, and westward expansion.

HIST 3322  Civil War and Reconstruction
3 Semester Credit Hours (3 Lecture Hours)
Background and causes of the Civil War; military, political, diplomatic, and economic developments during the War, Reconstruction and post-war adjustments.

HIST 3324  U.S. Gilded Age and Progressive Era
3 Semester Credit Hours (3 Lecture Hours)
An examination of the dramatic period when the United States definitively settled the remaining portions of the continent and decisively moved towards becoming an industrial, urban nation with world-wide economic and political influence.

HIST 3325  Emergence of Modern U.S.
3 Semester Credit Hours (3 Lecture Hours)
Study of American life from World War I through World War II. Topics include America's rise to a world power, the social, cultural, and political effects of corporate enterprise, urbanization, and immigration, women's suffrage, the Twenties, and the New Deal.

HIST 3326  U.S. Since 2nd World War
3 Semester Credit Hours (3 Lecture Hours)
A study of American life and development as a world power since World War II.

HIST 3335  The U.S. Urban Experience
3 Semester Credit Hours (3 Lecture Hours)
A general survey of the social, cultural, and political history of the American city, with particular emphasis on Corpus Christi and the ways our city illustrates these larger trends.

HIST 3340  Modern Asia
3 Semester Credit Hours (3 Lecture Hours)
This course will examine Asia from 1600 to the present. Topics include politics, the nation state, colonialism, empire, war, nationalism, the Cold War and revolution, all in a historical context.

HIST 3345  America by Nature
3 Semester Credit Hours (3 Lecture Hours)
Examines the role of nature in the nation's past, looking beyond more traditional historical topics to discover how the environment has shaped society and the ways in which humans, in turn, have shaped nature throughout American history. Community-engaged learning component.

HIST 3350  Dictators and Dirty Wars in Latin America
3 Semester Credit Hours (3 Lecture Hours)
Explores the rise of dictatorships and military regimes in twentieth century Latin America. Focuses on human rights struggles and popular movements in Mexico, Central America and the Southern Cone.

HIST 3360  Introduction to Museum Studies
3 Semester Credit Hours (1.5 Lecture Hours)
In this cross-disciplinary class, students of history, sciences, the arts, and more will be introduced to the different departments of a museum and gain experience in programming, exhibits, research, public engagement, and other various aspects of museum management through their participation in a real working museum (Corpus Christi Museum of Science and History).

HIST 3370  Introduction to Public History
3 Semester Credit Hours (3 Lecture Hours)
A Project-centered class that examines public history practices and debates, including the changing field over time, the relationship between history and memory, and the interpretive and sometimes controversial nature of historical sites and exhibits. Students will also learn methods and practices of museums, archives, oral history, digital history, and more. Includes community-engaged learning, workshops, local field trips.

HIST 3373  Oral History and Podcasting
3 Semester Credit Hours (3 Lecture Hours)
A project-based course designed to teach students oral history, audio recording, and editing. Topics include oral history theory and methods, the role of testimony and memory in constructing historical narratives, interview techniques, archival practices, and the technical aspects of audio production, audio storytelling, and podcasting.

HIST 3385  The Art and Practice of History
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the most significant historiographical problems that face historians, focusing on recent and current controversies that have shaken the profession and been the subject of public and political debate. Provides examples of how historians think about and do history. Prerequisite: (HIST 1301, 1302 and 2311) or (HIST 2312).

HIST 4320  U.S. Cultural Experience
3 Semester Credit Hours (3 Lecture Hours)
Explores ways that the myriad groups who have made up American society from the colonial period to the "information age" understood and expressed themselves and related to each other. (The chronological scope of this course may vary.)

HIST 4327  U.S. Modern Popular Culture
3 Semester Credit Hours (3 Lecture Hours)
The historical development of modern popular culture—including television, movies, fiction, newspapers, music and consumption—and its effect on the structure and experience of U.S. society and work from the nineteenth century to the present.

HIST 4335  The Military and United States History
3 Semester Credit Hours (3 Lecture Hours)
The development of U.S. military strategy and policy from the Colonial Wars through Vietnam.
HIST 4336 Mexican American History
3 Semester Credit Hours (3 Lecture Hours)
Spanish and Mesoamerican backgrounds, conquest and mestizaje, settlement of Aztlan, interaction with Anglo-Americans, 20th century immigration, urbanization, identity, the Chicano Movement, and Mexican American organizational/political development.

HIST 4337 United States Women’s History
3 Semester Credit Hours (3 Lecture Hours)
Themes include transformations in the notion of womanhood and of sexual differences, changes in the structure, function, and concept of "family" and "household," and historical factors that have shaped women’s role in the work force and public life.

HIST 4340 European Women’s History
3 Semester Credit Hours (3 Lecture Hours)
Study of the experiences of European women from the 18th to the 20th centuries. Also addresses the role that gender has played in the development of modern European societies. Some topics covered are women and the French Revolution, gender and class in industrial Europe, feminism and suffrage, and women and fashion.

HIST 4342 The Holocaust
3 Semester Credit Hours (3 Lecture Hours)
Examines the Holocaust by exploring the role of racism and anti-Semitism, the rise of Nazi policies, Jewish responses and resistance to them, deportation and genocide, the role of war, and the aftermath and memory of an event "beyond human imagination."

HIST 4345 European Thought and Culture, 1750-present
3 Semester Credit Hours (3 Lecture Hours)
Survey of the major European intellectual and cultural movements from the Enlightenment to the present. Broader than a traditional course in intellectual history, special attention will be given to the emergence and development of the concepts of "modernity" and the challenges of "postmodernism."

HIST 4346 The Search for Modern China: From 1600 to the Present
3 Semester Credit Hours (3 Lecture Hours)
This course surveys modern Chinese history from the late Ming dynasty to the present, with an emphasis on the late 19th and 20th centuries. Topics include empire, colonialism, nationalism, the nation state, modernization, revolution and the Cold War, all in a historical context.

HIST 4347 The History of Sexuality in the West
3 Semester Credit Hours
This course will examine how ideas about sexuality as well as sexual practices and identities have evolved over time and in different places; how the categories of homosexuality and heterosexuality were created and how they have been perceived. The course will focus on the 19th and 20th centuries in Europe and the United States, and address the themes of gender, body, race, class, image, representation, and the law.

HIST 4349 Transnational Histories of Asia and the Pacific
3 Semester Credit Hours (3 Lecture Hours)
Explores the transnational relations of Asia and the Pacific with the West from the 19th century to the present day. Themes include colonialism and imperialism, diaspora and migration, labor and economy, war and displacement. Topics include the Opium Wars, Immigration and Exclusion, Atomic Bombing of Hiroshima, Military War Brides, Third World Radicalism, Transnational Adoption Complex, and Environmentalism and Globalization.

HIST 4350 Narratives of World War II in the Pacific
3 Semester Credit Hours (3 Lecture Hours)
Examines how the relations between history, memory, and contemporary politics in post-WWII U.S. and Asia-Pacific have shaped the meaning of various contentious issues related to the Pacific War-such as war origins and responsibility, atrocities, racism, reparations, and nationalism-in textbooks, monuments, literature, art, films, political debates, exhibits, commemorative events, and scholarly works in different social and temporal contexts.

HIST 4352 Mexican American Women’s History
3 Semester Credit Hours (3 Lecture Hours)
Examines the broad political, economic, social, and cultural trends in the lives of Mexican American women since 1848.

HIST 4374 Mexico: the National Period
3 Semester Credit Hours (3 Lecture Hours)
Traces economic, social, and political change in Mexico from independence to the present.

HIST 4375 Cold War Kids: Youth in Modern Latin America
3 Semester Credit Hours (3 Lecture Hours)
An examination of the experiences of Latin American youth in modern Latin America. Special emphasis on the role of young people in the revolutions and rebellions that marked the Cold War period.

HIST 4385 Historical Research and Writing
3 Semester Credit Hours (3 Lecture Hours)
The study and writing of history, with emphasis on historical analysis, research, and writing. Designed as the capstone course for history majors and prospective social science teachers. This course will feature a senior research paper, and should be taken during the student’s final year of undergraduate study.

Prerequisite: HIST 3385 or READ 3353.

HIST 4390 Topics in History
3 Semester Credit Hours (3 Lecture Hours)
Study of significant periods, countries, regions, or themes in history. May be repeated when topics vary.

HIST 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

HIST 4398 Applied Experience
3 Semester Credit Hours
See College description.

HIST 4399 Internship
3 Semester Credit Hours
Best practices and methods in digital archives, museums, and/or public history through field work at a local organization or museum. Offered on application. Repeatable up to 6 hours.

Latin American Studies, Minor

Program Description
This interdisciplinary minor invites students to study the history, politics, languages, cultures, and economics of Latin America. Such a course of study can benefit a range of majors from Business, Education, the Social Sciences, and the Humanities. Course work must include Spanish beyond the 6 hour College of Liberal Arts Second Language requirement or the equivalent.

This requirement can be satisfied through an equivalency test. See Spanish section of the catalog for details.

Program Requirements

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>Required Courses</td>
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<td>Select a minimum of 18 semester hours from the following courses in at least two disciplines:</td>
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<tr>
<td>Art</td>
<td>ARTS 4350 Pre-Columbian Art of Mesoamerica</td>
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<td>ARTS 4352 Modern Art of Mexico</td>
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<tr>
<td>Business</td>
<td>FINA 4315 International Finance</td>
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<td>MGMT 4315 Multinational Management *</td>
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<td>MKTG 4340 International Marketing</td>
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<tr>
<td>English</td>
<td>SPAN 3305 Latin American Civilization</td>
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<td>SPAN 3309 Spanish American Literature I</td>
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<td>SPAN 3310 Spanish American Literature II</td>
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<td>SPAN 3315 Civilizations of the Spanish-Speaking World</td>
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<td>SPAN 4302 Mexican Narrative</td>
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<td>SPAN 4320 Spanish in the Americas</td>
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<tr>
<td>History</td>
<td>HIST 3303 Colonial Latin America</td>
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<td>HIST 3304 Modern Latin America</td>
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<td>HIST 3350 Dictators and Dirty Wars in Latin America</td>
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<td>HIST 4374 Mexico: the National Period</td>
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<td>HIST 4375 Cold War Kids: Youth in Modern Latin America</td>
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<td>Political Science</td>
<td>POLS 4325 Politics in Latin America</td>
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<td>Spanish</td>
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<td>SPAN 4320 Spanish in the Americas</td>
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<td>Total Hours</td>
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<td>18</td>
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</table>

1 All courses are taught in Spanish.
* Online offering

Courses

History Courses

HIST 1301 U.S. History to 1865
3 Semester Credit Hours (3 Lecture Hours)
A survey of the political, social, economic, military, cultural and intellectual history of the United States from 1492 to 1865.
TCCNS: HIST 1301

HIST 1302 U.S. History Since 1865
3 Semester Credit Hours (3 Lecture Hours)
A survey of the political, social, economic, military, cultural and intellectual history of the United States from 1865 to the present.
TCCNS: HIST 1302

HIST 2301 Texas History
3 Semester Credit Hours (3 Lecture Hours)
Spanish colonial period, Mexican statehood, independence, the development of the Republic, annexation and growth as a state.
TCCNS: HIST 2301

HIST 2311 Western Civilization I
3 Semester Credit Hours (3 Lecture Hours)
Survey of the cultures and civilizations of the Ancient Mediterranean world and the political, social, economic, military, cultural, and intellectual influences shaping the emergence and development of Europe to 1500.
TCCNS: HIST 2311

HIST 2312 Western Civilization II
3 Semester Credit Hours (3 Lecture Hours)
A survey of the political, social, economic, military, cultural, and intellectual development of Europe from 1500 to the present.
TCCNS: HIST 2312

HIST 2322 World History Since 1500
3 Semester Credit Hours (3 Lecture Hours)
examines major global issues over the past 500 years. Topics may include European expansion and colonialism, the integration of the Americans into world economic systems, changes in science and technology, decolonization, and modern environmental problems. This course will help students understand historical events within a global framework.

HIST 3301 History of World Religions
3 Semester Credit Hours (3 Lecture Hours)
Surveys the key beliefs, practices, rituals, figures, and historical developments of the world's major religious traditions, including Hinduism, Buddhism, Confucianism, Judaism, Christianity, Islam, and New Age religions. Gives particular attention to their encounter with modernity and their complicated place in today's global, diverse, post-modern world.

HIST 3303 Colonial Latin America
3 Semester Credit Hours (3 Lecture Hours)
An overview of Latin American history from pre-Columbian times until Independence.

HIST 3304 Modern Latin America
3 Semester Credit Hours (3 Lecture Hours)
A study of the major political, economic and cultural processes that marked the development of modern Latin America.

HIST 3307 The Ancient World
3 Semester Credit Hours (3 Lecture Hours)
This course examines the ancient history of the human race. It begins with the evolution of Homo sapiens in Africa and continues through approximately the 4th century CE. Topics examined include the formation of cultures, societies, states, and empires around the world including those in Egypt, Southwest Asia, India, China, and the Mediterranean.

HIST 3315 Europe 1750?1815
3 Semester Credit Hours (3 Lecture Hours)
Explores the processes which contributes to the establishment of a new political, economic, and social order in Europe. The course includes an in-depth focus upon the causes and consequences of the French Revolution as well as an examination of the European response to Napoleon.

HIST 3317 Europe 1815?1914
3 Semester Credit Hours (3 Lecture Hours)
The evolution of European industrial society from the Congress of Vienna to the outbreak of World War I. Themes include changes in the nature of work and family life, urbanization, and the emergence and growth of liberalism, socialism, nationalism, and romanticism as competing ideologies.
HIST 3319  Europe 1914 to the Present
3 Semester Credit Hours (3 Lecture Hours)
Political, social, economic and cultural developments since 1914: includes the impact of World War I, the Russian Revolution, Fascism, the origins of the Cold War, the tension between European unification and growing ethnic tensions and the dissolution of the Soviet empire.

HIST 3320  Colonial and Revolutionary U.S.
3 Semester Credit Hours (3 Lecture Hours)
Traces regional economic, social, and political change in the Americas from 1607 to the end of the Revolution.

HIST 3321  The Early American Republic
3 Semester Credit Hours (3 Lecture Hours)
This course examines American history from the end of the revolutionary war to 1850. Political, economic, and social issues including, but not limited to, the creation of the Constitution, the development of the first and second party systems, the market revolution, antebellum reform, the Old South, and westward expansion.

HIST 3322  Civil War and Reconstruction
3 Semester Credit Hours (3 Lecture Hours)
Background and causes of the Civil War; military, political, diplomatic, and economic developments during the War; Reconstruction and post-war adjustments.

HIST 3324  U.S. Gilded Age and Progressive Era
3 Semester Credit Hours (3 Lecture Hours)
An examination of the dramatic period when the United States definitively settled the remaining portions of the continent and decisively moved towards becoming an industrial, urban nation with world-wide economic and political influence.

HIST 3325  Emergence of Modern U.S.
3 Semester Credit Hours (3 Lecture Hours)
Study of American life from World War I through World War II. Topics include America’s rise to a world power, the social, cultural, and political effects of corporate enterprise, urbanization, and immigration, women’s suffrage, the Twenties, and the New Deal.

HIST 3326  U.S. Since 2nd World War
3 Semester Credit Hours (3 Lecture Hours)
A study of American life and development as a world power since World War II.

HIST 3335  The U.S. Urban Experience
3 Semester Credit Hours (3 Lecture Hours)
A general survey of the social, cultural, and political history of the American city, with particular emphasis on Corpus Christi and the ways our city illustrates these larger trends.

HIST 3340  Modern Asia
3 Semester Credit Hours (3 Lecture Hours)
This course will examine Asia from 1600 to the present. Topics include politics, the nation state, colonialism, empire, war, nationalism, the Cold War and revolution, all in a historical context.

HIST 3345  America by Nature
3 Semester Credit Hours (3 Lecture Hours)
Examines the role of nature in the nation’s past, looking beyond more traditional historical topics to discover how the environment has shaped society and the ways in which humans, in turn, have shaped nature throughout American history. Community-engaged learning component.

HIST 3350  Dictators and Dirty Wars in Latin America
3 Semester Credit Hours (3 Lecture Hours)
Explores the rise of dictatorships and military regimes in twentieth century Latin America. Focuses on human rights struggles and popular movements in Mexico, Central America and the Southern Cone.

HIST 3360  Introduction to Museum Studies
3 Semester Credit Hours (1.5 Lecture Hours)
In this cross-disciplinary class, students of history, sciences, the arts, and more will be introduced to the different departments of a museum and gain experience in programming, exhibits, research, public engagement, and other various aspects of museum management through their participation in a real working museum (Corpus Christi Museum of Science and History).

HIST 3370  Introduction to Public History
3 Semester Credit Hours (3 Lecture Hours)
A Project-centered class that examines public history practices and debates, including the changing field over time, the relationship between history and memory, and the interpretive and sometimes controversial nature of historical sites and exhibits. Students will also learn methods and practices of museums, archives, oral history, digital history, and more. Includes community-engaged learning, workshops, local field trips.

HIST 3373  Oral History and Podcasting
3 Semester Credit Hours (3 Lecture Hours)
A project-based course designed to teach students oral history, audio recording, and editing. Topics include oral history theory and methods, the role of testimony and memory in constructing historical narratives, interview techniques, archival practices, and the technical aspects of audio production, audio storytelling, and podcasting.

HIST 3385  The Art and Practice of History
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the most significant historiographical problems that face historians, focusing on recent and current controversies that have shaken the profession and been the subject of public and political debate. Provides examples of how historians think about and do history. Prerequisite: (HIST 1301, 1302 and 2311) or (HIST 2312).

HIST 4320  U.S. Cultural Experience
3 Semester Credit Hours (3 Lecture Hours)
Explores ways that the myriad groups who have made up American society from the colonial period to the "information age" understood and expressed themselves and related to each other. (The chronological scope of this course may vary.)

HIST 4327  U.S. Modern Popular Culture
3 Semester Credit Hours (3 Lecture Hours)
The historical development of modern popular culture—including television, movies, fiction, newspapers, music and consumption—and its effect on the structure and experience of U.S. society and work from the nineteenth century to the present.

HIST 4335  The Military and United States History
3 Semester Credit Hours (3 Lecture Hours)
The development of U.S. military strategy and policy from the Colonial Wars through Vietnam.

HIST 4336  Mexican American History
3 Semester Credit Hours (3 Lecture Hours)
Spanish and Mesoamerican backgrounds, conquest and mestizaje, settlement of Aztlan, interaction with Anglo-Americans, 20th century immigration, urbanization, identity, the Chicano Movement, and Mexican American organizational/political development.
HIST 4337 United States Women's History
3 Semester Credit Hours (3 Lecture Hours)
Themes include transformations in the notion of womanhood and of sexual differences, changes in the structure, function, and concept of "family" and "household," and historical factors that have shaped women's role in the work force and public life.

HIST 4340 European Women's History
3 Semester Credit Hours (3 Lecture Hours)
Study of the experiences of European women from the 18th to the 20th centuries. Also addresses the role that gender has played in the development of modern European societies. Some topics covered are women and the French Revolution, gender and class in industrial Europe, feminism and suffrage, and women and fashion.

HIST 4342 The Holocaust
3 Semester Credit Hours (3 Lecture Hours)
Examines the Holocaust by exploring the role of racism and anti-Semitism, the rise of Nazi policies, Jewish responses and resistance to them, deportation and genocide, the role of war, and the aftermath and memory of an event "beyond human imagination."

HIST 4345 European Thought and Culture, 1750-present
3 Semester Credit Hours (3 Lecture Hours)
Survey of the major European intellectual and cultural movements from the Enlightenment to the present. Broader than a traditional course in intellectual history, special attention will be given to the emergence and development of the concepts of "modernity" and the challenges of "postmodernism."

HIST 4346 The Search for Modern China: From 1600 to the Present
3 Semester Credit Hours (3 Lecture Hours)
This course surveys modern Chinese history from the late Ming dynasty to the present, with an emphasis on the late 19th and 20th centuries. Topics include empire, colonialism, nationalism, the nation state, modernization, revolution and the Cold War, all in a historical context.

HIST 4347 The History of Sexuality in the West
3 Semester Credit Hours
This course will examine how ideas about sexuality as well as sexual practices and identities have evolved over time and in different places; how the categories of homosexuality and heterosexuality were created and how they have been perceived. The course will focus on the 19th and 20th centuries in Europe and the United States, and address the themes of gender, body, race, class, image, representation, and the law.

HIST 4349 Transnational Histories of Asia and the Pacific
3 Semester Credit Hours (3 Lecture Hours)
Explores the transnational relations of Asia and the Pacific with the West from the 19th century to the present day. Themes include colonialism and imperialism, diaspora and migration, labor and economy, war and displacement. Topics include the Opium Wars, Immigration and Exclusion, Atomic Bombing of Hiroshima, Military War Brides, Third World Radicalism, Transnational Adoption Complex, and Environmentalism and Globalization.

HIST 4350 Narratives of World War II in the Pacific
3 Semester Credit Hours (3 Lecture Hours)
Examines how the relations between history, memory, and contemporary politics in post-WWII U.S. and Asia-Pacific have shaped the meaning of various contentious issues related to the Pacific War-such as war origins and responsibility, atrocities, racism, reparations, and nationalism-in textbooks, monuments, literature, art, films, political debates, exhibits, commemorative events, and scholarly works in different social and temporal contexts.

HIST 4352 Mexican American Women's History
3 Semester Credit Hours (3 Lecture Hours)
Examines the broad political, economic, social, and cultural trends in the lives of Mexican American women since 1848.

HIST 4374 Mexico: the National Period
3 Semester Credit Hours (3 Lecture Hours)
Traces economic, social, and political change in Mexico from independence to the present.

HIST 4375 Cold War Kids: Youth in Modern Latin America
3 Semester Credit Hours (3 Lecture Hours)
An examination of the experiences of Latin American youth in modern Latin America. Special emphasis on the role of young people in the revolutions and rebellions that marked the Cold War period.

HIST 4385 Historical Research and Writing
3 Semester Credit Hours (3 Lecture Hours)
The study and writing of history, with emphasis on historical analysis, research, and writing. Designed as the capstone course for history majors and prospective social science teachers. This course will feature a senior research paper, and should be taken during the student's final year of undergraduate study.
Prerequisite: HIST 3385 or READ 3353.

HIST 4390 Topics in History
3 Semester Credit Hours (3 Lecture Hours)
Study of significant periods, countries, regions, or themes in history. May be repeated when topics vary.

HIST 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

HIST 4397 Mexican American Women's History
3 Semester Credit Hours
Examines the broad political, economic, social, and cultural trends in the lives of Mexican American women since 1848.

HIST 4398 Applied Experience
3 Semester Credit Hours
See College description.

HIST 4399 Internship
3 Semester Credit Hours
Best practices and methods in digital archives, museums, and/or public history through field work at a local organization or museum. Offered on application. Repeatable up to 6 hours.

Spanish Courses
SPAN 1100 Introduction to Service Learning
1 Semester Credit Hour
This is a one-credit course in which students in Spanish 1311 or 1312 may enroll and participate. This service learning course aims to promote collaborative learning between college students learning Spanish and people in the community. Available upon application. Repeatable up to 2 hours.

SPAN 1311 Spanish I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to listening, speaking, reading and writing skills within a Spanish cultural framework. For students without previous knowledge of the language. (Language laboratory required. One hour per week.) A lab fee is required for these courses.

SPAN 1312 Spanish II
3 Semester Credit Hours (3 Lecture Hours)
Continued practice in listening, speaking, reading and writing skills within a Spanish cultural framework. (Language laboratory required. One hour per week.) A lab fee is required for these courses.
Prerequisite: (SPAN 1311).
SPAN 2311 Spanish III
3 Semester Credit Hours (3 Lecture Hours)
Study of more complex Spanish sentence structure to further listening, speaking, reading and writing skills at an intermediate level within a Spanish cultural framework.
Prerequisite: SPAN 1312.
TCCNS: SPAN 2311

SPAN 2312 Continuing Spanish
3 Semester Credit Hours (3 Lecture Hours)
Continued development and review of all language skills at an intermediate level within a Spanish framework with an emphasis in the linguistic and cultural perspective.
Prerequisite: SPAN 2311.
TCCNS: SPAN 2312

SPAN 2313 Spanish for Heritage Speakers
3 Semester Credit Hours (3 Lecture Hours)
An introductory course designed for bilingual students who wish to enhance their linguistic skills (speaking, listening, reading and writing). This course will focus on the cultural and historical aspects related to the heritage Spanish speaker.
TCCNS: SPAN 2313

SPAN 2315 Language and Culture for Heritage Learners
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to guide Spanish heritage language learners, as well as advanced learners of Spanish, in the development of their oral proficiency, written communication, and grammatical accuracy while exploring different cultural aspects from the Spanish-speaking world. It is highly recommended for students who have taken SPAN 2313 and/or who are transitioning into upper-division Spanish courses. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.
Prerequisite: SPAN 2313.

SPAN 3302 Spanish Composition
3 Semester Credit Hours (3 Lecture Hours)
A course designed to develop analytical perspectives in literary criticism and to strengthen reading and writing skills in Spanish through intensive reading of Spanish, Spanish American, and Chicano fiction.
Prerequisite: SPAN 2312.

SPAN 3303 Spanish Conversation
3 Semester Credit Hours (3 Lecture Hours)
A course designed to strengthen the student’s oral proficiency in the language through selected readings, videos and oral presentations.
Prerequisite: SPAN 2312.

SPAN 3304 Spanish Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the cultural, linguistic, and historical experience of the Spanish people within its larger European context. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.
Prerequisite: SPAN 2312.

SPAN 3305 Latin American Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide a general overview of the cultural, linguistic, and historical experience of Latin American people before and after Columbus. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum in Language, Philosophy, and Culture.
Prerequisite: SPAN 2312.

SPAN 3307 Spanish Literature I
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of early Spanish literature from the Middle Ages through the Eighteenth Century. Literary selections include masterpieces that establish and reflect Spain's literary tradition within its larger European context.

SPAN 3308 Spanish Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish literature from the Nineteenth Century through the present. Representative works of Spanish Romanticism, Realism, Naturalism, and contemporary literature are studied within their larger European context.

SPAN 3309 Spanish American Literature I
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of early Spanish American literature from the Pre-Columbian Period through the Nineteenth Century. Selected readings in all literary genres, major themes, writers, and early literary movements will be studied within their larger Latin American context.

SPAN 3310 Spanish American Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish American literature from the Twentieth Century through the present. Representative works of Latin American writers and literary movements: Modernism, Realism, Avant-Garde, Regionalism, Magic-Realism are studied within their larger Latin American context.

SPAN 3311 Spanish Phonetics
3 Semester Credit Hours (3 Lecture Hours)
A course designed to study the production and discrimination of the Spanish sound system with a general overview of the geographical and social distribution of phonemic and allophonic variants.

SPAN 3312 Spanish Grammar
3 Semester Credit Hours (3 Lecture Hours)
The course will serve to expand vocabulary, further develop writing skills; understand, apply, and use Spanish grammatical structures, and communicate more accurately in written and oral Spanish within a Hispanic cultural context.

SPAN 3313 Introduction to Translation
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the theory, methods and practice of English to Spanish and Spanish to English translation of general texts from different fields. Challenges related to culture and language, as well as professional ethics will be examined.

SPAN 3315 Civilizations of the Spanish-Speaking World
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the historical, sociocultural and political experience of peoples from the Spanish-Speaking world, both from Spain and Spanish America.
Prerequisite: SPAN 2312.

SPAN 3316 Spanish for the Professions
3 Semester Credit Hours (3 Lecture Hours)
The course stresses Health, Business and Legal terminology in Spanish to enhance communication skills and cultural knowledge that will help to serve the South Texas Spanish speaking population as well as to conduct interactions with Spanish speakers and/or businesses through the United States and the world.
SPAN 3317  Introduction to Hispanic Linguistics  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces the study of language, the main subfields of Hispanic linguistics, and their application to other sciences.

SPAN 3320  Introduction to Spanish Literature  
3 Semester Credit Hours (3 Lecture Hours)  
A critical approach to the study of Spanish literature from the Middle Ages through the present. Representative works of Spanish literature are studied within their larger European context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303 have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 3325  Introduction to Latin American Literature  
3 Semester Credit Hours (3 Lecture Hours)  
A critical approach to the study of Latin American literature from the Pre-Columbian Period through the present. Selected readings in all literary genres, major themes, writers, and literary movements will be studied with a wide Latin American context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 4100  Service Learning  
1 Semester Credit Hour  
This is a one-credit course designed specifically for students who are preparing themselves to serve the community using their Spanish language skills. Students in this course will familiarize themselves with the methodology of a particular field (heritage language teaching, translation, interpreting, etc) to be able to interact and serve Spanish-speaking individuals in the community. Available upon application. Repeatable up to 3 hours.

SPAN 4301  Spanish Civil War and Literature  
3 Semester Credit Hours (3 Lecture Hours)  
Significance of the Civil War for Spanish, European, and world history. Effect of war on literary and cultural life of the country and the response of writers from Spain and Latin America. Conducted in Spanish.

SPAN 4302  Mexican Narrative  
3 Semester Credit Hours (3 Lecture Hours)  
Examination of representative novels and short stories reflecting the emergence of a post-revolutionary society in Mexico. Conducted in Spanish.

SPAN 4303  Spanish in the Southwest  
3 Semester Credit Hours (3 Lecture Hours)  
Cultural and linguistic dimensions of Spanish dialects of the Southwestern United States, with special attention to Texas Spanish and its sociolinguistic perspectives in the bilingual community at large.  
Prerequisite: SPAN 2312.

SPAN 4304  Miguel de Cervantes' Don Quijote  
3 Semester Credit Hours (3 Lecture Hours)  
An advanced course designed to provide an introduction to Miguel de Cervantes' Don Quijote.

SPAN 4305  Latin American Novel  
3 Semester Credit Hours (3 Lecture Hours)  
This course explores major novels from Latin America from the 20th century to the present. It examines the different problems, discourses, voices, contexts, and geographies that define this genre in Latin America.

SPAN 4306  Modern Spanish Literature  
3 Semester Credit Hours (3 Lecture Hours)  
A course that focuses on modern Spanish literature. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated.

SPAN 4313  Spanish Interpretation  
3 Semester Credit Hours (3 Lecture Hours)  
This course presents an introduction to methodologies, requirements, terminology, and practice of interpretation, with emphasis on simultaneous, consecutive, and sight interpretation.

SPAN 4320  Spanish in the Americas  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the Spanish that was brought to the Americas, its development, propagation and contact with native-American languages, including the sociocultural factors that have contributed to the linguistic variation in contemporary Spanish-speaking societies.

SPAN 4322  Medical, Scientific and Technical Translation  
3 Semester Credit Hours (3 Lecture Hours)  
An advanced course in translation concentrating on medical, scientific and technical translation. The course is designed to extend student’s knowledge of translation theory and consolidate their skills in specialized translation.  
Prerequisite: (SPAN 3313).

SPAN 4327  Methods in Foreign Language Instruction  
3 Semester Credit Hours (3 Lecture Hours)  
This course is designed to study the current methods in foreign languages, their application in maximizing language proficiency, and the role of the students’ culture and language during the learning process.

SPAN 4390  Topics in Spanish  
3 Semester Credit Hours (3 Lecture Hours)  
Study of specialized topics in language or literature. These courses may also be designed to develop terminology and overall Spanish proficiency regarding specific professions: Business, Medical, Criminal Justice, Sociology, etc. May be repeated when topics vary.

SPAN 4396  Directed Individual Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
See College description.
SPAN 4398  Applied Experience
3 Semester Credit Hours
A practical work experience related to the Spanish area and related careers. It is intended to provide an opportunity for a student to gain first-hand experience in an unfamiliar field. Consequently, Applied Experience credit may not be granted for a student's regular work assignment or for previous work experience. Registration is by application. The application must include a clearly written description of the duties and responsibilities involved in the Applied Experience project, and be signed by the student, the on-site supervisor, and the faculty supervisor. Completed applications must be received in the Dean's Office by the last class day of the semester preceding intended registration. This course is graded "credit" or "no credit." No more than three semester hours of Applied Experience credit may be counted toward the baccalaureate degree. Undergraduate Applied Experience course will include no less than one hundred hours and no more than 150 hours of work experience per semester.

SPAN 4421  Business, Commercial, and Legal Translation
4 Semester Credit Hours (4 Lecture Hours)
An advanced course in translation concentrating on business, commercial and legal texts. The course is designed to extend student's knowledge of translation theory and consolidate their skills in specialized translation.
Prerequisite: (SPAN 3313).

Literary Studies, Minor
Program Requirements
The minor in Literary Studies consists of 18 semester hours of English coursework in addition to the core requirements in English, and must include ENGL 2370 Introduction to Literary Studies (3 sch), two 3000-level courses, two 4000-level courses, and one elective 3000—4000-level course all in Literary Studies.

Courses
ENGL 0001  Grammar I
0 Semester Credit Hours (3 Lecture Hours)
Grammatical structures that enable students to better comprehend and use academic English are the focus of the course. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0002  Listening and Speaking I
0 Semester Credit Hours (3 Lecture Hours)
This course provides short and focused activities to help students improve their English listening and speaking skills. It includes practice in both mastering the larger message and key words, phrases and specific sounds to assist students in developing better speaking and comprehension skills. Students will practice giving academic presentations as well as practice speaking in small groups and individually.

ENGL 0003  Reading I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will develop the reading skills essential for academic learning and inquiry in the context of authentic academic reading tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive reading tasks of increasing complexity. Contemporary academic and literary texts will be used to develop students' critical reading and vocabulary, writing, listening, and speaking skills.

ENGL 0004  Writing I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the writing skills essential for academic success including sentence, paragraph, and basic essay writing. This course is aimed at students planning to study, or are already studying, at university level in English.

ENGL 0005  Recitation I
0 Semester Credit Hours (3 Lecture Hours)
This course provides students with a structured, scheduled academic environment providing the opportunity to complete assignments and work closely with their language instructor. Instructors utilize materials from student courses to facilitate activities and discussions that will increase comprehension of academic material and further students' abilities to work independently in academic settings. Each week, the course will focus on the language skills and vocabulary needed for the students' courses. Additionally, there will be a focus on study skills and time management needed for success in academic settings. Students will leave the course better equipped for university level academic course work and a thorough understanding of time management and appropriate study habits for the university.

ENGL 0011  Grammar II
0 Semester Credit Hours (3 Lecture Hours)
This course will focus on high-intermediate grammatical structures that enable students to better comprehend and use academic English. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0012  Listening and Speaking II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the listening, note-taking, and presentation skills essential for academic learning, inquiry, and communication in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminars will be used to develop students' critical thinking skills.

ENGL 0013  Reading II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will study texts across several different academic disciplines in order to deepen their understanding of the rhetorical styles and conventions used and applied within the English language. Students will practice identifying audience, purpose, theme, main ideas, and details within several different genres of writing. Students will also develop a variety of strategies to improve their reading comprehension and efficiency, including annotation, vocabulary-building, and discussions regarding written materials.
**ENGL 0014  Writing II**
*0 Semester Credit Hours*
In this course, students will develop a foundation in the writing skills critical to academic success. Students will apply knowledge of audience, purpose, voice, arrangement, and style in varied writing tasks by writing across several different genres. Genres practiced in this course may include, but are not limited to: emails, newsletters, personal narratives, fiction, academic essays, and magazine/news articles. Students will learn grammar and vocabulary conventions as they apply to different genres and apply these skills in writing tasks of increasing complexity throughout the semester.

**ENGL 0022  Listening and Speaking III**
*0 Semester Credit Hours (3 Lecture Hours)*
In this course students will learn and apply listening, note-taking, and presentation skills essential for academic learning, inquiry, and discourse in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminar will be used to develop students' critical thinking skills.

**ENGL 0023  Reading and Writing III**
*0 Semester Credit Hours (3 Lecture Hours)*
In this course students will improve upon and apply the reading skills essential for academic learning, inquiry, and discourse in the context of authentic academic reading tasks. Students will build vocabulary through extensive and intensive reading tasks of increasing complexity. Contemporary academic tests about writing will be used to develop students' critical reading, academic vocabulary, and complex writing skills. There will e a number of in-class written tasks and prompts that will stimulate free writing practice and introduce students to various styles of writing. Students will also use these written tasks to develop editing skills through the writing process. The final project will be a collection of these written tasks in the form of a portfolio.

**ENGL 0036 US Culture**
*0 Semester Credit Hours (3 Lecture Hours)*
This course will offer English Language Learners a means for analyzing and evaluating the complex social and moral issues that are specific to the social and moral landscape of the United States. As students examine their own cultures and compare them with others, culture shock and cultural conflict may be lessened and appreciation for cultural differences may be strengthened. Students will engage in interactive tasks, including researching and case analysis of topics and social, academic and professional issues, especially those suggested by the extensive reading component of this course. Through the process of reading, discussion, analysis and writing students in this class will enrich their understanding of today’s global society while at the same time they are sharpening their academic English skills.

**ENGL 0037 Critical Thinking**
*0 Semester Credit Hours (3 Lecture Hours)*
The purpose of this course is to develop the critical thinking skills needed to interpret and assess arguments and information. This course will highlight the language skills essential for critically analyzing and discussing the quality of the information and opinions presented in authentic texts and listening selections. The course will concentrate on detecting errors of reasoning in short and long passages, evaluating evidence in written and verbal arguments, detecting logical inconsistencies, removing vagueness and ambiguity through word choice and phrasing, and identifying the point or purpose of someone’s remarks. Through examining these topics, students will be able to thoughtfully respond to others’ opinions in a clear, logical, and informed way. Students will leave the course better prepared to collect, synthesize, and evaluate information and feel more confident in presenting their perspectives in an academic setting.

**ENGL 0099 Integrated Reading and Writing Non-Course Based Development**
*0 Semester Credit Hours*
ENGL 0099 is designed to develop student’s critical reading and academic writing skills on an individualized basis through tutoring. The course fulfills TSI requirements for reading and writing. TSI compliance staff will approve each student for this course. Approval is based on test score and/or by academic standing.

**ENGL 0399 Integrated Reading and Writing**
*3 Semester Credit Hours (3 Lecture Hours)*
A portfolio-based course with required tutoring (lab) time focused on the writing and reading processes, including strategies for invention, revision, and editing, and techniques of active reading, such as analysis, inference, summary, and evaluating texts. Students will enter ENGL 0399 through Texas Success Initiative (TSI) mandated remediation. (Not counted toward graduation)

**ENGL 1301 Composition I**
*3 Semester Credit Hours (3 Lecture Hours)*
Principles, techniques, and processes of written composition, textual analysis, and critical thinking.
*TCCNS: ENGL 1301*

**ENGL 1302 Writing and Rhetoric**
*3 Semester Credit Hours (3 Lecture Hours)*
Introduces students to writing studies, rhetoric, and academic research (information literacy). Students will read, apply, and reflect on the current research and scholarship in writing studies, especially threshold concepts, kinds of knowledge about writing, and rhetoric. Students will learn how to transfer, deepen, and extend their ability to use writing in various contexts.
*Prerequisite: ENGL 1301.*
*TCCNS: ENGL 1302*

**ENGL 2303 Introduction to Writing Studies**
*3 Semester Credit Hours (3 Lecture Hours)*
This course will review current scholarship on writing studies, including threshold concepts, activity theory, and genre studies. It will consider various perspectives on the uses of writing to provide students with an intellectual and practical understanding of writing. This course provides a starting point for the more specific studies of writing that occur in other writing studies courses.
ENGL 2316 Literature and Culture
3 Semester Credit Hours (3 Lecture Hours)
Introduction to literatures that raise aesthetic, cultural, social, and/or political issues that affect and reflect the human condition across regions, cultures, and nations. Sample topics: Crossing Borders, The City in Literature, Islands and Islanders, Science and Fiction.
TCCNS: ENGL 2331

ENGL 2332 Literature of the Western World: From the Classics to the Renaissance
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Ancient World to the Renaissance.
TCCNS: ENGL 2332

ENGL 2333 Literature of the Western World: From the Enlightenment to the Present
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Enlightenment to the present.
TCCNS: ENGL 2333

ENGL 2370 Introduction to Literary Studies
3 Semester Credit Hours
An introduction to literary analysis and scholarship for the intermediate writer. Emphasis placed on genres of literature, literary research, and expository and analytical composition. Familiarizes students with the various disciplines and related conversations within English Studies. Should be taken by sophomore-level English majors in the Literary Studies emphasis, and by Literary Studies and Creative Writing minors.
Prerequisite: ENGL 1302.

ENGL 2371 Exploring Social Media
3 Semester Credit Hours (3 Lecture Hours)
In this course we will examine and discuss current issues related to social media within a rhetorical framework. We will use different social media platforms to share and discuss in order to provide hands-on experience in these environments. Social media will be explored at the micro level as students will review their online social media presence to better understand how readers view them online. From the macro level we will identify current topics that affect the design and use of social media platforms and applications.

ENGL 3167 English as a Second/Foreign Language Tutoring
1 Semester Credit Hour
Students pursuing the Advanced TESOL Certificate will supplement ENGL 3367 (TESOL Seminar: Methods) with practical experience tutoring English learners. Students will write reflectively about those experiences. As needed, students will undergo site-specific training.
Co-requisite: ENGL 3367.

ENGL 3301 Technical and Professional Writing
3 Semester Credit Hours
A course designed to help students gain practical experience in finding and interpreting information and writing reports and documents for specialized audiences in the technical and professional world. ENGL 3301 will be held in a computer-assisted classroom.

ENGL 3302 Techniques of Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the theoretical knowledge and practical experience used in creative writing. Focuses on poetry, creative nonfiction, and short fiction. For all majors.

ENGL 3310 Technical and Professional Writing for Computer Science
3 Semester Credit Hours (3 Lecture Hours)
Designed specifically for computer science majors, this course focuses on developing students ability to (1) use writing to communicate effectively with a range of audiences about technology; (2) identify, analyze, and appropriately integrate relevant information in their writing; (3) make informed judgments about their uses of writing based on ACM's and IEEE's code of ethics; and (4) develop their ability to function effectively individually and as members of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.

ENGL 3321 Film and Literature
3 Semester Credit Hours (3 Lecture Hours)
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.
Prerequisite: ENGL 1302 and 2332 or ENGL 2333, 2334 or 2335.

ENGL 3323 Young Adult Fiction
3 Semester Credit Hours (3 Lecture Hours)
Literary study of young adult literature through analysis, discussion, and interpretation. The course emphasizes literary issues connected with society, culture, history, and genre.

ENGL 3325 Interdisciplinary Approaches to Literature
3 Semester Credit Hours (3 Lecture Hours)
In recent decades, it has become common to study literature in light of other disciplinary perspectives and to study other disciplines as they are depicted in literature. From these interdisciplinary approaches has emerged a distinct mode of analysis that examines texts within their broader social and cultural milieu. In this course students will earn to use cross-disciplinary methods to interpret literature and culture. Topics will vary, but may include Religion, Medicine, and American Literature, Disability Narratives in the Eighteenth Century, Trauma and the City in Twentieth-Century Literature.

ENGL 3330 Current Events and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course examines literature in the context of current issues and events. Students will place literature in conversation with social, political, and cultural trends as a means of engaging with and understanding these trends and the debates associated with them. Using reading, writing, and discussion as modes of critical inquiry, students will discover the critical role that literature plays in representing, responding to, and shaping current events.

ENGL 3339 Introduction to Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Introductory survey course covering phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3340 Grammar
3 Semester Credit Hours (3 Lecture Hours)
Prepresents a general descriptive overview of English grammar and provides a structural framework for analyzing English sentences.

ENGL 3341 British Literature before 1800
3 Semester Credit Hours (3 Lecture Hours)
Studies of significant works of poetry, drama, and prose before 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).
*May be taken concurrently.
ENGL 3345  British Literature since 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of British poetry, drama, and prose since 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).
* May be taken concurrently.

ENGL 3348  Drama
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of dramatic literature, using a wide range of texts. Variable content.

ENGL 3349  Poetry
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of poetry using a wide range of texts. Variable content.

ENGL 3354  American Literatures before 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from the country’s pre-European beginnings to 1900 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 2303) or (ENGL 3303).
* May be taken concurrently.

ENGL 3355  American Literatures since 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from 1900 to the present with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 2303) or (ENGL 3303).
* May be taken concurrently.

ENGL 3360  CURRENT APPROACHES TO COMPOSITION AND LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
Prepares prospective teachers to create developmentally appropriate learning environments and tasks that enable student success in writing and the study of literature in Language Arts and English courses. Prepares students to meet the increased writing and reading expectations in all subject areas, including their own writing.

ENGL 3361  STRATEGIES AND GENRES OF ADVANCED WRITING
3 Semester Credit Hours (3 Lecture Hours)
Students will practice-writing in situated contexts (such as their majors, careers, and/or other professional interests) and across genres to develop more advanced and reflective writing strategies. By studying theories of writing; engaging in writing as a craft; and drafting, revising, and editing texts; students will refine and become more reflective in their writing processes.

ENGL 3362  Creative Writing Workshop: Survey and Practice of Genres
3 Semester Credit Hours (3 Lecture Hours)
Develops students’ skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3363  Foundations of Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
This course will study the historical and theoretical development of rhetoric through the works of principal thinkers. Students will analyze rhetorical concepts in their relation to civic, cultural, political, and pedagogical developments and the construction of knowledge and will use rhetorical concepts to produce logical, ethical, and moral arguments.

ENGL 3364  Strategies of Writing Creative Nonfiction
3 Semester Credit Hours (3 Lecture Hours)
Explores the uses of creative nonfiction through reading and writing about published works of experienced writers and scholars in the field and practicing a variety of creative nonfiction techniques and genres (e.g. literary journalism, memoir, and the personal narrative).

ENGL 3365  Second Language Acquisition
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to second language acquisition. The course is designed to be accessible to students from a wide variety of backgrounds and no basic knowledge of the linguistic structure of English will be assumed. This course will address issues related to how second language is learned by both children and adults.

ENGL 3366  Language in Society
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of language as a function of several societal variables. Introduces basic concepts of language such as linguistic varieties, dialect, speech communities, and linguistic attitudes.

ENGL 3367  TESOL Seminar
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to and a critique of current and traditional methodologies of teaching English to speakers of other languages, with emphasis on aural comprehension; speaking, reading, and writing skills; testing and assessment; and linguistic-cultural differences. This course is open to all majors, but is required for students seeking the Certificate in TESOL.
Prerequisite: ENGL 3365.

ENGL 3369  Topics in Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Exploration of topics such as second language acquisition, language assessment, history of English, and contrastive analysis. May be repeated when topics vary.

ENGL 3378  Document Design and Publishing
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the integration of text and visual rhetoric, such as graphics, for all kinds of professional publications including technical documents, media, public relations pieces, and advertisements.

ENGL 3379  Writing for the Web
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes practical concepts related to writing and communication on the internet and the World Wide Web. Attention is given to finding and analyzing information; analyzing and designing WWW sites and other digital, hypertextual environments; and analyzing and composing hypertext-hypermedia materials for digital, networked environments. For all majors.

ENGL 3380  Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123  Nonprofit Writing Project
1 Semester Credit Hour
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students’ professor in the regular course will be the instructor of record for a the projects course.
ENGL 4300 Technologies and Cultures of the Book
3 Semester Credit Hours (3 Lecture Hours)
Working with a range of print media, students will learn to analyze the interplay between the text's content and its formal features. Students will build the skills to think and write analytically about the materiality of texts.

ENGL 4305 Major Authors
3 Semester Credit Hours (3 Lecture Hours)
This course studies the significant works of a major literary author. Texts are viewed through a variety of critical perspectives and placed in the context of the writer's life and of the society, culture, and history of the times. May be repeated once for credit when authors vary.

ENGL 4320 Professional Writing Workshop
3 Semester Credit Hours (3 Lecture Hours)
This course is tailored for individual students' writing and publishing projects in their disciplines.

ENGL 4321 Grants and Proposals
3 Semester Credit Hours (3 Lecture Hours)
This course will teach students the grant proposal writing process, including identifying sources of funding, conducting research to support funding applications, and tailoring each proposal to a specific funding agency. Students will receive experience writing actual proposals on behalf of local organizations and agencies.

ENGL 4322 Writing in the Nonprofit Agencies
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the specific kinds writing of professionals in the nonprofit world do, including internal communication in an agency, writing for the public, document creation, fund raising, board relations, and other relevant topics.

ENGL 4324 Editing & Style
3 Semester Credit Hours (3 Lecture Hours)
Practice in methods, tools, and principles of editing for nonfiction and technical publications. Emphasis on a rhetorical understanding of levels of editing, managing the editorial process, and grammar and style.

ENGL 4325 Writing Across Cultures and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Through writing, students will study how groups perceive, understand, and communicate with and about each other. The course may focus on a specific type of writing (cross cultural expository writing, travel writing, cross cultural writing in industry), or on the linguistic and rhetorical practices of a cross-cultural community (latino/a rhetoric, African-American rhetorics, etc).

ENGL 4335 Creative Writing Studio: Development of Craft
3 Semester Credit Hours (3 Lecture Hours)
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a studio setting. Guides students to focus on a major project in one genre with sustained practice of techniques and revision. Open to students of all levels, from the novice to the advanced. For all majors.

ENGL 4340 The Novel
3 Semester Credit Hours (3 Lecture Hours)

ENGL 4345 Rhetorics, Literacies, and Writing
3 Semester Credit Hours (3 Lecture Hours)
This course examines the history and major theories of rhetoric, literacy, and composition, and explores how they influence contemporary cultural productions.

ENGL 4350 Studies in Poetics: Theory, Form, and Practice
3 Semester Credit Hours (3 Lecture Hours)
Develops students' theoretical knowledge of poetics and practical experience of writing in traditional forms, from the Anglo-American tradition to the culturally diverse movements and innovation of form. Focusing on works written by poets about poetry and poetics primarily from the 19th to the 21st centuries. For all majors.

ENGL 4351 Senior Capstone: Literature and Writing
3 Semester Credit Hours (3 Lecture Hours)
A study of literature in English for graduating seniors in the Literary Studies Emphasis. Emphasis is placed on genre, research, and analytical expository writing.
Prerequisite: ENGL 2370, 3303 or 2303.

ENGL 4352 Capstone in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course is the culminating experience for the Writing Studies emphasis in English. Students review, reflect on, integrate, and apply their learning from previous courses and experiences. Students create digital portfolios for career and publishing opportunities, emphasizing selection, revision, reflection, and presentation. In addition, students identify, evaluate, and annotate texts and resources to include in a curated digital collection/publication that will be available for students in future Writing Studies courses.

ENGL 4356 Gender, Sexuality and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to literature that explores issues of gender and sexuality. It focuses on relevant literary periods and conventions, as well as on the historical, social, and cultural contexts of artistic productions. Sample topics: women's literature, queer literature, literature and masculinity.

ENGL 4361 Race and Ethnicity in Literature
3 Semester Credit Hours (3 Lecture Hours)
Topics focus on a variety of cross-cultural issues in historical and/or contemporary texts by Caribbean, British Indian, Native American, African American, Chicano/a, and/or other underrepresented authors.

ENGL 4362 Texts and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Study of literary and cultural texts that raise issues of community and social relations, diversity, multiculturalism, and/or globalization. Sample topics: Medicine and Religion in American Literature, Traveling Histories, the Global City, and Literary Regionalism in Transnational Context. May be repeated once for credit when topics vary.

ENGL 4370 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study, primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or THEA 4323.)

ENGL 4380 CRITICAL APPROACHES TO LITERATURE AND CULTURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected perspectives and critical approaches to literature and culture, including an examination of some of the theoretical assumptions upon which they are based, as well as their implications for the way we think about literature, human identity, and the power of language.
Prerequisite: ENGL 2370.
ENGL 4385  Studies in Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Students will focus on the craft of a specific genre or type of writing through reading experts’ advice, reading and analyzing examples written by practitioners, and engaging in peer-response workshops with classmates. Attention will be paid to publication opportunities available for writers in that genre.

ENGL 4390  Topics in Literary Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4391  Topics in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4396  Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

ENGL 4398  Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description.

ENGL 4399  TESOL Practicum
3 Semester Credit Hours
Practical experience teaching English to second language learners. Students will observe, plan, and teach ESL lessons. Instructional support provides opportunities to discuss and reflect upon teaching experiences and help students connect theory, methods, and practice. This course enhances the TESOL Certification, but is not required for it. Cannot be repeated for credit.

**Mexican American Studies, Minor**

**Program Description**
Mexican American Studies (also known as Chicano Studies) is a multi-disciplinary concentration that will expose students to a wide range of topics relevant to the Mexican-American experience. This course of study will offer students valuable insights and skills to complement most majors in Nursing, Business, Education, Social Sciences, Arts, and Humanities.

**Minor**
The Mexican American Studies Minor requires a minimum of 18 hours of designated coursework. Students who select this minor must consult with and have approval of the Mexican American Studies Coordinator or the Academic Advisor to establish a degree plan. This should be done prior to completing 6 semester hours of coursework listed for the program.

**Program Requirements**
Students may choose from the following courses. All courses are taught in English except for SPAN.

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<tr>
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<tbody>
<tr>
<td>ARTS 4350</td>
<td>Pre-Columbian Art of Mesoamerica</td>
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<td>ARTS 4352</td>
<td>Modern Art of Mexico</td>
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<td>HIST 3303</td>
<td>Colonial Latin America</td>
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<td>HIST 3304</td>
<td>Modern Latin America</td>
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<td>HIST 3350</td>
<td>Dictators and Dirty Wars in Latin America</td>
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<td>HIST 4336</td>
<td>Mexican American History</td>
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<td>HIST 4337</td>
<td>United States Women's History</td>
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<td>HIST 4352</td>
<td>Mexican American Women's History</td>
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<td>HIST 4374</td>
<td>Mexico: the National Period</td>
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<td>HIST 4375</td>
<td>Cold War Kids: Youth in Modern Latin America</td>
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<td>SPAN 3304</td>
<td>Spanish Civilization</td>
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<td>Latin American Civilization</td>
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<td>SPAN 3315</td>
<td>Civilizations of the Spanish-Speaking World</td>
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<td>MXAS 3307</td>
<td>Mexican American Folklore</td>
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**Linguistic/Literary**
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<td>ENGL 4361</td>
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<td>Spanish I</td>
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<td>SPAN 1312</td>
<td>Spanish II</td>
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<td>SPAN 2311</td>
<td>Spanish III</td>
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<td>Spanish Conversation</td>
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<td>Spanish Literature I</td>
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<td>Spanish Literature II</td>
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<td>SPAN 4301</td>
<td>Spanish Civil War and Literature</td>
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<td>Mexican Narrative</td>
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**Political/Social Science**
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<td>POLS 4325</td>
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<td>Cross-cultural Psychology *</td>
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<td>Mexican American Women</td>
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**Total Hours 18**

¹  ENGL 4361 Race and Ethnicity in Literature (3 sch) will count when the topic is appropriate and approved by the program advisor.

* Online offering

**Note:**
Students may elect to count six hours from either their major, or the college foreign language requirement (SPAN 1311 Spanish I (3 sch) and SPAN 1312 Spanish II (3 sch)) towards the minor in Mexican American Studies.
Topics (4390) courses can be taken in any participating discipline as electives when the topics are appropriate and approved by the program coordinator.

Courses

Courses

**History Courses**

**HIST 1301 U.S. History to 1865**

3 Semester Credit Hours (3 Lecture Hours)

A survey of the political, social, economic, military, cultural, and intellectual history of the United States from 1492 to 1865.

TCCNS: HIST 1301

**HIST 1302 U.S. History Since 1865**

3 Semester Credit Hours (3 Lecture Hours)

A survey of the political, social, economic, military, cultural and intellectual history of the United States from 1865 to the present.

TCCNS: HIST 1302

**HIST 2301 Texas History**

3 Semester Credit Hours (3 Lecture Hours)

Spanish colonial period, Mexican statehood, independence, the development of the Republic, annexation and growth as a state.

TCCNS: HIST 2301

**HIST 2311 Western Civilization I**

3 Semester Credit Hours (3 Lecture Hours)

Survey of the cultures and civilizations of the Ancient Mediterranean world and the political, social, economic, military, cultural, and intellectual influences shaping the emergence and development of Europe to 1500.

TCCNS: HIST 2311

**HIST 2312 Western Civilization II**

3 Semester Credit Hours (3 Lecture Hours)

A survey of the political, social, economic, military, cultural, and intellectual development of Europe from 1500 to the present.

TCCNS: HIST 2312

**HIST 2322 World History Since 1500**

3 Semester Credit Hours (3 Lecture Hours)

Examines major global issues over the past 500 years. Topics may include European expansion and colonialism, the integration of the Americans into world economic systems, changes in science and technology, decolonization, and modern environmental problems. This course will help students understand historical events within a global framework.

**HIST 3301 History of World Religions**

3 Semester Credit Hours (3 Lecture Hours)

Surveys the key beliefs, practices, rituals, figures, and historical developments of the world’s major religious traditions, including Hinduism, Buddhism, Confucianism, Judaism, Christianity, Islam, and New Age religions. Gives particular attention to their encounter with modernity and their complicated place in today’s global, diverse, post-modern world.

**HIST 3303 Colonial Latin America**

3 Semester Credit Hours (3 Lecture Hours)

An overview of Latin American history from pre-Columbian times until Independence.

**HIST 3304 Modern Latin America**

3 Semester Credit Hours (3 Lecture Hours)

A study of the major political, economic and cultural processes that marked the development of modern Latin America.

**HIST 3307 The Ancient World**

3 Semester Credit Hours (3 Lecture Hours)

This course examines the ancient history of the human race. It begins with the evolution of Homo sapiens in Africa and continues through approximately the 4th century CE. Topics examined include the formation of cultures, societies, states, and empires around the world including those in Egypt, Southwest Asia, India, China, and the Mediterranean.

**HIST 3315 Europe 1750?1815**

3 Semester Credit Hours (3 Lecture Hours)

Explores the processes which contributes to the establishment of a new political, economic, and social order in Europe. The course includes an in-depth focus upon the causes and consequences of the French Revolution as well as an examination of the European response to Napoleon.

**HIST 3317 Europe 1815?1914**

3 Semester Credit Hours (3 Lecture Hours)

The evolution of European industrial society from the Congress of Vienna to the outbreak of World War I. Themes include changes in the nature of work and family life, urbanization, and the emergence and growth of liberalism, socialism, nationalism, and romanticism as competing ideologies.

**HIST 3319 Europe 1914 to the Present**

3 Semester Credit Hours (3 Lecture Hours)

Political, social, economic and cultural developments since 1914: includes the impact of World War I, the Russian Revolution, Fascism, the origins of the Cold War, the tension between European unification and growing ethnic tensions and the dissolution of the Soviet empire.

**HIST 3320 Colonial and Revolutionary U.S.**

3 Semester Credit Hours (3 Lecture Hours)

Traces regional economic, social, and political change in the Americas from 1607 to the end of the Revolution.

**HIST 3321 The Early American Republic**

3 Semester Credit Hours (3 Lecture Hours)

This course examines American history from the end of the revolutionary war to 1850. Political, economic, and social issues including, but not limited to, the creation of the Constitution, the development of the first and second party systems, the market revolution, antebellum reform, the Old South, and westward expansion.

**HIST 3322 Civil War and Reconstruction**

3 Semester Credit Hours (3 Lecture Hours)

Background and causes of the Civil War; military, political, diplomatic, and economic developments during the War; Reconstruction and post-war adjustments.

**HIST 3324 U.S. Gilded Age and Progressive Era**

3 Semester Credit Hours (3 Lecture Hours)

An examination of the dramatic period when the United States definitively settled the remaining portions of the continent and decisively moved towards becoming an industrial, urban nation with world-wide economic and political influence.

**HIST 3325 Emergence of Modern U.S.**

3 Semester Credit Hours (3 Lecture Hours)

Study of American life from World War I through World War II. Topics include America’s rise to a world power, the social, cultural, and political effects of corporate enterprise, urbanization, and immigration, women’s suffrage, the Twenties, and the New Deal.

**HIST 3326 U.S. Since 2nd World War**

3 Semester Credit Hours (3 Lecture Hours)

A study of American life and development as a world power since World War II.
HIST 3335  The U.S. Urban Experience
3 Semester Credit Hours (3 Lecture Hours)
A general survey of the social, cultural, and political history of the
American city, with particular emphasis on Corpus Christi and the ways
our city illustrates these larger trends.

HIST 3340  Modern Asia
3 Semester Credit Hours (3 Lecture Hours)
This course will examine Asia from 1600 to the present. Topics include
politics, the nation state, colonialism, empire, war, nationalism, the Cold
War and revolution, all in a historical context.

HIST 3345  America by Nature
3 Semester Credit Hours (3 Lecture Hours)
Examines the role of nature in the nation’s past, looking beyond more
traditional historical topics to discover how the environment has shaped
society and the ways in which humans, in turn, have shaped nature
throughout American history. Community-engaged learning component.

HIST 3350  Dictators and Dirty Wars in Latin America
3 Semester Credit Hours (3 Lecture Hours)
Explores the rise of dictatorships and military regimes in twentieth
century Latin America. Focuses on human rights struggles and popular
movements in Mexico, Central America and the Southern Cone.

HIST 3360  Introduction to Museum Studies
3 Semester Credit Hours (1.5 Lecture Hours)
In this cross-disciplinary class, students of history, sciences, the arts, and
more will be introduced to the different departments of a museum and
gain experience in programming, exhibits, research, public engagement,
and other various aspects of museum management through their
participation in a real working museum (Corpus Christi Museum of
Science and History).

HIST 3370  Introduction to Public History
3 Semester Credit Hours (3 Lecture Hours)
A Project-centered class that examines public history practices and
debates, including the changing field over time, the relationship between
history and memory, and the interpretive and sometimes controversial
nature of historical sites and exhibits. Students will also learn methods
and practices of museums, archives, oral history, digital history, and more.
Includes community-engaged learning, workshops, local field trips.

HIST 3373  Oral History and Podcasting
3 Semester Credit Hours (3 Lecture Hours)
A project-based course designed to teach students oral history, audio
recording, and editing. Topics include oral history theory and methods,
the role of testimony and memory in constructing historical narratives,
interview techniques, archival practices, and the technical aspects of
audio production, audio storytelling, and podcasting.

HIST 3385  The Art and Practice of History
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the most significant historiographical problems
that face historians, focusing on recent and current controversies that
have shaken the profession and been the subject of public and political
debate. Provides examples of how historians think about and do history.
Prerequisite: (HIST 1301, 1302 and 2311) or (HIST 2312).

HIST 4320  U.S. Cultural Experience
3 Semester Credit Hours (3 Lecture Hours)
Explores ways that the myriad groups who have made up American
society from the colonial period to the "information age" understood
and expressed themselves and related to each other. (The chronological
scope of this course may vary.)

HIST 4327  U.S. Modern Popular Culture
3 Semester Credit Hours (3 Lecture Hours)
The historical development of modern popular culture—including
television, movies, fiction, newspapers, music and consumption—and its
effect on the structure and experience of U.S. society and work from the
nineteenth century to the present.

HIST 4335  The Military and United States History
3 Semester Credit Hours (3 Lecture Hours)
The development of U.S. military strategy and policy from the Colonial
Wars through Vietnam.

HIST 4336  Mexican American History
3 Semester Credit Hours (3 Lecture Hours)
Spanish and Mesoamerican backgrounds, conquest and mestizaje,
settlement of Aztlan, interaction with Anglo-Americans, 20th century
immigration, urbanization, identity, the Chicano Movement, and Mexican
American organizational/political development.

HIST 4337  United States Women's History
3 Semester Credit Hours (3 Lecture Hours)
Themes include transformations in the notion of womanhood and of
sexual differences, changes in the structure, function, and concept of
"family" and "household," and historical factors that have shaped women's
role in the work force and public life.

HIST 4340  European Women's History
3 Semester Credit Hours (3 Lecture Hours)
Study of the experiences of European women from the 18th to the
20th centuries. Also addresses the role that gender has played in the
development of modern European societies. Some topics covered are
women and the French Revolution, gender and class in industrial Europe,
feminism and suffrage, and women and fashion.

HIST 4342  The Holocaust
3 Semester Credit Hours (3 Lecture Hours)
Examines the Holocaust by exploring the role of racism and anti-
Semitism, the rise of Nazi policies, Jewish responses and resistance to
them, deportation and genocide, the role of war, and the aftermath and
memory of an event "beyond human imagination."

HIST 4345  European Thought and Culture, 1750-present
3 Semester Credit Hours (3 Lecture Hours)
Survey of the major European intellectual and cultural movements from
the Enlightenment to the present. Broader than a traditional course in
intellectual history, special attention will be given to the emergence
and development of the concepts of "modernity" and the challenges of
"postmodernism."

HIST 4346  The Search for Modern China: From 1600 to the Present
3 Semester Credit Hours (3 Lecture Hours)
This course surveys modern Chinese history from the late Ming dynasty
to the present, with an emphasis on the late 19th and 20th centuries.
Topics include empire, colonialism, nationalism, the nation state,
modernization, revolution and the Cold War, all in a historical context.

HIST 4347  The History of Sexuality in the West
3 Semester Credit Hours
This course will examine how ideas about sexuality as well as sexual
practices and identities have evolved over time and in different places;
how the categories of homosexuality and heterosexuality were created
and how they have been perceived. The course will focus on the 19th and
20th centuries in Europe and the United States, and address the themes
of gender, body, race, class, image, representation, and the law.
HIST 4349 Transnational Histories of Asia and the Pacific
3 Semester Credit Hours (3 Lecture Hours)
Explores the transnational relations of Asia and the Pacific with the West from the 19th century to the present day. Themes include colonialism and imperialism, diaspora and migration, labor and economy, war and displacement. Topics include the Opium Wars, Immigration and Exclusion, Atomic Bombing of Hiroshima, Military War Brides, Third World Radicalism, Transnational Adoption Complex, and Environmentalism and Globalization.

HIST 4350 Narratives of World War II in the Pacific
3 Semester Credit Hours (3 Lecture Hours)
Examines how the relations between history, memory, and contemporary politics in post-WWII U.S. and Asia-Pacific have shaped the meaning of various contentious issues related to the Pacific War-such as war origins and responsibility, atrocities, racism, reparations, and nationalism-in textbooks, monuments, literature, art, films, political debates, exhibits, commemorative events, and scholarly works in different social and temporal contexts.

HIST 4352 Mexican American Women's History
3 Semester Credit Hours (3 Lecture Hours)
Examines the broad political, economic, social, and cultural trends in the lives of Mexican American women since 1848.

HIST 4374 Mexico: the National Period
3 Semester Credit Hours (3 Lecture Hours)
Traces economic, social, and political change in Mexico from independence to the present.

HIST 4375 Cold War Kids: Youth in Modern Latin America
3 Semester Credit Hours (3 Lecture Hours)
An examination of the experiences of Latin American youth in modern Latin America. Special emphasis on the role of young people in the revolutions and rebellions that marked the Cold War period.

HIST 4385 Historical Research and Writing
3 Semester Credit Hours (3 Lecture Hours)
The study and writing of history, with emphasis on historical analysis, research, and writing. Designed as the capstone course for history majors and prospective social science teachers. This course will feature a senior research paper, and should be taken during the student's final year of undergraduate study.
Prerequisite: HIST 3385 or READ 3353.

HIST 4390 Topics in History
3 Semester Credit Hours (3 Lecture Hours)
Study of significant periods, countries, regions, or themes in history. May be repeated when topics vary.

HIST 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

HIST 4398 Applied Experience
3 Semester Credit Hours
See College description.

HIST 4399 Internship
3 Semester Credit Hours
Best practices and methods in digital archives, museums, and/or public history through field work at a local organization or museum. Offered on application. Repeatable up to 6 hours.

Spanish Courses
SPAN 1100 Introduction to Service Learning
1 Semester Credit Hour
This is a one-credit course in which students in Spanish 1311 or 1312 may enroll and participate. This service learning course aims to promote collaborative learning between college students learning Spanish and people in the community. Available upon application. Repeatable up to 2 hours.

SPAN 1311 Spanish I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to listening, speaking, reading and writing skills within a Spanish cultural framework. For students without previous knowledge of the language. (Language laboratory required. One hour per week.) *A lab fee is required for these courses.

SPAN 1312 Spanish II
3 Semester Credit Hours (3 Lecture Hours)
Continued practice in listening, speaking, reading and writing skills within a Spanish cultural framework. (Language laboratory required. One hour per week.) A lab fee is required for these courses.
Prerequisite: (SPAN 1311).

SPAN 2311 Spanish III
3 Semester Credit Hours (3 Lecture Hours)
Study of more complex Spanish sentence structure to further listening, speaking, reading and writing skills at an intermediate level within a Spanish cultural framework.
Prerequisite: SPAN 1312.
TCCNS: SPAN 2311

SPAN 2312 Continuing Spanish
3 Semester Credit Hours (3 Lecture Hours)
Continued development and review of all language skills at an intermediate level within a Spanish framework with an emphasis in the linguistic and cultural perspective.
Prerequisite: SPAN 2311.
TCCNS: SPAN 2312

SPAN 2313 Spanish for Heritage Speakers
3 Semester Credit Hours (3 Lecture Hours)
An introductory course designed for bilingual students who wish to enhance their linguistic skills (speaking, listening, reading and writing). This course will focus on the cultural and historical aspects related to the heritage Spanish speaker.
TCCNS: SPAN 2313

SPAN 2315 Language and Culture for Heritage Learners
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to guide Spanish heritage language learners, as well as advanced learners of Spanish, in the development of their oral proficiency, written communication, and grammatical accuracy while exploring different cultural aspects from the Spanish-speaking world. It is highly recommended for students who have taken SPAN 2313 and/or who are transitioning into upper-division Spanish courses. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.
Prerequisite: SPAN 2313.

SPAN 3302 Spanish Composition
3 Semester Credit Hours (3 Lecture Hours)
A course designed to develop analytical perspectives in literary criticism and to strengthen reading and writing skills in Spanish through intensive reading of Spanish, Spanish American, and Chicano fiction.
Prerequisite: SPAN 2312.
SPAN 3303 Spanish Conversation
3 Semester Credit Hours (3 Lecture Hours)
A course designed to strengthen the student's oral proficiency in the language through selected readings, videos and oral presentations.
Prerequisite: SPAN 2312.

SPAN 3304 Spanish Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the cultural, linguistic, and historical experience of the Spanish people within its larger European context. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.
Prerequisite: SPAN 2312.

SPAN 3305 Latin American Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide a general overview of the cultural, linguistic, and historical experience of Latin American people before and after Columbus. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum in Language, Philosophy, and Culture.
Prerequisite: SPAN 2312.

SPAN 3307 Spanish Literature I
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of early Spanish literature from the Middle Ages through the Eighteenth Century. Literary selections include masterpieces that establish and reflect Spain's literary tradition within its larger European context.

SPAN 3308 Spanish Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish literature from the Nineteenth Century through the present. Representative works of Spanish Romanticism, Realism, Naturalism, and contemporary literature are studied within their larger European context.

SPAN 3309 Spanish American Literature I
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of early Spanish American literature from the Pre-Columbian Period through the Nineteenth Century. Selected readings in all literary genres, major themes, writers, and early literary movements will be studied within their larger Latin American context.

SPAN 3310 Spanish American Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish American literature from the Twentieth Century through the present. Representative works of Latin American writers and literary movements: Modernism, Realism, Avant-Garde, Regionalism, Magic-Realism are studied within their larger Latin American context.

SPAN 3311 Spanish Phonetics
3 Semester Credit Hours (3 Lecture Hours)
A course designed to study the production and discrimination of the Spanish sound system with a general overview of the geographical and social distribution of phonemic and allophonic variants.

SPAN 3312 Spanish Grammar
3 Semester Credit Hours (3 Lecture Hours)
The course will serve to expand vocabulary, further develop writing skills; understand, apply, and use Spanish grammatical structures, and communicate more accurately in written and oral Spanish within a Hispanic cultural context.

SPAN 3313 Introduction to Translation
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the theory, methods and practice of English to Spanish and Spanish to English translation of general texts from different fields. Challenges related to culture and language, as well as professional ethics will be examined.

SPAN 3315 Civilizations of the Spanish-Speaking World
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the historical, sociocultural and political experience of peoples from the Spanish-Speaking world, both from Spain and Spanish America.
Prerequisite: SPAN 2312.

SPAN 3316 Spanish for the Professions
3 Semester Credit Hours (3 Lecture Hours)
The course stresses Health, Business and Legal terminology in Spanish to enhance communication skills and cultural knowledge that will help to serve the South Texas Spanish speaking population as well as to conduct interactions with Spanish speakers and/or businesses through the United States and the world.

SPAN 3317 Introduction to Hispanic Linguistics
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the study of language, the main subfields of Hispanic linguistics, and their application to other sciences.

SPAN 3320 Introduction to Spanish Literature
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of Spanish literature from the Middle Ages through the present. Representative works of Spanish literature are studied within their larger European context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303 have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 3325 Introduction to Latin American Literature
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of Latin American literature from the Pre-Columbian Period through the present. Selected readings in all literary genres, major themes, writers, and literary movements will be studied with a wide Latin American context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 4100 Service Learning
1 Semester Credit Hour
This is a one-credit course designed specifically for students who are preparing themselves to serve the community using their Spanish language skills. Students in this course will familiarize themselves with the methodology of a particular field (heritage language teaching, translation, interpreting, etc.) to be able to interact and serve Spanish-speaking individuals in the community. Available upon application. Repeatable up to 3 hours.

SPAN 4301 Spanish Civil War and Literature
3 Semester Credit Hours (3 Lecture Hours)
Significance of the Civil War for Spanish, European, and world history. Effect of war on literary and cultural life of the country and the response of writers from Spain and Latin America. Conducted in Spanish.
SPAN 4302 Mexican Narrative
3 Semester Credit Hours (3 Lecture Hours)
Examination of representative novels and short stories reflecting the emergence of a post-revolutionary society in Mexico. Conducted in Spanish.

SPAN 4303 Spanish in the Southwest
3 Semester Credit Hours (3 Lecture Hours)
Cultural and linguistic dimensions of Spanish dialects of the Southwestern United States, with special attention to Texas Spanish and its sociolinguistic perspectives in the bilingual community at large.
Prerequisite: SPAN 2312.

SPAN 4304 Miguel de Cervantes' Don Quijote
3 Semester Credit Hours (3 Lecture Hours)
An advanced course designed to provide an introduction to Miguel de Cervantes' Don Quijote.

SPAN 4305 Latin American Novel
3 Semester Credit Hours (3 Lecture Hours)
This course explores major novels from Latin America from the 20th century to the present. It examines the different problems, discourses, voices, contexts, and geographies that define this genre in Latin America.

SPAN 4306 Modern Spanish Literature
3 Semester Credit Hours (3 Lecture Hours)
A course that focuses on modern Spanish literature. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated.

SPAN 4313 Spanish Interpretation
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to methodologies, requirements, terminology, and practice of interpretation, with emphasis on simultaneous, consecutive, and sight interpretation.

SPAN 4320 Spanish in the Americas
3 Semester Credit Hours (3 Lecture Hours)
A study of the Spanish that was brought to the Americas, its development, propagation and contact with native-American languages, including the sociocultural factors that have contributed to the linguistic variation in contemporary Spanish-speaking societies.

SPAN 4322 Medical, Scientific and Technical Translation
3 Semester Credit Hours (3 Lecture Hours)
An advanced course in translation concentrating on medical, scientific and technical translation. The course is designed to extend student's knowledge of translation theory and consolidate their skills in specialized translation.
Prerequisite: (SPAN 3313).

SPAN 4327 Methods in Foreign Language Instruction
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to study the current methods in foreign languages, their application in maximizing language proficiency, and the role of the students' culture and language during the learning process.

SPAN 4390 Topics in Spanish
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics in language or literature. These courses may also be designed to develop terminology and overall Spanish proficiency regarding specific professions: Business, Medical, Criminal Justice, Sociology, etc. May be repeated when topics vary.

SPAN 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

SPAN 4398 Applied Experience
3 Semester Credit Hours
A practical work experience related to the Spanish area and related careers. It is intended to provide an opportunity for a student to gain first-hand experience in an unfamiliar field. Consequently, Applied Experience credit may not be granted for a student's regular work assignment or for previous work experience. Registration is by application. The application must include a clearly written description of the duties and responsibilities involved in the Applied Experience project, and be signed by the student, the on-site supervisor, and the faculty supervisor. Completed applications must be received in the Dean's Office by the last class day of the semester preceding intended registration. This course is graded "credit" or "no credit." No more than three semester hours of Applied Experience credit may be counted toward the baccalaureate degree. Undergraduate Applied Experience course will include no less than one hundred hours and no more than 150 hours of work experience per semester.

SPAN 4421 Business, Commercial, and Legal Translation
4 Semester Credit Hours (4 Lecture Hours)
An advanced course in translation concentrating on business, commercial and legal texts. The course is designed to extend student’s knowledge of translation theory and consolidate their skills in specialized translation.
Prerequisite: (SPAN 3313).

Philosophy, Minor
Program Requirements
The philosophy minor requires a minimum of 21 semester hours of philosophy course work. At least 12 of those hours must be at the upper-division level.

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PHIL 1301</td>
<td>Introduction to Philosophy ¹</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 2303</td>
<td>Introduction to Logic and Critical Thinking ¹</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 2306</td>
<td>Introduction to Ethics</td>
<td>3</td>
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History of Philosophy or Metaphysics and Epistemology
Select one of the following:

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<tbody>
<tr>
<td>PHIL 3306</td>
<td>History of Eastern Philosophy I</td>
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<tr>
<td>PHIL 3307</td>
<td>History of Eastern Philosophy II</td>
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<tr>
<td>PHIL 3327</td>
<td>American Philosophy</td>
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<td>PHIL 4303</td>
<td>Minds and Machines</td>
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<td>PHIL 4304</td>
<td>Metaphysics</td>
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<td>PHIL 4305</td>
<td>Truth, Knowledge, and Justification</td>
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<td>Contemporary Philosophy</td>
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<td>PHIL 4330</td>
<td>Philosophy and History of Science and Technology</td>
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<td>PHIL 4331</td>
<td>Issues in Philosophy of Religion</td>
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Values and Society
Select one of the following:

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<th>Hours</th>
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<tbody>
<tr>
<td>PHIL 3342</td>
<td>Philosophy of Love and Sex</td>
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<tr>
<td>PHIL 3343</td>
<td>Philosophy of Law</td>
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<tr>
<td>PHIL 3344</td>
<td>Social and Political Philosophy</td>
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</tbody>
</table>
PHIL 3345   The Meaning of Life
PHIL 3348   Ethics, War, and Terrorism
PHIL 4332   Moral Issues in Contemporary Medicine
PHIL 4333   Environmental Ethics
PHIL 4335   Moral Philosophy

Prescribed Electives
Select two of the following: 6

Any other upper level philosophy courses that are not being used to satisfy any of the requirements above
PHIL 3346   Elementary Formal Logic
PHIL 3347   Philosophy and Science Fiction
PHIL 4336   Advanced Seminar in Philosophy
PHIL 4337   Philosophy of Language
PHIL 4390   Topics in Philosophy
PHIL 4396   Directed Individual Study

Total Hours 21

1 Students are encouraged to take PHIL 1301 Introduction to Philosophy (3 sch) and PHIL 2303 Introduction to Logic and Critical Thinking (3 sch) as early as possible in their pursuit of the minor.

Courses
PHIL 1301   Introduction to Philosophy
3 Semester Credit Hours (3 Lecture Hours)
An examination of major philosophical issues such as the existence of God, freedom and determinism, moral rights and obligations, and the nature and limits of human knowledge.
TCCNS: PHIL 1301

PHIL 2303   Introduction to Logic and Critical Thinking
3 Semester Credit Hours (3 Lecture Hours)
Basic principles and techniques used in understanding, constructing, and evaluating arguments. Topics covered may include formal methods of analyzing arguments, informal fallacies, scientific reasoning, and moral arguments.
TCCNS: PHIL 2303

PHIL 2306   Introduction to Ethics
3 Semester Credit Hours
This course includes a study of ethical theories and principles, and application of those theories and principles to ethical issues.
TCCNS: PHIL 2306

PHIL 3306   History of Eastern Philosophy I
3 Semester Credit Hours (3 Lecture Hours)
An historical and critical examination of traditional Indian philosophical and religious systems (such as various versions of Hinduism, Jainism, and Buddhism) and their relevance for contemporary people and societies.

PHIL 3307   History of Eastern Philosophy II
3 Semester Credit Hours (3 Lecture Hours)
A historical and critical examination of some of the philosophical and religious systems developed in China, Tibet, and Japan (such as various schools of Mahayana Buddhism, Taoism, Confucianism, and Zen Buddhism).

PHIL 3327   American Philosophy
3 Semester Credit Hours (3 Lecture Hours)
An introduction to American philosophy and the influential movement known as Pragmatism. The course focuses on the works of C.S. Peirce, William James, John Dewey, and George Santayana. Issues addressed include skepticism, the rejection of foundationalism, the role of belief in inquiry, verification and meaning, and the nature of truth.

PHIL 3342   Philosophy of Love and Sex
3 Semester Credit Hours (3 Lecture Hours)
This course is a study of the ethics of human relationships. Topics include friendship, romance, marriage, sexual orientation, adultery, promiscuity, sexual consent, sexual harassment, rape, pornography, and prostitution.

PHIL 3343   Philosophy of Law
3 Semester Credit Hours (3 Lecture Hours)
An introduction to philosophical issues concerning the law, such as the nature of law, relations between law and morality, theories of legal responsibility, and the role of law in society.

PHIL 3344   Social and Political Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A survey of classical and contemporary material in social and political philosophy, covering topics such as individual liberty and government intervention, the role of government, and social justice.

PHIL 3345   The Meaning of Life
3 Semester Credit Hours (3 Lecture Hours)
An exploration of a variety of views concerning the meaning of life. Three kinds of responses to the question of life's meaning will be examined: theistic responses; non-theistic responses focusing on the creation of personal meaning within a natural universe; and responses that challenge the intelligibility of the question regarding the meaning of life.

PHIL 3346   Elementary Formal Logic
3 Semester Credit Hours (3 Lecture Hours)
A course on technical methods and foundational issues in Philosophy, Computer Science, and Mathematics. Topics include the Propositional Calculus, First-Order Predicate Calculus, meta-theoretic results (such as consistency, soundness, completeness, and decidability), and Zermelo-Fraenkel Set Theory.

PHIL 3347   Philosophy and Science Fiction
3 Semester Credit Hours (3 Lecture Hours)
An exploration of issues in contemporary philosophy such as the nature of life, personhood and self, knowledge and skepticism, time travel, and obligations to the non-human world. The course combines the reading of purely philosophical works with an examination of contemporary works of science fiction (including novels, short stories, and films).

PHIL 3348   Ethics, War, and Terrorism
3 Semester Credit Hours (3 Lecture Hours)
Why is it wrong to kill? Is killing an innocent person ever justified? Under what conditions can we justify war? How should we respond to terrorist threats? The course explores ethical theories in application to these and similar issues.

PHIL 4303   Minds and Machines
3 Semester Credit Hours (3 Lecture Hours)
A study of the relationship of the mental to the physical as it pertains to the foundations of psychology, artificial intelligence, and robotics.
PHIL 4304 Metaphysics
3 Semester Credit Hours (3 Lecture Hours)
An examination of issues in contemporary metaphysics, such as freedom of the will and determinism, the nature of causation, the mind-body problem, and the existence of abstract and concrete entities.

PHIL 4305 Truth, Knowledge, and Justification
3 Semester Credit Hours (3 Lecture Hours)
In this course, we will discuss the following questions among others: What is the nature of truth? Should truth be understood as correspondence with reality? What is it to know something? Is knowledge of the external world possible at all? Can I conclusively rule out the possibility that I might be dreaming right now, or that I might be just a brain in a vat? Are there any privileged beliefs that can be said to constitute the foundation for all of our knowledge? Are the standards for rationality and justification absolute or rather relative to cultural norms? Can there be rational disagreement between equally intelligent people who share the same body of evidence?

PHIL 4321 Ancient Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A survey of the ancient Western philosophical tradition, including the Presocratics, Plato, Aristotle, and the Hellenistic Philosophers.

PHIL 4322 Modern Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A study of some of the major philosophical developments of the 17th -20th centuries, focusing on topics such as the relation between mind and body, religious belief and the problem of evil, rationalism and empiricism, and the limits of human knowledge.

PHIL 4323 Contemporary Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A course on important trends in contemporary philosophy beginning with the Fregean linguistic turn, and examining the major works of philosophers such as Frege, Russell, Wittgenstein, Quine, Davidson, Dummett, Putnam, Kripke, and Lewis.

PHIL 4330 Philosophy and History of Science and Technology
3 Semester Credit Hours (3 Lecture Hours)
An exploration of important issues concerning the natural and formal sciences from the standpoint of historical disputes and technological advances. Issues include the nature of science and of scientific progress, the justification of scientific theories, the possibility of objective knowledge of the world, the distinction between science and pseudo-science, and the relationship between faith and science.

PHIL 4331 Issues in Philosophy of Religion
3 Semester Credit Hours (3 Lecture Hours)
Standard philosophical methods will be used to explore issues such as the existence and nature of God, the problem of evil, and the relationship between morality and religion.

PHIL 4332 Moral Issues in Contemporary Medicine
3 Semester Credit Hours (3 Lecture Hours)
An examination of moral issues that arise in medicine, focusing on topics such as euthanasia, genetic interventions, medical research involving vulnerable subjects, and the distribution of medical resources.

PHIL 4333 Environmental Ethics
3 Semester Credit Hours (3 Lecture Hours)
An examination of our ethical obligations with respect to animals, plants, and environmental systems, and of the foundations of environmental law and policy. Can be cross listed with ESCI 4490, BIOL 4590 or BIMS 4590.

PHIL 4335 Moral Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A study of moral theories, and of moral issues such as whether morality is subjective, whether there are moral facts, and the justification of practices such as capital punishment and abortion.

PHIL 4336 Advanced Seminar in Philosophy
3 Semester Credit Hours (3 Lecture Hours)
In-depth exploration of philosophical topics, designed for philosophy majors, with emphasis on student research and presentations.

PHIL 4337 Philosophy of Language
3 Semester Credit Hours (3 Lecture Hours)
A philosophical investigation into the nature of language. Topics include meaning, truth, theories of mediated reference, theories of direct reference, and speech acts.

PHIL 4390 Topics in Philosophy
3 Semester Credit Hours (3 Lecture Hours)
Study of important philosophical themes and figures. May be repeated for credit when topics vary. Topics may include, for example, Minds and Machines, Eastern Philosophy, Ancient Philosophy, Environmental Ethics, American Philosophy, and Moral Issues in Contemporary Medicine.

PHIL 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

Political Science, Minor

Program Requirements
To earn a minor in political science, a student must complete a minimum of 18 semester hours of political science courses beyond the requirements of the Core Curriculum Program.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>POLS 3313</td>
<td>The Legislative Process</td>
<td>3</td>
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<tr>
<td>POLS 3314</td>
<td>Public Opinion</td>
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<tr>
<td>POLS 3315</td>
<td>Political Parties</td>
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<tr>
<td>POLS 3317</td>
<td>Judicial Politics</td>
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<tr>
<td>POLS 3321</td>
<td>Comparative Politics</td>
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<tr>
<td>POLS 3331</td>
<td>International Relations</td>
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<tr>
<td>POLS 4325</td>
<td>Politics in Latin America</td>
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<tr>
<td>POLS 3361</td>
<td>Western Political Theory</td>
<td>3</td>
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<tr>
<td>POLS 3365</td>
<td>Political Theory and Ideologies</td>
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</tr>
<tr>
<td>POLS 4361</td>
<td>American Political Thought</td>
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</tbody>
</table>

Electives
The remaining 6 hours of unrestricted electives can be any political science course.

Total Hours 18
Courses

POLS 2304 Introduction to Political Science
3 Semester Credit Hours (3 Lecture Hours)
Introductory survey of the discipline of political science focusing on
the scope and methods of the field, and the substantive topics in the
discipline including the theoretical foundations of politics, political
interaction, political institutions and how political systems function.
TCCNS: GOVT 2304

POLS 2305 U.S. Government and Politics
3 Semester Credit Hours (3 Lecture Hours)
A basic survey of American government, including fundamental political
institutions, with special attention to the United States and Texas
Constitutions.
TCCNS: GOVT 2305

POLS 2306 State and Local Government
3 Semester Credit Hours (3 Lecture Hours)
The politics, government, and administration of American states,
counties, cities, and special districts, with special emphasis on Texas.
TCCNS: GOVT 2306

POLS 2311 Mexican American and Latinx Politics
3 Semester Credit Hours (3 Lecture Hours)
The study of Mexican American and Latinx politics within the American
political experience. Topics include historical, cultural, socioeconomic,
and constitutional issues that pertain to the study of Mexican Americans
and other Latinx populations in the United States. Other topics such
as political participation, governmental institutions, electoral politics,
political representation, demographic trends, and other contemporary
public policy debates will also be addressed.
TCCNS: GOVT 2311

POLS 3303 Contemporary Political Analysis
3 Semester Credit Hours (3 Lecture Hours)
Analysis of current problems in national and international politics.
Emphasis is on methods of analysis, particularly the use of computers.
Includes a segment on career opportunities for political science majors.

POLS 3311 Women and Politics
3 Semester Credit Hours (3 Lecture Hours)
The course will examine public policies affecting women, political
participation, women in public office, and political attitudes of women.

POLS 3312 Campaigns and Elections
3 Semester Credit Hours (3 Lecture Hours)
A survey of the literature on campaigns and elections including theories
of voter choice; effects of mass media and campaign finance regulations
on the conduct and outcome of elections; effects of elections on policy;
emphasis on U.S. national elections.

POLS 3313 The Legislative Process
3 Semester Credit Hours (3 Lecture Hours)
Survey and description of the legislative process in the United States
Congress with relevant comparisons to practices within the several
states and foreign nations. Emphasis upon the law-making process
explained in terms of structure, participants, groups, associations and
power relationships.

POLS 3314 Public Opinion
3 Semester Credit Hours (3 Lecture Hours)
An analysis of the kinds and distributions of opinions and attitudes in
the mass public and the effects of those opinions on activities of policy
makers, with special attention to problems of linking public opinion to
public policy.

POLS 3315 Political Parties
3 Semester Credit Hours (3 Lecture Hours)
Organization, history, and activities of political parties and functions
they serve in national, state, and local politics in the United States and
elsewhere.

POLS 3316 The American Presidency
3 Semester Credit Hours (3 Lecture Hours)
A study of the federal executive branch with an emphasis upon the
American Presidency with its relationships to other American political
institutions and processes.

POLS 3317 Judicial Politics
3 Semester Credit Hours (3 Lecture Hours)
This course examines the political factors that influence judicial
selection, decision-making and the policy-making role of courts.
Furthermore, attention is directed at the impact of court decisions and
the structure of the judiciary.

POLS 3318 Interest Groups
3 Semester Credit Hours (3 Lecture Hours)
Role of interest groups in politics: types of groups and resources; internal
dynamics; group strategies/tactics (including PACs); forms of indirect
and direct lobbying; influence of groups in the political arena.

POLS 3319 Religion and Politics
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the intersection of religion and politics
historically and during contemporary times with an emphasis on beliefs,
behaviors, institutions, and policies.

POLS 3321 Comparative Politics
3 Semester Credit Hours (3 Lecture Hours)
Concepts, theories and analytical frameworks for comparing different
types of political systems around the world. Emphasis is placed on
learning about different political systems and using the comparative
method to evaluate and develop a richer understanding of politics,
political culture, political behavior, and political institutions.

POLS 3331 International Relations
3 Semester Credit Hours (3 Lecture Hours)
Examination of the structure and function of the international system
focusing on the power relationships among states, international
organizations, and the critical issues animating contemporary
international relations.

POLS 3341 Introduction to Public Administration
3 Semester Credit Hours (3 Lecture Hours)
Study of organization and management theories and practices of
public administration affecting federal and subnational governments.
Bureaucratic structures and procedures will be examined for their effects
on policy, program development and evaluation.

POLS 3342 Introduction to Public Policy
3 Semester Credit Hours (3 Lecture Hours)
A survey of the policy process in the United States. The course will
examine factors affecting the development, implementation and impact
of public policies as well as a discussion of policy alternatives and
controversies.

POLS 3343 Bureaucracy
3 Semester Credit Hours (3 Lecture Hours)
Examines the concept of the political role of the bureaucracy and the
impact of other government institutions on bureaucratic structures,
functions and behavior. The role of bureaucracy in public policy making
and the influence of politics on implementation is analyzed.
POLS 3351 U.S. Constitution and Federalism
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the development of the U.S. Constitution since 1789 through legal decisions and interpretations. The development, evolution, and interpretations of federalism are also addressed. (Note: This course will complete the Texas Teacher Certification requirement in government for those who already have three semester hours in U.S. Government and need three additional semester hours that include the government and constitution of Texas.)

POLS 3361 Western Political Theory
3 Semester Credit Hours (3 Lecture Hours)
The fundamental concepts and problems of political theory, as viewed by the major classical philosophers and contemporary theorists, including justice, power, authority, obligation, freedom, equality.

POLS 3365 Political Theory and Ideologies
3 Semester Credit Hours (3 Lecture Hours)
Major 19th and 20th?Century political theorists and ideological movements. Includes a review of capitalism, socialism, fascism, and liberalism.

POLS 4303 Seminar in Political Science
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for political science majors, examines significant developments and issue in American politics as they are addressed in the professional literature of political science. Offers the opportunity of an intensive study of as selected topic. Emphasis on supervised research on selected topic. Prerequisite: POLS 3303.

POLS 4311 Urban Politics
3 Semester Credit Hours (3 Lecture Hours)
The institutions, political processes and policy issues of urban areas of the United States.

POLS 4312 Government Budgeting and Finance
3 Semester Credit Hours (3 Lecture Hours)
Study of the politics and processes of governmental budgeting at local, state, and federal levels with emphasis on the interrelatedness of governmental units through budgeting.

POLS 4314 Media and Politics
3 Semester Credit Hours (3 Lecture Hours)
Impact of mass media coverage on American political institutions, the election process, and public opinion in general and the appropriate role of media and news in a society.

POLS 4320 The Politics of the European Union
3 Semester Credit Hours (3 Lecture Hours)
Examination of the institutional, economic and political forces that led to the creation and development of the European Union. Emphasis on the impact the European Union has had on world affairs.

POLS 4321 Comparative Politics of Developing Nations
3 Semester Credit Hours (3 Lecture Hours)
Analysis of contemporary issues within and amongst developing nations. Examines various institutions, political processes, and public policy debates in some or all of the following regions: Africa, Latin America, the Middle East, or Asia.

POLS 4322 Transitions to Democracy
3 Semester Credit Hours (3 Lecture Hours)
Analysis of transitions to democracy from authoritarian rule. Various stages of the transition process and theories of democratization are assessed. Emphasis will be placed on "third wave" transitions to democracy.

POLS 4325 Politics in Latin America
3 Semester Credit Hours (3 Lecture Hours)
Latin American governments and politics as related to such topical problems and processes as land reform and expropriation.

POLS 4327 The Politics of War
3 Semester Credit Hours (3 Lecture Hours)
This course will examine the politics of war from ancient times to the present. Included in this survey are great generals and military strategists, from Sun Tzu to Napoleon to generals of the American Civil War. Students will study concepts of international law, the law of nations, and the laws of war. The course further examines military strategy and tactics of the 20th century.

POLS 4361 American Political Thought
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major developments in American political thought from the Colonial period to the present, followed by an analysis of important recent theoretical developments in American political thought.

POLS 4390 Topics in Political Science
3 Semester Credit Hours (3 Lecture Hours)
May be repeated for credit when topic varies.

POLS 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

POLS 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
NCD.

Pre-Law, Minor

Program Description
This minor is intended for those students who are considering law school and want to obtain the foundational skills to gain entrance to and succeed in law school. It consists of 21 hours, 15 of which must be upper-division. The courses are designed to meet the core skills and values laid out by the American Bar Association. This includes the ability to write, research, read critically, analyze, communicate, and value serving others by promoting justice. The minor will also enable students to obtain the general knowledge expected of law school applicants.

Program Requirements
Students in the pre-law minor must satisfy 3 hours from each of the following seven categories:

- Writing
- Analytical and Problem Solving
- Critical Reading and General Knowledge
- Oral Communication and Listening
- Research
- Value of Serving Others
- Legal Topics

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENGL 2370</td>
<td>Introduction to Literary Studies</td>
<td>3</td>
</tr>
<tr>
<td>or ENGL 3301</td>
<td>Technical and Professional Writing</td>
<td></td>
</tr>
<tr>
<td>Analytical and Problem Solving</td>
<td></td>
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</table>
PHIL 2303  Introduction to Logic and Critical Thinking  3
or PHIL 3346  Elementary Formal Logic

**Critical Reading and General Knowledge**

Select one of the following:  3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ECON 4388</td>
<td>History of Economic Thought</td>
</tr>
<tr>
<td>HIST 2311</td>
<td>Western Civilization I</td>
</tr>
<tr>
<td>HIST 2312</td>
<td>Western Civilization II</td>
</tr>
<tr>
<td>HIST 4336</td>
<td>Mexican American History</td>
</tr>
<tr>
<td>MXAS 3301</td>
<td>Introduction to Mexican American Studies</td>
</tr>
<tr>
<td>SOCI 4312</td>
<td>Social Class and Inequality</td>
</tr>
<tr>
<td>PHIL 3344</td>
<td>Social and Political Philosophy</td>
</tr>
<tr>
<td>POLS 3303</td>
<td>Contemporary Political Analysis</td>
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<tr>
<td>POLS 3321</td>
<td>Comparative Politics</td>
</tr>
<tr>
<td>POLS 4361</td>
<td>American Political Thought</td>
</tr>
<tr>
<td>WGST 3301</td>
<td>Introduction to Women and Gender Studies</td>
</tr>
</tbody>
</table>

**Oral Communication and Listening**

Select one of the following:  3

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>COMM 1315</td>
<td>Public Speaking 1</td>
</tr>
<tr>
<td>COMM 2333</td>
<td>Small Group Communication</td>
</tr>
<tr>
<td>COMM 3330</td>
<td>Persuasion</td>
</tr>
<tr>
<td>COMM 4345</td>
<td>Intercultural Communication</td>
</tr>
</tbody>
</table>

**Research**

Select one of the following:  3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CRIJ 4345</td>
<td>Research Methods in Criminal Justice</td>
</tr>
<tr>
<td>SOCI 4390</td>
<td>Topics in Sociology 2</td>
</tr>
<tr>
<td>SOCI 4445</td>
<td>Social Research Methods</td>
</tr>
</tbody>
</table>

**Capstone: Research based capstone in your major**  2

**Value of Serving Others**

Select one of the following:  3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRIJ 4398</td>
<td>Applied Experience 4</td>
</tr>
<tr>
<td>ENGL 4321</td>
<td>Grants and Proposals</td>
</tr>
<tr>
<td>SOCI 4398</td>
<td>Applied Experience 3</td>
</tr>
<tr>
<td>SOCW 4398</td>
<td>Applied Experience 3</td>
</tr>
</tbody>
</table>

**Service Learning - Upper-division course with a service learning component**  3

**Legal Topics**

Select one of the following:  3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BLAW 3310</td>
<td>Legal Environment of Business 4</td>
</tr>
<tr>
<td>BLAW 4350</td>
<td>Human Resource Law</td>
</tr>
<tr>
<td>MEDA 4341</td>
<td>First Amendment and Ethical Issues in the Media</td>
</tr>
<tr>
<td>CRIJ 1306</td>
<td>Court Systems and Processes</td>
</tr>
<tr>
<td>CRIJ 4310</td>
<td>Constitutional Law</td>
</tr>
<tr>
<td>CRIJ 4312</td>
<td>Law and Evidence</td>
</tr>
<tr>
<td>ESCI 4301</td>
<td>Environmental Regulations</td>
</tr>
<tr>
<td>GISC 4305</td>
<td>Legal Aspects of Spatial Information</td>
</tr>
<tr>
<td>HLSC 4310</td>
<td>Health Law</td>
</tr>
<tr>
<td>PHIL 3343</td>
<td>Philosophy of Law</td>
</tr>
</tbody>
</table>

**Total Hours**  21

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1 Public Speaking may not be counted towards both the core and the minor. It is required for students who did not take it as part of the core curriculum (e.g. some transfer students).

2 This must be approved by your faculty mentor and prelaw advisor.

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**Courses**

**Business Law Courses**

**BLAW 3310 Legal Environment of Business**

An introduction to the legal systems of government, business and society. Includes coverage of ethics, the judicial process, basics of contracts law, constitutional issues, business torts and crimes, creditor/debtor relationships, business organizations, international law, environmental law, and various aspects of regulation of business.

**Prerequisite:** BUSI 0011.

**BLAW 3320 Law for Personal Business**

3 Semester Credit Hours (3 Lecture Hours)

A study of the laws that influence each individual in the conduct of personal life and business affairs. Includes such topics as the court and legal system, family law, torts, property law, insurance, wills and trusts, contracts, and other areas of current interest.

**BLAW 4342 Law for Professional Certification**

3 Semester Credit Hours (3 Lecture Hours)

Designed as a second course in business law for students who desire a more in-depth knowledge. Individuals planning to take professional certification exams that contain a business law component are encouraged to enroll in this course.

**Prerequisite:** (BLAW 3310).

**BLAW 4350 Human Resource Law**

3 Semester Credit Hours (3 Lecture Hours)

A study of the laws relating to human resource management in today's business environment. Covers discrimination, labor law, retirement regulations, safety issues and employee/management topics. Emphasis on current issues, cases and legislation. May be used as a management major elective or business elective.

**BLAW 4390 Current Topics in Business Law**

1-3 Semester Credit Hours (1-3 Lecture Hours)

Selected topics for special study related to laws impacting business, organizations and human resources. May be repeated for credit when topics vary.

**BLAW 4396 Directed Individual Study**

1-3 Semester Credit Hours

Individual supervised study and a final report.

**Criminal Justice Courses**

**CRIJ 1301 Introduction to Criminal Justice**

3 Semester Credit Hours (3 Lecture Hours)

History and philosophy of criminal justice. Overview of criminal justice system: police, prosecution and defense, courts, trial process, and corrections as they affect the individual, as well as their impact on society. The definition, nature, and impact of crime. The functions of criminal justice agencies will be examined in relation to common analytical themes such as ethics and discretion.

**TCCNS:** CRIJ 1301
CRIJ 1306 Court Systems and Processes
3 Semester Credit Hours (3 Lecture Hours)
Examination of the civil and criminal legal systems and the roles played by political, social and economic factors in the administration of justice. Consideration of the roles and interests of litigants, defendants, police, attorneys, and the judiciary in the process.
TCCNS: CRIJ 1306

CRIJ 1310 Fundamentals of Criminal Law
3 Semester Credit Hours (3 Lecture Hours)
The course will introduce students to the study of criminal law. Major topics include the sources of criminal law, the operation of the criminal courts, constitutional limitations on criminal law, the elements of criminal liability, and the classification of and punishments for different types of criminal offenses. Defenses to criminal liability will also be explored.
TCCNS: CRIJ 1310

CRIJ 2313 Correctional Systems & Practices
3 Semester Credit Hours (3 Lecture Hours)
This course is a survey of institutional and non-institutional corrections. Emphasis will be placed on the organization and operation of correctional systems; treatment and rehabilitation; populations served; Constitutional issues; and current and future issues.
TCCNS: CRIJ 2313

CRIJ 2328 Police Systems and Practices
3 Semester Credit Hours (3 Lecture Hours)
The history and development of police in America. Topics examined include: the police profession, organization of law enforcement systems, the policing role, police discretion, ethics, police-community interaction, current and future issues, and research findings.
TCCNS: CRIJ 2328

CRIJ 3302 Police and Society
3 Semester Credit Hours (3 Lecture Hours)
Examination of policing in a democratic society. A critical review of various professional and community influences on police behavior, together with a consideration of social problems created by such forces, and potential remedial actions.

CRIJ 3310 THE JUDICIAL PROCESS
3 Semester Credit Hours (3 Lecture Hours)
Examination of the civil and criminal legal systems and the roles played by political, social and economic factors in the administration of justice. Consideration of the roles and interests of litigants, defendants, police, attorneys, and the judiciary in the process.

CRIJ 3313 The Juvenile Justice System
3 Semester Credit Hours (3 Lecture Hours)
The administration of the juvenile justice process. Historical and philosophical origins of the juvenile justice system. A systematic analysis of problems and procedures at each stage of the process.

CRIJ 3315 Crime Prevention
3 Semester Credit Hours (3 Lecture Hours)

CRIJ 3320 Issues in Corrections
3 Semester Credit Hours (3 Lecture Hours)
Analysis of contemporary developments, controversies and management concerns in the field of corrections. Includes examination of theoretical foundations of correctional policy.

CRIJ 3325 Community-Based Corrections
3 Semester Credit Hours (3 Lecture Hours)
Examination of the correctional strategies and facilities available in community settings including diversion programs, probation, parole, half-way houses, boot camps, and restitution centers.

CRIJ 3340 Comparative Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
Comparison of the police in selected countries with the U.S. criminal justice system. Particular emphasis on social, political, and economic factors in the development and change in law enforcement.

CRIJ 3341 Terrorism
3 Semester Credit Hours (3 Lecture Hours)
An examination of political violence from criminological, legal, and political perspectives. Application to contemporary events is emphasized. The sociology, psychology, and organization of terrorist groups are also explored as well as counter-terrorism strategies, methods, and dilemmas.

CRIJ 3360 Organized Crime
3 Semester Credit Hours (3 Lecture Hours)
The course analyzes and discusses how criminal organizations carry out their illegal activities while laundering money through legal enterprises. It discusses why people belong to organized crime syndicates despite the risks of death and imprisonment. The linkages of poverty, lack of education, social and economic inequalities, and the glorification of capitalist ideology by the phenomenon of organized crime are examined.

CRIJ 3361 Drugs, the Drug War, and Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course is an analysis and discussion of drugs, the war on drugs, and how these two phenomena impact the criminal justice system in American society. There is a review of the common assumptions about drugs and its social implications. An examination of the sociocultural interconnections of the nature of drugs, drug use, drug trafficking, and drug policy from a justice perspective is presented.

CRIJ 3365 Sex Crimes
3 Semester Credit Hours (3 Lecture Hours)
This course analyzes the nature, etiology, and theories related to sex offenses and sex offenders. It explores the history and current practices employed by the criminal justice systems to deal with sex offending. The course also examines multiple types of sexual offenses, perpetrators and victims, as well as the legal consequences of sexual offenses and its sociocultural ramifications to grasp the complexity of these crimes.

CRIJ 3370 Crime in the Media
3 Semester Credit Hours (3 Lecture Hours)
This course will cover the portrayal of crime, criminals, the criminal justice system, and criminal justice practitioners in the media. Specifically, the course will address the goals of the media and how those affect their coverage of crime and the CJ system.

CRIJ 3375 Applied Statistics in Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course will teach students the step-by-step process for using statistical techniques that are most applicable in the field of criminal justice. It will teach them when, where, and why each statistical analysis is necessary and/or useful, and it will help students learn those skills by applying them to an actual project.
CRIJ 3380  Victimology
3 Semester Credit Hours (3 Lecture Hours)
is the scientific study of crime victims and focuses on the physical, emotional, and financial harm victims suffer due to crime. The purpose of this course is to examine victim-offender relationships, the interactions between victims and the criminal justice system, and the connections between victims and other institutions (such as the media, advocacy groups, and government). In exploring these connections, students will address the theory, research, legislation, and policy implications related to victimization.
Prerequisite: CRJ 1301.

CRIJ 4085  Major Field Test
0 Semester Credit Hours
The Major Field Test (MFT) in Criminal Justice is a national examination given in the Fall and Spring semesters only. It is a graduation requirement for all Criminal Justice majors. Students enroll in this course during the semester that they plan to take the MFT. This should be the semester of graduation or the Spring semester for those planning a summer graduation. There is no cost to the student for either this course of for the MFT. Admission is limited to students who have completed 90 or more semester credit hours. Graded: CR/NC

CRIJ 4310  Constitutional Law
3 Semester Credit Hours (3 Lecture Hours)
A case study of American constitutional law based on the leading decisions of the U.S. Supreme Court. Examination of the evolution of judicial review and the development of due process and the protection of individual rights.

CRIJ 4312  Law and Evidence
3 Semester Credit Hours (3 Lecture Hours)
A detailed examination of the use, admissibility, and presentation of evidence. Issues and problems dealing with the rules of evidence and the theories on which those rules are based.

CRIJ 4313  Criminal Procedure
3 Semester Credit Hours (3 Lecture Hours)
A detailed examination of the legal constraints on investigation and prosecution of criminal offenses. Analysis of the Texas Code of Criminal Procedure and of Search and Seizure Law under the Fourth Amendment, as well as other due process issues arising under the Fifth and Sixth Amendments.

CRIJ 4320  Offender Rehabilitation
3 Semester Credit Hours (3 Lecture Hours)
Theories of rehabilitation, treatment, and correction of criminal offenders. Includes analysis of the historical development of the rehabilitative ideal and contemporary controversies surrounding it, and a survey of therapeutic models and methods.

CRIJ 4321  American Prisons and Prisoners
3 Semester Credit Hours (3 Lecture Hours)
Analysis of the history, philosophy, and function of prisons. Examination of control and treatment of offenders in institutional settings. Focus is upon current developments, controversies and management problems.

CRIJ 4322  CRIME AND PUNISHMENT IN LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected literary classics that treat of crime and punishment. The works of literary artists from various cultures which describe experience with crime and the criminal justice system will be placed in historical and theoretical perspective.

CRIJ 4324  Women and Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
An historical and ideological analysis of the role of women in the criminal justice system as offenders, reformers, and professionals.

CRIJ 4325  Diversity in Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course is an investigation into the impact of social diversity (race, ethnicity, gender, sexual orientation, disability, and more) on crime and the criminal justice system. Students will examine the impact of these factors on both offenders and criminal justice system employees, and will discuss and critically examine historical trends, contemporary events, and criminal justice system policies and laws.

CRIJ 4330  Understanding Criminal Behavior
3 Semester Credit Hours (3 Lecture Hours)
This course examines various aspects of human behavior from a criminal justice perspective and is designed to give students a basic understanding of criminal behavior and psychological disorders which are encountered by criminal justice professionals.

CRIJ 4331  Juvenile Delinquency
3 Semester Credit Hours (3 Lecture Hours)
Examination of the nature and extent of juvenile crime today. Analysis of the history and theory of delinquency and society's response to it. (Credit may not be given for both this course and SOCI 4331.) Cross listed with SOCI 4331.

CRIJ 4335  Criminology
3 Semester Credit Hours (3 Lecture Hours)
An examination of the major sociological explanations for crime, criminal behavior, and the social responses to crime. (Credit may not be given for both this course and SOCI 4335.) Cross listed with SOCI 4335.

CRIJ 4340  Criminal Investigation
3 Semester Credit Hours (3 Lecture Hours)
Critical examination of investigation methods and comparison of these to research methods. Advanced examination of investigative procedures, theory, supervision, and evaluative research. Some practical applications.

CRIJ 4345  Research Methods in Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to help students gain a working understanding of the research process with direct application to criminal justice research. Attention will focus on various aspects of the research process including quantitative and qualitative methods. Students will complete literature reviews, create research proposals, conduct observations/interviews, and construct surveys in addition to various assignments and activities.
Prerequisite: CRIJ 1301 or 1313.

CRIJ 4351  POLICE SUPERVISION AND MANAGEMENT
3 Semester Credit Hours (3 Lecture Hours)
Study of contemporary theories of management and supervision as they relate to law enforcement. Management concerns considered include planning, motivation, organizational communication, discipline, productivity, ethics, conflict, and job stress.

CRIJ 4360  Intimate Relationship Violence
3 Semester Credit Hours (3 Lecture Hours)
Violence involving acquaintance, spouse, child, and elder abuse is examined within a theoretical construct relating violence to social responses. Alternative causal theories, prevention, counseling, administration, innovative programs, and inter-agency coordination are addressed.
PSYC 2301 General Psychology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the fundamental concepts and theories in psychology. Topics include biological processes, development, learning, personality, abnormal behavior, therapy, and social interactions.
**Prerequisite:** MEDA 1305, UNIV 1102.
**TCCNS:** PSYC 2301

PSYC 2314 Lifespan Developmental Psychology
3 Semester Credit Hours (3 Lecture Hours)
The study of normal physical, cognitive, social, and emotional development from infancy to late adulthood.
**TCCNS:** PSYC 2314

PSYC 2319 Social Psychology
3 Semester Credit Hours (3 Lecture Hours)
The scientific study of how a person’s thoughts and behavior are influenced by others. Topics will include social cognition, attitudes, persuasion, interpersonal relationships, and group behavior. (Credit may not be given for both this course and SOCI 2326.) Cross listed with SOCI 2319.
**TCCNS:** PSYC 2319

PSYC 2335 Forensic Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course is designed as an overview to the field of close relationships. The major theories of close relationships will be emphasized, including examinations of evolutionary, attachment, interdependence, and cognitive approaches. Additional topics include attraction, relationship development and maintenance, infidelity, and relationship violence.

PSYC 2342 Cognitive Psychology
3 Semester Credit Hours (3 Lecture Hours)
A survey of current research and theory in the field of human cognition, emphasizing the information processing model. Topics include attention, memory, language, and problem solving.

PSYC 2343 Learning and Behavior
3 Semester Credit Hours (3 Lecture Hours)
The study of the fundamental principles of learning through a consideration of theories and constructs, such as associations, reinforcement, punishment, generalization, discrimination, and modeling.

PSYC 2346 Psychology of Language
3 Semester Credit Hours (3 Lecture Hours)
The purpose of the course is to introduce students to a multidisciplinary study of language. This course will provide an introduction to psychological, sociolinguistic, and social-interactive theories of language use, acquisition/development, knowledge, context, perception, disorders, and related cognitive and social processes.

PSYC 2350 Evolutionary Psychology
3 Semester Credit Hours (3 Lecture Hours)
Evolutionary psychologists argue that much of human behavior is the output of neural and psychological adaptations that evolved to solve recurrent problems in human ancestral environments. Some challenges addressed in this course involve survival, mating, familial relationships, and living in social groups.

PSYC 2360 Health Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course will provide an overview of the field of health psychology, examining how psychological theories and research are applied to enhance health and well-being and to prevent and treat illness.
PSYC 3361  Psychology of Personality
3 Semester Credit Hours (3 Lecture Hours)
An introduction to major theories of personality. Personality processes and development are discussed from psychoanalytic, behavioral, humanistic, and other perspectives.

PSYC 3363  Abnormal Psychology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of abnormal behavior. Studies the etiology and characteristics of the major behavioral disorders, including current research findings and treatment practices. Competency in personality psychology, such as that obtained by completing PSYC 3361, is assumed for this course.

PSYC 3370  Psychology of Religion
3 Semester Credit Hours (3 Lecture Hours)
This course examines religious experience and behavior from a psychological perspective. Topics include historical and theoretical perspectives, development of religious beliefs across the lifespan, religious conversion, social and group experiences, and the varieties of religious belief.

PSYC 3374  Human Sexuality
3 Semester Credit Hours (3 Lecture Hours)
The study of human sexual behavior from a biological and psychosocial perspective. Emphasizes current research methods and findings.

PSYC 3375  Introduction to Clinical Psychology
3 Semester Credit Hours (3 Lecture Hours)
A survey of diagnostic and therapeutic strategies employed by clinical psychologists. The scientist-practitioner model is emphasized through the critical analysis of theories and empirical research that provide the foundation for determining effective treatments of mental disorders.

PSYC 3411  Experimental Psychology
4 Semester Credit Hours (4 Lecture Hours)
An introduction to the methods of scientific experimentation in psychology. Skills to critically analyze journal articles, design experiments, collect and analyze data, and write reports in APA style will be developed. Students are required to enroll in a laboratory section of this course. The laboratory component of this course offers applications of the principles discussed in the large lecture.
Prerequisite: MATH 1442.

PSYC 4309  History and Systems of Psychology
3 Semester Credit Hours (3 Lecture Hours)
A study of the development of modern psychology through an examination of major philosophic, scientific, and social-political antecedents. Contemporary positions are discussed within the context of broader theoretical frameworks.
Prerequisite: PSYC 2301.

PSYC 4310  Psychology Capstone Seminar
3 Semester Credit Hours (3 Lecture Hours)
All TAMU-CC Psychology students take a Capstone course in order to graduate. The Psychology Capstone Seminar, the final and required class that completes the Psychology curriculum, provides an opportunity for senior Psychology majors to demonstrate comprehensive learning in Psychology through intensive, integrative work on a specific topic in Psychology at an advanced level. The goal is to provide an enriching and culminating experience at the end of each student's undergraduate education. Core components of the Capstone courses include reading and discussing peer-reviewed and primary source work, completing a final project, and presentations of ongoing and final projects.
Prerequisite: PSYC 3411.

PSYC 4332  Cross-cultural Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide students with both a theoretical and a practical understanding of the effects of culture on human thinking, values, and behavior. As such, it is focused on the effects of culture on the nature and behavior of individuals, their adaptations to institutions and environments, and their relations with others within and outside their culture. Knowledge presented in the class is drawn from both qualitative and quantitative research.

PSYC 4344  Drug Use and Abuse
3 Semester Credit Hours (3 Lecture Hours)
Study of the physiological, psychological, and social effects of drug use and abuse. Following a review of basic neuroanatomy and pharmacology, the actions and known effects of specific drugs of use and abuse will be examined. Treatments and prevention issues related to substance abuse will also be discussed.

PSYC 4352  Physiological Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the physiological mechanisms that underlie behavior with emphasis on the nervous, the endocrine and sensory systems.

PSYC 4354  Sensation and Perception
3 Semester Credit Hours (3 Lecture Hours)
Basic sensory processes as they relate to the sensory experience and to the construction of our conception of physical reality.

PSYC 4367  Gender Issues in Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to introduce the undergraduate student to the theoretical and empirical issues related to the psychology of gender. Both traditional and contemporary theories that focus on the unique aspects in the psychological development of women as well as men will be examined.

PSYC 4372  Psychological Testing
3 Semester Credit Hours (3 Lecture Hours)
Statistical and research basis for test construction. Instruction in use of group and individual tests in intelligence, achievement, interest and personality. Understanding of individual measures in these areas.
Prerequisite: MATH 1442.

PSYC 4377  Industrial/Organizational Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course will provide an Introduction to Industrial and Organizational Psychology, a scientific discipline that studies human behavior in the workplace. Topics will include the history of Industrial/Organizational psychology, job analysis, psychological assessments, personnel decisions, training and development, organizational change, teamwork, motivation, leadership and work stress and health.
Prerequisite: (PSYC 2301).

PSYC 4390  Topics in Psychology
3 Semester Credit Hours (3 Lecture Hours)
May be repeated for credit when topics vary.
Prerequisite: PSYC 2301.

PSYC 4395  Undergraduate Research
3 Semester Credit Hours
A research project in psychology designed in consultation with a faculty director. The study is to be conducted by the student under the supervision and direction of the faculty member and may culminate in a formal report written in APA journal style.
**Social Work, Minor**

**Program Description**

This minor is an interdisciplinary program for undergraduate students who are interested in the field of social work or social services and want more in-depth study in this area than other courses provide. This program is designed to complement undergraduate study programs at the University.

The purpose of the minor is to give students a basic understanding of social work practice. This includes the history, function, and processes with emphasis on skill application.

Social work is concerned with human well-being. Social workers help people function within their environment and work for improved social conditions. They provide services to people in areas such as counseling, education, health, mental healthcare, public welfare. In addition, providing services to the aged, for the intellectually disabled, family services, criminal justice and child welfare services.

**Program Requirement**

To obtain a minor in social work, the student must declare a minor with their academic advisor and complete the 18 semester hours required for a minor, 12 hours of which must be upper division courses. The minor also requires an additional two elective courses from those listed below in social work, psychology, sociology, or criminal justice. However, the elective courses may not overlap with coursework in the student’s declared major (e.g. a psychology major cannot take two psychology electives to meet the social work minor requirement).

The student must complete the 12 hours of social work classes listed below.

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>SOCW 2361</td>
<td>Introduction to Social Work</td>
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<tr>
<td>SOCW 3310</td>
<td>Approaches to Social Welfare</td>
<td>3</td>
</tr>
<tr>
<td>SOCW 3320</td>
<td>Social Services in the Community</td>
<td>3</td>
</tr>
<tr>
<td>SOCW 3350</td>
<td>Social Work Practice</td>
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<th>Select 6 hours from the following areas:</th>
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<tbody>
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<td>Social Work</td>
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<tr>
<td>SOCW 4398</td>
<td>Applied Experience</td>
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<th>Psychology</th>
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<tbody>
<tr>
<td>PSYC 2314</td>
<td>Lifespan Developmental Psychology *</td>
</tr>
<tr>
<td>PSYC 3360</td>
<td>Health Psychology</td>
</tr>
<tr>
<td>PSYC 3361</td>
<td>Psychology of Personality *</td>
</tr>
<tr>
<td>PSYC 3363</td>
<td>Abnormal Psychology *</td>
</tr>
<tr>
<td>PSYC 3375</td>
<td>Introduction to Clinical Psychology</td>
</tr>
<tr>
<td>PSYC 4332</td>
<td>Cross-cultural Psychology *</td>
</tr>
<tr>
<td>PSYC 4367</td>
<td>Gender Issues in Psychology</td>
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#### Required Courses

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<td>Applied Experience</td>
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<tr>
<td>3</td>
<td>Semester Credit Hours</td>
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<tr>
<td>See College description.</td>
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</tbody>
</table>

### Courses

**SOCW 2361 Introduction to Social Work**

3 Semester Credit Hours (3 Lecture Hours)

An introductory survey of the field of social work including the nature, function, and types of social work practice. This course is designed to acquaint the student with the history, terminology, scope, and values of the profession of social work.

**SOCW 3310 Approaches to Social Welfare**

3 Semester Credit Hours (3 Lecture Hours)

Origin, development, and present status of social service programs with particular emphasis on the relationship of program resources, human needs, and the methods through which services are provided.

**SOCW 3320 Social Services in the Community**

3 Semester Credit Hours (3 Lecture Hours)

An introduction to the organizations and agencies involved in social service delivery. Exploration of the range and characteristics of the human service delivery system with particular emphasis on the social work profession.

**Prerequisite:** SOCW 3310.

**SOCW 3350 Social Work Practice**

3 Semester Credit Hours (3 Lecture Hours)

Social Work practice from a generalist perspective of social work intervention. Data collection, assessment, intervention, planning/implementation, and evaluation are covered.

**Prerequisite:** SOCW 3301.

**SOCW 4396 Directed Individual Study**

1-3 Semester Credit Hours

See College description.

**SOCW 4398 Applied Experience**

3 Semester Credit Hours (3 Lecture Hours)

One semester course of field work in a selected agency. (See college description.)
Sociology, Minor

Program Description

To obtain a minor in sociology the student must register with the academic advisor and complete the 18 semester hours required for a minor. Of these, 12 hours must be upper division. The student must complete SOCI 1301 Introduction to Sociology (3 sch), at least one course from each of the two substantive categories (Inequalities and Social Organizations and Institutions) and at least three electives.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>Required Course</td>
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<tr>
<td>SOCI 1301</td>
<td>Introduction to Sociology (before all other SOCI courses)(^*)</td>
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</table>

Categories

Select at least one course from the following two categories: 6

Inequalities

- SOCI 2301 Social Problems
- SOCI 3312 Racial and Ethnic Relations
- SOCI 3320 Sociology of Gender
- SOCI 4312 Social Class and Inequality\(^\)^
- SOCI 3321 Mexican American Women

Social Organizations and Institutions

- SOCI 3340 Sociology of the Family
- SOCI 3350 Sociology of Education
- SOCI 4310 Sociology of Work and Occupations
- SOCI 4315 Complex Organizations

Sociology Electives

Select at least three of the following (or additional courses from the Inequalities or Social Organizations and Institutions categories).\(^1\) 9

- SOCI 2319 Social Psychology
- SOCI 3310 Sociology through Film
- SOCI 3349 Sociology of Deviant Behavior
- SOCI 4301 Social Theory
- SOCI 4320 Sociology of Sports
- SOCI 4325 Medical Sociology
- SOCI 4331 Juvenile Delinquency
- SOCI 4335 Criminology
- SOCI 4390 Topics in Sociology
- SOCI 4396 Directed Individual Study
- SOCI 4398 Applied Experience
- SOCI 4445 Social Research Methods

Total Hours 18

\(^1\) Elective coursework may include courses in Sociology or Anthropology as selected by the student in consultation with a faculty advisor. Electives are designed to meet students' needs and interests.

\(^\) Online offering

\(^\) Blended offering

Courses

SOCI 1301 Introduction to Sociology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the basic concepts, methods, and theories used in Sociology. Topics illustrate the systematic understanding of social interaction, social organization, and social institutions. Reciprocal relationships between individuals and society are examined. Topics may include - but are not limited to - socialization, culture, social stratification, race and ethnicity, sex and gender, deviance, family, work, and social change.

TCCNS: SOCI 1306

SOCI 2301 Social Problems
3 Semester Credit Hours (3 Lecture Hours)
A survey and exploration of the causes and consequences of major social problems in the U.S. society, including contemporary issues of poverty, unemployment, income inequality, health care, crime, climate change, and other issues of social class, racial, ethnic, and gender inequality.

TCCNS: SOCI 1306

SOCI 2319 Social Psychology
3 Semester Credit Hours (3 Lecture Hours)
The scientific study of how a person's thoughts and behavior are influenced by others. Topics will include social cognition, attitudes, persuasion, interpersonal relationships, and group behavior. (Credit may not be given for both this course and PSYC 2326.) Cross listed with PSYC 2319.

TCCNS: SOCI 2326

SOCI 3310 Sociology through Film
3 Semester Credit Hours (3 Lecture Hours)
The examination of film as a culture artifact to illustrate sociological concepts, theories, and perspectives. Specific attention will be given to narratives of film as they illustrate culture, aging, social class, gender, race/ethnicity, identity, and other sociological concepts.

SOCI 3312 Racial and Ethnic Relations
3 Semester Credit Hours (3 Lecture Hours)
The study of cultural, religious, ethnic and racial groups, and the treatment accorded them in society. Prejudice, discrimination and the outcomes of discrimination in relation to both dominant and subordinate groups are considered.

SOCI 3320 Sociology of Gender
3 Semester Credit Hours (3 Lecture Hours)
An examination of the roots, nature and social construction of gender roles including socialization of men and women, gender role relationships from the perspectives of sociology. Issues of family, education, work and the economy, religion, politics and law, feminist organizations, feminist theory, and men's and women's movements will be considered.

SOCI 3321 Mexican American Women
3 Semester Credit Hours (3 Lecture Hours)
A study of the Chicanas and the trends in society and Mexican-American culture affecting their lives and behaviors.

SOCI 3340 Sociology of the Family
3 Semester Credit Hours (3 Lecture Hours)
The study of the family, relationships among its members, and the relationship of family to other social institutions.
SOCI 3349 Sociology of Deviant Behavior
3 Semester Credit Hours (3 Lecture Hours)
A systematic and critical study of the nature, patterns, and processes of violations of significant social norms by members of society. Specific attention is given to violations such as drug abuse, violence in and outside the family, and white-collar offenses.

SOCI 3350 Sociology of Education
3 Semester Credit Hours (3 Lecture Hours)
Employing a sociological lens to examine formal education in the United States and other countries, students will explore various schools of thought and controversies surrounding education in modern societies. They will examine important issues related to formal education, such as the expansion of schooling, equality of educational opportunity, unequal achievement of groups of students, the reproduction of inequality in education, schools' roles in the transmission of culture, and the social organization of schools.

SOCI 4301 Social Theory
3 Semester Credit Hours (3 Lecture Hours)
Combines an analysis of the major ideas and theories in sociology and their relationship to social research with an understanding of social processes and structures.
Prerequisite: SOCI 1301.

SOCI 4310 Sociology of Work and Occupations
3 Semester Credit Hours (3 Lecture Hours)
The study of work as a social phenomenon, including the social organization of work, occupations, and professions in society. The labor force, work culture, workers mobility, career lines, and leisure in contrast to work are considered.

SOCI 4312 Social Class and Inequality
3 Semester Credit Hours (3 Lecture Hours)
The study of social inequality in society, with emphasis on the social class structure of the United States, its origins, development, and consequences for individuals, groups, and society.
Prerequisite: SOCI 1301 and 3312.

SOCI 4315 Complex Organizations
3 Semester Credit Hours (3 Lecture Hours)
The development of a theoretical and applied understanding of those social institutions where most of us will be employed. Topics include organizational effectiveness, decision making, designs, politics, cultures, as well as gender and racial inequality.

SOCI 4320 Sociology of Sports
3 Semester Credit Hours (3 Lecture Hours)
This course critically examines the relationships between organized sports and the rest of society. It will undertake a sociological analysis of how organized sports affect, and are affected by, major social institutions such as the economy, racial and gender relations, mass media, and religion, to mention but a few.

SOCI 4325 Medical Sociology
3 Semester Credit Hours (3 Lecture Hours)
Examination of the social contexts of physical and mental health, illness and medical care. Topics include the social, environmental, and occupational factors in health and disease; socialization of health care providers; doctor-patient relationships; the structure and processes of health care organizations; and health care and social change.

SOCI 4331 Juvenile Delinquency
3 Semester Credit Hours (3 Lecture Hours)
Examination of the extent and pattern of juvenile crime today. History and theory of delinquency and society’s response to it. (Credit may not be given for both this course and CRIJ 4331.) Cross listed with CRIJ 4331.

SOCI 4335 Criminology
3 Semester Credit Hours (3 Lecture Hours)
An examination of the major sociological explanations for crime, criminal behavior, and the social responses to crime. (Credit may not be given for both this course and CRIJ 4335.) Cross listed with CRIJ 4335.

SOCI 4385 Senior Seminar in Sociology
3 Semester Credit Hours
This is a capstone course required of all students graduating with a major in sociology. The course is designed to enable faculty to assess each student's expertise in applying sociological concepts and practices. Students demonstrate this expertise through the completion of a final project that combines a minimum of classroom hours with substantial research activity. The course is team taught by the entire sociology faculty. Students are allowed considerable flexibility in selecting either survey research or evaluation research for their project. (Offered Spring Only.)

SOCI 4390 Topics in Sociology
3 Semester Credit Hours (3 Lecture Hours)
A consideration of various topics on social behavior and social structure. May be repeated when topics vary.

SOCI 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

SOCI 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description.

SOCI 4445 Social Research Methods
4 Semester Credit Hours (4 Lecture Hours)
A survey of the basic research techniques and methods used in sociology including content analysis, field research, sampling, surveys, polls, and computerized data analysis.
Prerequisite: SOCI 1301.

Spanish, Minor
Program Requirements
Students planning to minor in Spanish must complete 18 semester hours in Spanish or Spanish related areas, at least 12 of which must be at the upper-division level.

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<tr>
<td>SPAN 3302</td>
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<tr>
<td>SPAN 3303</td>
<td>Spanish Conversation</td>
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<tr>
<td>SPAN 3304</td>
<td>Spanish Civilization</td>
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<tr>
<td>SPAN 3305</td>
<td>Latin American Civilization</td>
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<tr>
<td>SPAN 3311</td>
<td>Spanish Phonetics</td>
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<td>SPAN 3312</td>
<td>Spanish Grammar</td>
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<tr>
<td>SPAN 3313</td>
<td>Introduction to Translation</td>
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<tr>
<td>SPAN 3315</td>
<td>Civilizations of the Spanish-Speaking World</td>
<td>1</td>
</tr>
<tr>
<td>SPAN 3316</td>
<td>Spanish for the Professions</td>
<td>1</td>
</tr>
</tbody>
</table>
Courses

SPAN 1100 Introduction to Service Learning
1 Semester Credit Hour
This is a one-credit course in which students in Spanish 1311 or 1312 may enroll and participate. This service learning course aims to promote collaborative learning between college students learning Spanish and people in the community. Available upon application. Repeatable up to 2 hours.

SPAN 1311 Spanish I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to listening, speaking, reading and writing skills within a Spanish cultural framework. For students without previous knowledge of the language. (Language laboratory required. One hour per week.) *A lab fee is required for these courses.

SPAN 1312 Spanish II
3 Semester Credit Hours (3 Lecture Hours)
Continued practice in listening, speaking, reading and writing skills within a Spanish cultural framework. (Language laboratory required. One hour per week.) A lab fee is required for these courses.

SPAN 2311 Spanish III
3 Semester Credit Hours (3 Lecture Hours)
Study of more complex Spanish sentence structure to further listening, speaking, reading and writing skills at an intermediate level within a Spanish cultural framework.

SPAN 2312 Continuing Spanish
3 Semester Credit Hours (3 Lecture Hours)
Continued development and review of all language skills at an intermediate level within a Spanish framework with an emphasis in the linguistic and cultural perspective.

SPAN 2313 Spanish for Heritage Speakers
3 Semester Credit Hours (3 Lecture Hours)
An introductory course designed for bilingual students who wish to enhance their linguistic skills (speaking, listening, reading and writing). This course will focus on the cultural and historical aspects related to the heritage Spanish speaker.

SPAN 3313 Language and Culture for Heritage Learners
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to guide Spanish heritage language learners, as well as advanced learners of Spanish, in the development of their oral proficiency, written communication, and grammatical accuracy while exploring different cultural aspects from the Spanish-speaking world. It is highly recommended for students who have taken SPAN 2313 and/or who are transitioning into upper-division Spanish courses. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.

SPAN 3302 Spanish Composition
3 Semester Credit Hours (3 Lecture Hours)
A course designed to develop analytical perspectives in literary criticism and to strengthen reading and writing skills in Spanish through intensive reading of Spanish, Spanish American, and Chicano fiction.

SPAN 3303 Spanish Conversation
3 Semester Credit Hours (3 Lecture Hours)
A course designed to strengthen the student's oral proficiency in the language through selected readings, videos and oral presentations.

SPAN 3304 Spanish Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the cultural, linguistic, and historical experience of the Spanish people within its larger European context. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.

SPAN 3305 Latin American Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide a general overview of the cultural, linguistic, and historical experience of Latin American people before and after Columbus. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum in Language, Philosophy, and Culture.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 2312</td>
<td>Spanish Literature I</td>
<td>3</td>
<td>A critical approach to the study of early Spanish literature from the Middle Ages through the Eighteenth Century. Literary selections include masterpieces that establish and reflect Spain's literary tradition within its larger European context.</td>
</tr>
<tr>
<td>SPAN 3307</td>
<td>Spanish Literature II</td>
<td>3</td>
<td>A continuation of a critical approach to the study of Spanish literature from the Nineteenth Century through the present. Representative works of Spanish Romanticism, Realism, Naturalism, and contemporary literature are studied within their larger European context.</td>
</tr>
<tr>
<td>SPAN 3308</td>
<td>Spanish American Literature I</td>
<td>3</td>
<td>A critical approach to the study of early Spanish American literature from the Pre-Columbian Period through the Nineteenth Century. Selected readings in all literary genres, major themes, writers, and early literary movements will be studied within their larger Latin American context.</td>
</tr>
<tr>
<td>SPAN 3309</td>
<td>Spanish American Literature II</td>
<td>3</td>
<td>A continuation of a critical approach to the study of Spanish American literature from the Twentieth Century through the present. Representative works of Latin American writers and literary movements: Modernism, Realism, Avant-Garde, Regionalism, Magic-Realism are studied within their larger Latin American context.</td>
</tr>
<tr>
<td>SPAN 3310</td>
<td>Spanish Grammar</td>
<td>3</td>
<td>The course will serve to expand vocabulary, further develop writing skills; understand, apply, and use Spanish grammatical structures, and communicate more accurately in written and oral Spanish within a Hispanic cultural context.</td>
</tr>
<tr>
<td>SPAN 3311</td>
<td>Spanish Phonetics</td>
<td>3</td>
<td>A course designed to study the production and discrimination of the Spanish sound system with a general overview of the geographical and social distribution of phonemic and allophonic variants.</td>
</tr>
<tr>
<td>SPAN 3312</td>
<td>Spanish Grammar</td>
<td>3</td>
<td>The course will serve to expand vocabulary, further develop writing skills; understand, apply, and use Spanish grammatical structures, and communicate more accurately in written and oral Spanish within a Hispanic cultural context.</td>
</tr>
<tr>
<td>SPAN 3313</td>
<td>Introduction to Translation</td>
<td>3</td>
<td>This course is an introduction to the theory, methods and practice of English to Spanish and Spanish to English translation of general texts from different fields. Challenges related to culture and language, as well as professional ethics will be examined.</td>
</tr>
<tr>
<td>SPAN 3315</td>
<td>Civilizations of the Spanish-Speaking World</td>
<td>3</td>
<td>This course has been designed to provide a general overview of the historical, sociocultural and political experience of peoples from the Spanish-Speaking world, both from Spain and Spanish America. Prerequisite: SPAN 2312.</td>
</tr>
<tr>
<td>SPAN 3316</td>
<td>Spanish for the Professions</td>
<td>3</td>
<td>The course stresses Health, Business and Legal terminology in Spanish to enhance communication skills and cultural knowledge that will help to serve the South Texas Spanish speaking population as well as to conduct interactions with Spanish speakers and/or businesses through the United States and the world.</td>
</tr>
<tr>
<td>SPAN 3317</td>
<td>Introduction to Hispanic Linguistics</td>
<td>3</td>
<td>This course introduces the study of language, the main subfields of Hispanic linguistics, and their application to other sciences.</td>
</tr>
<tr>
<td>SPAN 3320</td>
<td>Introduction to Spanish Literature</td>
<td>3</td>
<td>A critical approach to the study of Spanish literature from the Middle Ages through the present. Representative works of Spanish literature are studied within their larger European context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303 have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.</td>
</tr>
<tr>
<td>SPAN 3325</td>
<td>Introduction to Latin American Literature</td>
<td>3</td>
<td>A critical approach to the study of Latin American literature from the Pre-Columbian Period through the present. Selected readings in all literary genres, major themes, writers, and literary movements will be studied with a wide Latin American context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.</td>
</tr>
<tr>
<td>SPAN 4100</td>
<td>Service Learning</td>
<td>1</td>
<td>This is a one-credit course designed specifically for students who are preparing themselves to serve the community using their Spanish language skills. Students in this course will familiarize themselves with the methodology of a particular field (heritage language teaching, translation, interpreting, etc) to be able to interact and serve Spanish-speaking individuals in the community. Available upon application. Repeatable up to 3 hours.</td>
</tr>
<tr>
<td>SPAN 4301</td>
<td>Spanish Civil War and Literature</td>
<td>3</td>
<td>Significance of the Civil War for Spanish, European, and world history. Effect of war on literary and cultural life of the country and the response of writers from Spain and Latin America. Conducted in Spanish.</td>
</tr>
<tr>
<td>SPAN 4302</td>
<td>Mexican Narrative</td>
<td>3</td>
<td>Examination of representative novels and short stories reflecting the emergence of a post-revolutionary society in Mexico. Conducted in Spanish.</td>
</tr>
<tr>
<td>SPAN 4303</td>
<td>Spanish in the Southwest</td>
<td>3</td>
<td>Cultural and linguistic dimensions of Spanish dialects of the Southwestern United States, with special attention to Texas Spanish and its sociolinguistic perspectives in the bilingual community at large. Prerequisite: SPAN 2312.</td>
</tr>
<tr>
<td>SPAN 4304</td>
<td>Miguel de Cervantes’ Don Quijote</td>
<td>3</td>
<td>An advanced course designed to provide an introduction to Miguel de Cervantes’ Don Quijote.</td>
</tr>
</tbody>
</table>
SPAN 4305 Latin American Novel
3 Semester Credit Hours (3 Lecture Hours)
This course explores major novels from Latin America from the 20th century to the present. It examines the different problems, discourses, voices, contexts, and geographies that define this genre in Latin America.

SPAN 4306 Modern Spanish Literature
3 Semester Credit Hours (3 Lecture Hours)
A course that focuses on modern Spanish literature. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated.

SPAN 4313 Spanish Interpretation
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to methodologies, requirements, terminology, and practice of interpretation, with emphasis on simultaneous, consecutive, and sight interpretation.

SPAN 4320 Spanish in the Americas
3 Semester Credit Hours (3 Lecture Hours)
A study of the Spanish that was brought to the Americas, its development, propagation and contact with native-American languages, including the sociocultural factors that have contributed to the linguistic variation in contemporary Spanish-speaking societies.

SPAN 4322 Medical, Scientific and Technical Translation
3 Semester Credit Hours (3 Lecture Hours)
An advanced course in translation concentrating on medical, scientific and technical translation. The course is designed to extend student’s knowledge of translation theory and consolidate their skills in specialized translation.
Prerequisite: (SPAN 3313).

SPAN 4327 Methods in Foreign Language Instruction
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to study the current methods in foreign languages, their application in maximizing language proficiency, and the role of the students’ culture and language during the learning process.

SPAN 4390 Topics in Spanish
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics in language or literature. These courses may also be designed to develop terminology and overall Spanish proficiency regarding specific professions: Business, Medical, Criminal Justice, Sociology, etc. May be repeated when topics vary.

SPAN 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

SPAN 4398 Applied Experience
3 Semester Credit Hours
A practical work experience related to the Spanish area and related careers. It is intended to provide an opportunity for a student to gain first-hand experience in an unfamiliar field. Consequently, Applied Experience credit may not be granted for a student’s regular work assignment or for previous work experience. Registration is by application. The application must include a clearly written description of the duties and responsibilities involved in the Applied Experience project, and be signed by the student, the on-site supervisor, and the faculty supervisor. Completed applications must be received in the Dean’s Office by the last class day of the semester preceding intended registration. This course is graded “credit” or “no credit.” No more than three semester hours of Applied Experience credit may be counted toward the baccalaureate degree. Undergraduate Applied Experience course will include no less than one hundred hours and no more than 150 hours of work experience per semester.

SPAN 4421 Business, Commercial, and Legal Translation
4 Semester Credit Hours (4 Lecture Hours)
An advanced course in translation concentrating on business, commercial and legal texts. The course is designed to extend student’s knowledge of translation theory and consolidate their skills in specialized translation.
Prerequisite: (SPAN 3313).

Technical and Professional Writing, Minor

Program Description
This interdisciplinary and flexible minor provides students in all majors with writing experiences, including problem-solving, communications (both online and face-to-face), team work, sensitivity to diversity, and ethical decision making, that will enhance their education and prepare them to meet the demands of professional life, whatever their chosen career path. Students, in consultation with advisors, will design the series of minor courses to meet their needs and goals.

Students who select this minor must maintain an overall grade point average of 2.0 in courses in the minor. Students who select this minor must consult with an academic advisor in the College of Liberal Arts prior to completing 6 hours of coursework listed for the program.

The Technical and Professional Writing Minor can be completed fully online. Courses not designated as ENGL may not be offered online.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 3301</td>
<td>Technical and Professional Writing</td>
<td>3</td>
</tr>
<tr>
<td>Select 9 hours from the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 3378</td>
<td>Document Design and Publishing</td>
<td></td>
</tr>
<tr>
<td>ENGL 3379</td>
<td>Writing for the Web</td>
<td></td>
</tr>
<tr>
<td>ENGL 4320</td>
<td>Professional Writing Workshop</td>
<td></td>
</tr>
<tr>
<td>ENGL 4321</td>
<td>Grants and Proposals</td>
<td></td>
</tr>
<tr>
<td>ENGL 4322</td>
<td>Writing in the Nonprofit Agencies</td>
<td></td>
</tr>
<tr>
<td>ENGL 4324</td>
<td>Editing &amp; Style</td>
<td></td>
</tr>
<tr>
<td>ENGL 4398</td>
<td>Applied Experience</td>
<td></td>
</tr>
</tbody>
</table>
Courses

ENGL 0001 Grammar I
0 Semester Credit Hours (3 Lecture Hours)
Grammatical structures that enable students to better comprehend and use academic English are the focus of the course. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0002 Listening and Speaking I
0 Semester Credit Hours (3 Lecture Hours)
This course provides short and focused activities to help students improve their English listening and speaking skills. It includes practice in both mastering the larger message and key words, phrases and specific sounds to assist students in developing better speaking and comprehension skills. Students will practice giving academic presentations as well as practice speaking in small groups and individually.

ENGL 0003 Reading I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will develop the reading skills essential for academic learning and inquiry in the context of authentic academic reading tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive reading tasks of increasing complexity. Contemporary academic and literary texts will be used to develop students’ critical reading and vocabulary, writing, listening, and speaking skills.

ENGL 0004 Writing I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the writing skills essential for academic success including sentence, paragraph, and basic essay writing. This course is aimed at students planning to study, or are already studying, at university level in English.

ENGL 0005 Recitation I
0 Semester Credit Hours (3 Lecture Hours)
This course provides students with a structured, scheduled academic environment providing the opportunity to complete assignments and work closely with their language instructor. Instructors utilize materials from student courses to facilitate activities and discussions that will increase comprehension of academic material and further students’ abilities to work independently in academic settings. Each week, the course will focus on the language skills and vocabulary needed for the students’ courses. Additionally, there will be a focus on study skills and time management needed for success in academic settings. Students will leave the course better equipped for university level academic course work and a thorough understanding of time management and appropriate study habits for the university.

ENGL 0011 Grammar II
0 Semester Credit Hours (3 Lecture Hours)
This course will focus on high-intermediate grammatical structures that enable students to better comprehend and use academic English. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0012 Listening and Speaking II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the listening, note-taking, and presentation skills essential for academic learning, inquiry, and communication in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminars will be used to develop students’ critical thinking skills.

ENGL 0013 Reading II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will study texts across several different academic disciplines in order to deepen their understanding of the rhetorical styles and conventions used and applied within the English language. Students will practice identifying audience, purpose, theme, main ideas, and details within several different genres of writing. Students will also develop a variety of strategies to improve their reading comprehension and efficiency, including annotation, vocabulary-building, and discussions regarding written materials.

ENGL 0014 Writing II
0 Semester Credit Hours
In this course, students will develop a foundation in the writing skills critical to academic success. Students will apply knowledge of audience, purpose, voice, arrangement, and style in varied writing tasks by writing across several different genres. Genres practiced in this course may include, but are not limited to: emails, newsletters, personal narratives, fiction, academic essays, and magazine/news articles. Students will learn grammar and vocabulary conventions as they apply to different genres and apply these skills in writing tasks of increasing complexity throughout the semester.
ENGL 0022 Listening and Speaking III  
0 Semester Credit Hours (3 Lecture Hours)  
In this course students will learn and apply listening, note-taking, and presentation skills essential for academic learning, inquiry, and discourse in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminar will be used to develop students' critical thinking skills.

ENGL 0023 Reading and Writing III  
0 Semester Credit Hours (3 Lecture Hours)  
In this course students will improve upon and apply the reading skills essential for academic learning, inquiry, and discourse in the context of authentic academic reading tasks. Students will build vocabulary through extensive and intensive reading tasks of increasing complexity. Contemporary academic texts about writing will be used to develop students' critical reading, academic vocabulary, and complex writing skills. There will be a number of in-class written tasks and prompts that will stimulate free writing practice and introduce students to various styles of writing. Students will also use these written tasks to develop editing skills through the writing process. The final project will be a collection of these written tasks in the form of a portfolio.

ENGL 0036 US Culture  
0 Semester Credit Hours (3 Lecture Hours)  
This course will offer English Language Learners a means for analyzing and evaluating the complex social and moral issues that are specific to the social and moral landscape of the United States. As students examine their own cultures and compare them with others, cultural shock and cultural conflict may be lessened and appreciation for cultural differences may be strengthened. Students will engage in interactive tasks, including researching and case analysis of topics and social, academic and professional issues, especially those suggested by the extensive reading component of this course. Through the process of reading, discussion, analysis and writing students in this class will enrich their understanding of today's global society while at the same time they are sharpening their academic English skills.

ENGL 0037 Critical Thinking  
0 Semester Credit Hours (3 Lecture Hours)  
The purpose of this course is to develop the critical thinking skills needed to interpret and assess arguments and information. This course will highlight the language skills essential for critically analyzing and discussing the quality of the information and opinions presented in authentic texts and listening selections. The course will concentrate on detecting errors of reasoning in short and long passages, evaluating evidence in written and verbal arguments, detecting logical inconsistencies, removing vagueness and ambiguity through word choice and phrasing, and identifying the point or purpose of someone's remarks. Through examining these topics, students will be able to thoughtfully respond to others' opinions in a clear, logical, and informed way. Students will leave the course better prepared to collect, synthesize, and evaluate information and feel more confident in presenting their perspectives in an academic setting.

ENGL 0099 Integrated Reading and Writing Non-Course Based Development  
0 Semester Credit Hours  
ENGL 0099 is designed to develop students' critical reading and academic writing skills on an individualized basis through tutoring. The course fulfills TSI requirements for reading and writing. TSI compliance staff will approve each student for this course. Approval is based on test score and/or by academic standing.

ENGL 0399 Integrated Reading and Writing  
3 Semester Credit Hours (3 Lecture Hours)  
A portfolio-based course with required tutoring (lab) time focused on the writing and reading processes, including strategies for invention, revision, and editing, and techniques of active reading, such as analysis, inference, summary, and evaluating texts. Students will enter ENGL 0399 through Texas Success Initiative (TSI) mandated remediation. (Not counted toward graduation)

ENGL 1301 Composition I  
3 Semester Credit Hours (3 Lecture Hours)  
Principles, techniques, and processes of written composition, textual analysis, and critical thinking.

TCCNS: ENGL 1301

ENGL 1302 Writing and Rhetoric  
3 Semester Credit Hours (3 Lecture Hours)  
Introduces students to writing studies, rhetoric, and academic research (information literacy). Students will read, apply, and reflect on the current research and scholarship in writing studies, especially threshold concepts, kinds of knowledge about writing, and rhetoric. Students will learn how to transfer, deepen, and extend their ability to use writing in various contexts.

Prerequisite: ENGL 1301.

TCCNS: ENGL 1302

ENGL 2303 Introduction to Writing Studies  
3 Semester Credit Hours (3 Lecture Hours)  
This course will review current scholarship on writing studies, including threshold concepts, activity theory, and genre studies. It will consider various perspectives on the uses of writing to provide students with an intellectual and practical understanding of writing. This course provides a starting point for the more specific studies of writing that occur in other writing studies courses.

ENGL 2316 Literature and Culture  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to literatures that raise aesthetic, cultural, social, and/or political issues that affect and reflect the human condition across regions, cultures, and nations. Sample topics: Crossing Borders, The City in Literature, Islands and Islanders, Science and Fiction.

TCCNS: ENGL 2331

ENGL 2332 Literature of the Western World: From the Classics to the Renaissance  
3 Semester Credit Hours (3 Lecture Hours)  
Study of important literary texts from the Ancient World to the Renaissance.

TCCNS: ENGL 2332

ENGL 2333 Literature of the Western World: From the Enlightenment to the Present  
3 Semester Credit Hours (3 Lecture Hours)  
Study of important literary texts from the Enlightenment to the present.

TCCNS: ENGL 2333

ENGL 2370 Introduction to Literary Studies  
3 Semester Credit Hours  
An introduction to literary analysis and scholarship for the intermediate writer. Emphasis placed on genres of literature, literary research, and expository and analytical composition. Familiarizes students with the various disciplines and related conversations within English Studies. Should be taken by sophomore-level English majors in the Literary Studies emphasis, and by Literary Studies and Creative Writing minors.

Prerequisite: ENGL 1302.
ENGL 3267 Exploring Social Media
3 Semester Credit Hours (3 Lecture Hours)
In this course we will examine and discuss current issues related to social media within a rhetorical framework. We will use different social media platforms to share and discuss in order to provide hands-on experience in these environments. Social media will be explored at the micro level as students will review their online social media presence to better understand how readers view them online. From the macro level we will identify current topics that affect the design and use of social media platforms and applications.

ENGL 3316 English as a Second/Foreign Language Tutoring
1 Semester Credit Hour
Students pursuing the Advanced TESOL Certificate will supplement ENGL 3367 (TESOL Seminar: Methods) with practical experience tutoring English learners. Students will write reflectively about those experiences. As needed, students will undergo site-specific training.
Co-requisite: ENGL 3367.

ENGL 3301 Technical and Professional Writing
3 Semester Credit Hours
A course designed to help students gain practical experience in finding and interpreting information and writing reports and documents for specialized audiences in the technical and professional world. ENGL 3301 will be held in a computer-assisted classroom.

ENGL 3302 Techniques of Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the theoretical knowledge and practical experience used in creative writing. Focuses on poetry, creative nonfiction, and short fiction. For all majors.

ENGL 3310 Technical and Professional Writing for Computer Science
3 Semester Credit Hours (3 Lecture Hours)
Designed specifically for computer science majors, this course focuses on developing students ability to (1) use writing to communicate effectively with a range of audiences about technology; (2) identify, analyze, and appropriately integrate relevant information in their writing; (3) make informed judgments about their uses of writing based on ACM’s and IEEE’s code of ethics; and (4) develop their ability to function effectively individually and as members of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.

ENGL 3321 Film and Literature
3 Semester Credit Hours (3 Lecture Hours)
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.
Prerequisite: ENGL 1302 and 2332 or ENGL 2333, 2334 or 2335.

ENGL 3323 Young Adult Fiction
3 Semester Credit Hours (3 Lecture Hours)
Literary study of young adult literature through analysis, discussion, and interpretation. The course emphasizes literary issues connected with society, culture, history, and genre.

ENGL 3325 Interdisciplinary Approaches to Literature
3 Semester Credit Hours (3 Lecture Hours)
In recent decades, it has become common to study literature in light of other disciplinary perspectives and to study other disciplines as they are depicted in literature. From these interdisciplinary approaches has emerged a distinct mode of analysis that examines texts within their broader social and cultural milieu. In this course students will learn to use cross-disciplinary methods to interpret literature and culture. Topics will vary, but may include Religion, Medicine, and American Literature, Disability Narratives in the Eighteenth Century, Trauma and the City in Twentieth-Century Literature.

ENGL 3330 Current Events and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course examines literature in the context of current issues and events. Students will place literature in conversation with social, political, and cultural trends as a means of engaging with and understanding these trends and the debates associated with them. Using reading, writing, and discussion as modes of critical inquiry, students will discover the critical role that literature plays in representing, responding to, and shaping current events.

ENGL 3339 Introduction to Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Introductory survey course covering phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3340 Grammar
3 Semester Credit Hours (3 Lecture Hours)
Presents a general descriptive overview of English grammar and provides a structural framework for analyzing English sentences.

ENGL 3341 British Literature before 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of poetry, drama, and prose before 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts. 
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303). 
May be taken concurrently.

ENGL 3345 British Literature since 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of British poetry, drama, and prose since 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303). 
May be taken concurrently.

ENGL 3348 Drama
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of dramatic literature, using a wide range of texts. Variable content.

ENGL 3349 Poetry
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of poetry using a wide range of texts. Variable content.

ENGL 3354 American Literatures before 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from the country’s pre-European beginnings to 1900 with emphasis on historical context and the exploration of literary and cultural values through written texts. 
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 3303). 
May be taken concurrently.
ENGL 3355  American Literatures since 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from 1900 to the present with emphasis on historical context and the exploration of literary and cultural values through written texts. 
Prerequisite: (ENGL 2370) or (ENGL 2303) or (ENGL 3303). May be taken concurrently.

ENGL 3360  CURRENT APPROACHES TO COMPOSITION AND LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
Prepares prospective teachers to create developmentally appropriate learning environments and tasks that enable student success in writing and the study of literature in Language Arts and English courses. Prepares students to meet the increased writing and reading expectations in all subject areas, including their own writing.

ENGL 3361  STRATEGIES AND GENRES OF ADVANCED WRITING
3 Semester Credit Hours (3 Lecture Hours)
Students will practice-writing in situated contexts (such as their majors, careers, and/or other professional interests) and across genres to develop more advanced and reflective writing strategies. By studying theories of writing, engaging in writing as a craft, and drafting, revising, and editing texts; students will refine and become more reflective in their writing processes.

ENGL 3362  Creative Writing Workshop: Survey and Practice of Genres
3 Semester Credit Hours (3 Lecture Hours)
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3363  Foundations of Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
This course will study the historical and theoretical development of rhetoric through the works of principal thinkers. Students will analyze rhetorical concepts in their relation to civic, cultural, political, and pedagogical developments and the construction of knowledge and will use rhetorical concepts to produce logical, ethical, and moral arguments.

ENGL 3364  Strategies of Writing Creative Nonfiction
3 Semester Credit Hours (3 Lecture Hours)
Explores the uses of creative nonfiction through reading and writing about published works of experienced writers and scholars in the field and practicing a variety of creative nonfiction techniques and genres (e.g. literary journalism, memoir, and the personal narrative).

ENGL 3365  Second Language Acquisition
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to second language acquisition. The course is designed to be accessible to students from a wide variety of backgrounds and no basic knowledge of the linguistic structure of English will be assumed. This course will address issues related to how second language is learned by both children and adults.

ENGL 3366  Language in Society
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of language as a function of several societal variables. Introduces basic concepts of language such as linguistic varieties, dialect, speech communities, and linguistic attitudes.

ENGL 3367  TESOL Seminar
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to and a critique of current and traditional methodologies of teaching English to speakers of other languages, with emphasis on aural comprehension; speaking, reading, and writing skills; testing and assessment; and linguistic-cultural differences. This course is open to all majors, but is required for students seeking the Certificate in TESOL. 
Prerequisite: ENGL 3365.

ENGL 3369  Topics in Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Exploration of topics such as second language acquisition, language assessment, history of English, and contrastive analysis. May be repeated when topics vary.

ENGL 3370  Document Design and Publishing
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the integration of text and visual rhetoric, such as graphics, for all kinds of professional publications including technical documents, media, public relations pieces, and advertisements.

ENGL 3379  Writing for the Web
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes practical concepts related to writing and communication on the internet and the World Wide Web. Attention is given to finding and analyzing information; analyzing and designing WWW sites and other digital, hypertextual environments; and analyzing and composing hypertext-hypermedia materials for digital, networked environments. For all majors.

ENGL 3380  Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123  Nonprofit Writing Project
1 Semester Credit Hour
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students’ professor in the regular course will be the instructor of record for a the projects course.

ENGL 4300  Technologies and Cultures of the Book
3 Semester Credit Hours (3 Lecture Hours)
Working with a range of print media, students will learn to analyze the interplay between the text’s content and its formal features. Students will build the skills to think and write analytically about the materiality of texts.

ENGL 4305  Major Authors
3 Semester Credit Hours (3 Lecture Hours)
This course studies the significant works of a major literary author. Texts are viewed through a variety of critical perspectives and placed in the context of the writer’s life and of the society, culture, and history of the times. May be repeated once for credit when authors vary.

ENGL 4320  Professional Writing Workshop
3 Semester Credit Hours (3 Lecture Hours)
This course is tailored for individual students’ writing and publishing projects in their disciplines.
ENGL 4321 Grants and Proposals
3 Semester Credit Hours (3 Lecture Hours)
This course will teach students the grant proposal writing process, including identifying sources of funding, conducting research to support funding applications, and tailoring each proposal to a specific funding agency. Students will receive experience writing actual proposals on behalf of local organizations and agencies.

ENGL 4322 Writing in the Nonprofit Agencies
3 Semester Credit Hours (3 Lecture Hours)
Focusing on the specific kinds of writing that professionals in the nonprofit world do, including internal communication in an agency, writing for the public, document creation, fund raising, board relations, and other relevant topics.

ENGL 4324 Editing & Style
3 Semester Credit Hours (3 Lecture Hours)
Practice in methods, tools, and principles of editing for nonfiction and technical publications. Emphasis on a rhetorical understanding of levels of editing, managing the editorial process, and grammar and style.

ENGL 4325 Writing Across Cultures and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Through writing, students will study how groups perceive, understand, and communicate with and about each other. The course may focus on a specific type of writing (cross cultural expository writing, travel writing, cross cultural writing in industry), or on the linguistic and rhetorical practices of a cross-cultural community (Latino/a rhetoric, African-American rhetorics, etc.).

ENGL 4335 Creative Writing Studio: Development of Craft
3 Semester Credit Hours (3 Lecture Hours)
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a studio setting. Guides students to focus on a major project in one genre with sustained practice of techniques and revision. Open to students of all levels, from the novice to the advanced. For all majors.

ENGL 4340 The Novel
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of long-form prose fiction, using a wide range of texts. Variable content.

ENGL 4345 Rhetorics, Literacies, and Writing
3 Semester Credit Hours (3 Lecture Hours)
This course examines the history and major theories of rhetoric, literacy, and composition, and explores how they influence contemporary cultural productions.

ENGL 4350 Studies in Poetics: Theory, Form, and Practice
3 Semester Credit Hours (3 Lecture Hours)
Develops students' theoretical knowledge of poetics and practical experience of writing in traditional forms, from the Anglo-American tradition to the culturally diverse movements and innovation of form. Focusing on works written by poets about poetry and poetics primarily from the 19th to the 21st centuries. For all majors.

ENGL 4351 Senior Capstone: Literature and Writing
3 Semester Credit Hours (3 Lecture Hours)
A study of literature in English for graduating seniors in the Literary Studies Emphasis. Emphasis is placed on genre, research, and analytical expository writing.
Prerequisite: ENGL 2370, 3303 or 2303.

ENGL 4352 Capstone in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course is the culminating experience for the Writing Studies emphasis in English. Students review, reflect on, integrate, and apply their learning from previous courses and experiences. Students create digital portfolios for career and publishing opportunities, emphasizing selection, revision, reflection, and presentation. In addition, students identify, evaluate, and annotate texts and resources to include in a curated digital collection/publication that will be available for students in future Writing Studies courses.

ENGL 4360 Gender, Sexuality and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to literature that explores issues of gender and sexuality. It focuses on relevant literary periods and conventions, as well as on the historical, social, and cultural contexts of artistic productions. Sample topics: women's literature, queer literature, literature and masculinity.

ENGL 4361 Race and Ethnicity in Literature
3 Semester Credit Hours (3 Lecture Hours)
Topics focus on a variety of cross-cultural issues in historical and/or contemporary texts by Caribbean, British Indian, Native American, African American, Chicano/a, and/or other underrepresented authors.

ENGL 4362 Texts and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Study of literary and cultural texts that raise issues of community and social relations, diversity, multiculturalism, and/or globalization. Sample topics: Medicine and Religion in American Literature, Traveling Histories, the Global City, and Literary Regionalism in Transnational Context. May be repeated once for credit when topics vary.

ENGL 4370 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study, primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or THEA 4323.)

ENGL 4380 CRITICAL APPROACHES TO LITERATURE AND CULTURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected perspectives and critical approaches to literature and culture, including an examination of some of the theoretical assumptions upon which they are based, as well as their implications for the way we think about literature, human identity, and the power of language.
Prerequisite: ENGL 2370.

ENGL 4385 Studies in Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Students will focus on the craft of a specific genre or type of writing through reading experts' advice, reading and analyzing examples written by practitioners, and engaging in peer-response workshops with classmates. Attention will be paid to presentation opportunities available for writers in that genre.

ENGL 4390 Topics in Literary Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4391 Topics in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.
ENGL 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

ENGL 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description.

ENGL 4399 TESOL Practicum
3 Semester Credit Hours
Practical experience teaching English to second language learners. Students will observe, plan, and teach ESL lessons. Instructional support provides opportunities to discuss and reflect upon teaching experiences and help students connect theory, methods, and practice. This course enhances the TESOL Certification, but is not required for it. Cannot be repeated for credit.

## Women, Gender, and Sexuality Studies, Minor

### Program Description
This minor is an interdisciplinary program for undergraduate students who desire more in-depth study than can be obtained in one or a few courses on the changing statuses, issues, problems, and future prospects of women and men in contemporary society. The interdisciplinary nature of this program integrates the study of intersections of gender, race, class, and sexuality in multicultural and global contexts. This program is designed to complement undergraduate study programs in the University.

Students who select this minor must consult and have approval of the program advisor to establish a plan of study. This should be done prior to completing 6 hours of coursework listed for the program. The minor plan must be filed with an academic advisor in the College of Liberal Arts and certified prior to application for graduation by the Dean of the College in which the major study degree will be awarded.

### Program Requirements
A minimum of 18 semester hours selected from the following courses is required for the minor. Topics courses ¹ may be taken for credit when the announced content is appropriate to the minor. At least 12 of the hours must be at the upper division level and 12 must be taken at A&M-Corpus Christi.

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<tr>
<th>Code</th>
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<tr>
<td>WGST 3301</td>
<td>Introduction to Women and Gender Studies (open to all students)</td>
<td>3</td>
</tr>
<tr>
<td>WGST 4380</td>
<td>Senior Seminar in Women and Gender Studies</td>
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### Electives
Select 12 hours from the following:

- ANTH 3390
- ARTS 4390 Topics in Art History ¹
- BIOL 4590 Selected Topics ²,³
- BLAW 4390 Current Topics in Business Law (Women in the Workplace) ¹
- COMM 4314 Gender Communication
- COMM 4345 Intercultural Communication
- CRIJ 4324 Women and Criminal Justice
- CRIJ 4360 Intimate Relationship Violence

Total Hours 18

¹ Topics courses (3390 and 4390) are limited to those approved by the program advisor as appropriate to the minor.
² Online offering
³ Blended offering

### Courses

#### WGST 3301 Introduction to Women and Gender Studies
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of women and gender across disciplines and cultures. Designed to engage students in some of the most important methodological and theoretical debates regarding women’s experiences and the construction of knowledge about women historically and today. Literary, anthropological, sociological, historical, scientific, and managerial perspectives may be included.

#### WGST 4380 Senior Seminar in Women and Gender Studies
3 Semester Credit Hours (3 Lecture Hours)
This seminar explores the relationship between theory and application in the field of women and gender studies. This includes the study of feminist theories and methodologies with special attention to the application of these to current debates and social issues. In addition, students must complete a research paper or applied experience project that is relevant for their major field of study.

### Minors - School of Arts, Media & Communication
- Art History, Minor (p. 330)
- Communication Studies, Minor (p. 333)
- Dance, Minor (p. 335)
- Digital Journalism, Minor (p. 337)
- Music Industry, Minor (p. 339)
- Music, Minor (p. 340)
- Public Relations, Minor (p. 343)
- Studio Art, Minor (p. 348)
- Theatre, Minor (p. 351)
Art History, Minor

Program Description

The Art History minor is intended for students who are interested in art history to take additional courses in the field as a compliment to other degree programs offered at the university. This minor will assist art majors and graphic design majors with a broader historical basis in their fields of study. The art history minor is also an excellent compliment to many other degree programs, such as history, political science, literature and modern languages, philosophy, psychology and sociology. This minor can also prepare students for advanced study in art history in graduate programs at other institutions.

Program Requirements

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<tr>
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<td><strong>Lower Division</strong></td>
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<tr>
<td>ARTS 1303</td>
<td>Art History Survey I</td>
<td>3</td>
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<tr>
<td>ARTS 1304</td>
<td>Art History Survey II</td>
<td>3</td>
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<td>Art of the United States</td>
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<td>ARTS 3352</td>
<td>Modern Art</td>
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<td>ARTS 3353</td>
<td>Art Since 1945</td>
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<td>ARTS 4350</td>
<td>Pre-Columbian Art of Mesoamerica</td>
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<tr>
<td>ARTS 4352</td>
<td>Modern Art of Mexico</td>
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<tr>
<td>ARTS 4390</td>
<td>Topics in Art History</td>
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<tr>
<td><strong>Total Hours</strong></td>
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</tbody>
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Courses

**ARTS 1301** Art and Society
3 Semester Credit Hours (3 Lecture Hours)
Designated for non-art majors. Establishes a working vocabulary for evaluating works of art in various media. Objects are interpreted in terms of their specific historical contexts and the changing relationships between art and society. This course does not fulfill the art history requirement for art majors.
TCCNS: ARTS 1301

**ARTS 1303** Art History Survey I
3 Semester Credit Hours (3 Lecture Hours)
An examination of painting, sculpture, architecture, and other arts from the ancient through medieval periods.
TCCNS: ARTS 1303

**ARTS 1304** Art History Survey II
3 Semester Credit Hours (3 Lecture Hours)
A further examination of painting, sculpture, architecture, and other arts from the Renaissance through Modern periods. This course satisfies the university core curriculum requirement in fine arts.
Prerequisite: ARTS 1303.
TCCNS: ARTS 1304

**ARTS 1311** Design I
3 Semester Credit Hours
A studio course concerning the fundamentals of art with emphasis on two-dimensional concepts.
TCCNS: ARTS 1311

**ARTS 1312** Design II
3 Semester Credit Hours
A studio course concerning the fundamentals of art with emphasis on three-dimensional concepts. This 3D foundations course utilizes creative problem-solving strategies and basic sculpture tools to explore spatial relationships and to create sculptural forms in space.
Co-requisite: SMTE 0097.
TCCNS: ARTS 1312

**ARTS 1316** Drawing I
3 Semester Credit Hours (3 Lecture Hours)
A studio course investigating a variety of media techniques, including their descriptive and expressive possibilities.
TCCNS: ARTS 1316

**ARTS 1317** Drawing II
3 Semester Credit Hours
A further investigation of media techniques explored in Drawing I, including their descriptive and expressive possibilities.
Prerequisite: ARTS 1316.
Co-requisite: SMTE 0097.
TCCNS: ARTS 1317

**ARTS 2311** Design III: Color
3 Semester Credit Hours
Investigation of the properties of color. Color is studied and applied to studio-oriented design assignments.
Co-requisite: SMTE 0097.

**ARTS 2316** Painting I
3 Semester Credit Hours (3 Lecture Hours)
A studio course exploring the potentials of painting media.
Prerequisite: ARTS 1316.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2316

**ARTS 2323** Drawing III
3 Semester Credit Hours
A studio course continuing the investigation of media and techniques explored in Drawing I and Drawing II. Students investigate how formal aspects and selected media along with conceptual choices create specific visual ideas.
Prerequisite: ARTS 1317.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2323

**ARTS 2326** Sculpture I
3 Semester Credit Hours
An introductory studio course exploring sculptural approaches, materials, concepts, and technical processes. Materials include wood, plaster, steel, and plastics.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2326

**ARTS 2333** Printmaking I
3 Semester Credit Hours
An introductory studio course in basic printmaking processes and techniques.
Prerequisite: ARTS 1316 or 1311.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2333
ARTS 2346 Ceramics I  
3 Semester Credit Hours (3 Lecture Hours) 
An introductory studio course in basic ceramic processes. 
**Co-requisite:** SMTE 0097. 
**TCCNS:** ARTS 2346

ARTS 2356 Photography I  
3 Semester Credit Hours  
This course is an introduction to digital photography capture, processing, and basic editing software. While focusing on the fundamentals of digital photography and printing techniques, it will introduce students to the theory and practice of photography and assist them in producing a conceptually devised and technically consistent portfolio. 
**Co-requisite:** SMTE 0097.  
**TCCNS:** ARTS 2356

ARTS 2367 Watercolor  
3 Semester Credit Hours (3 Lecture Hours)  
A studio course exploring techniques in water-base media. 
**Co-requisite:** SMTE 0097.

ARTS 3301 Life Drawing  
3 Semester Credit Hours  
Drawing from the model using a variety of techniques and media. 
**Prerequisite:** (ARTS 1317). 
**Co-requisite:** SMTE 0097.

ARTS 3302 Screen Printing  
3 Semester Credit Hours  
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to screenprinting. 
**Prerequisite:** ARTS 1311 or 1316. 
**Co-requisite:** SMTE 0097.

ARTS 3303 Intermediate Painting  
3 Semester Credit Hours (3 Lecture Hours)  
Explores the issues of content, imagery, application, and influences of master artists. 
**Prerequisite:** ARTS 2316. 
**Co-requisite:** SMTE 0097.

ARTS 3304 Fabrication Sculpture  
3 Semester Credit Hours  
Building upon introductory skills, this course explores construction and fabrication in sculpture focusing on a primary material for the semester and applying advanced techniques and processes for this material. Through this material and techniques, students begin defining and developing their visual vocabulary relative to art history and contemporary sculptural issues. 
**Prerequisite:** ARTS 2326. 
**Co-requisite:** SMTE 0097.

ARTS 3305 Mold Making and Casting Sculpture  
3 Semester Credit Hours  
This course is designed to build upon the fundamental principles of mold making and casting while exploring more complex concepts, materials, and techniques. Creating multi-part molds, flexible molds, and investment molds, the project assignments incorporate the unique versatility of mold making and casting for exchanging media and making a series of multiples. In addition to making casts, students compare methods for assembling cast forms together to create larger sculptural artworks and installations. 
**Co-requisite:** SMTE 0097.

ARTS 3306 Figurative Sculpture  
3 Semester Credit Hours  
A study of the human figure from an anatomical and artistic perspective. Examines the skeletal and muscular components of the figure in order to create lifelike and emotive sculptures. Discussion of the figure in both classical and contemporary art. Working with armature and modeling clay. 
**Co-requisite:** SMTE 0097.

ARTS 3307 Lithography and Planographic Process  
3 Semester Credit Hours  
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to lithography and monoprinting. 
**Prerequisite:** ARTS 2311 or 1316. 
**Co-requisite:** SMTE 0097.

ARTS 3311 Color Theory  
3 Semester Credit Hours  
This course develops an understanding of color properties and relationships through formal exercises, research and creative thinking. Students build a vocabulary for analyzing and identifying color and color phenomena. Concepts of color theorists and color use in a variety of fields are examined to understand the application of color theory. Students will investigate the use of color in their own work and in the work of others to understand the conceptual and aesthetic application of color. 
**Prerequisite:** ARTS 1311.

ARTS 3313 Figure Painting  
3 Semester Credit Hours  
This course addresses the structure and anatomy of the human figure using oil paint. Painting techniques and color theory exercises will familiarize students with tradition painting methods. Students will render proportions, balance, form and mass of the human figure. Research and discussions will address the human form throughout history as well as in the contemporary context. Image presentations, critiques and live model sessions will supplement studio work. 
**Prerequisite:** ARTS 2316. 
**Co-requisite:** SMTE 0097.

ARTS 3316 Art Activities I  
3 Semester Credit Hours (3 Lecture Hours)  
Practical experience with basic design, drawing, painting, and sculpture, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the elementary school.

ARTS 3322 Art Activities II  
3 Semester Credit Hours (3 Lecture Hours)  
Practical experiences with basic design, drawing, painting, printmaking, sculpture, and crafts, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the secondary school.

ARTS 3324 Wheel Throwing  
3 Semester Credit Hours  
Covers wheel-thrown ceramics (other production techniques may be included), basic glazemaking, and an introduction to kiln firing and loading. 
**Prerequisite:** ARTS 2346. 
**Co-requisite:** SMTE 0097.
ARTS 3325 Handbuilt Ceramic Techniques
3 Semester Credit Hours
This course is a continuation of hand-building covered in Ceramics I ARTS 2346. The course will cover more advanced forming techniques such as extrusion, hump, slump, and press molds, and slip-casting. New surface and firing techniques will include more advanced techniques such as underglazes, onglaze techniques such as majolica, fired decal application, raku, and an introduction to low fire glazes and surfaces.
Prerequisite: ARTS 2346.

ARTS 3350 Art of the United States
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major developments in the art of North America from Pre-Columbian times to the modern era

ARTS 3352 Modern Art
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major movements of 20th century art and aesthetics, which developed primarily in Europe. Includes a review of late 19th century modernist antecedents with emphasis placed on the principal movements of the early 20th century: Fauvism, German Expressionism, Cubism, Futurism, Abstract Art, Dada, and Surrealism.

ARTS 3353 Art Since 1945
3 Semester Credit Hours (3 Lecture Hours)
An examination of the dispersal of European artists and Modernism, primarily to America, as a result of World War II. Examines the development of Abstract Expressionism in New York in the 1940s and 50s, followed by a survey of recent trends in contemporary art to the present day.

ARTS 3360 Graphic Design I
3 Semester Credit Hours (3 Lecture Hours)
Introduce fundamental graphic communication techniques, software and theory. Explores hand skills by using tools and techniques to produce professional presentations as well as the correct procedures for presenting designs to a client.

ARTS 3365 Photography II
3 Semester Credit Hours
An intermediate studio course using digital cameras and image manipulation software. Prior completion of ARTS 2356 is required. This course will enhance and expand skills developed in Photography I. It is geared toward informing students in the many ways we can make photographs; by seeking them out, framing them, forming them, extracting them, building them, and finally sequencing and presenting them. Students will engage in the theory and practice of photography, refine their photographic technique, and create a conceptually devised and technically consistent portfolio. Emphasis is placed on the development of a strong conceptual foundation from which to approach the making and understanding of photography as an art form. This knowledge will be achieved through photographic assignments, slide lectures of relevant works, and in-class critiques. It can be repeated twice for credit.
Prerequisite: (ARTS 2356).
Co-requisite: SMTE 0097.

ARTS 3366 Analogue Photography
3 Semester Credit Hours
An introductory studio course in analogue photography using film cameras and the silver gelatin darkroom process. While focusing on the fundamentals of black and white, analogue photography and printing techniques this course will assist students in producing a conceptually devised and technically consistent portfolio.
Prerequisite: (ARTS 2356).
Co-requisite: SMTE 0097.

ARTS 3367 Digital Design Tools and Applications
3 Semester Credit Hours
This studio course explores the fundamental principles, standard creative processes and basic digital tools utilized in graphic design. The concepts and software learned are employed in projects specifically targeted to serve the professional and promotional needs of studio artists and design enthusiasts.

ARTS 4085 Senior Capstone
0 Semester Credit Hours
Required for all art students in partial fulfillment of the requirements for the BA in Art, BFA in Art studio track and the BFA with Teacher Certification in Art tracks. This course collects capstone materials for ARTS degrees. The course must be taken in the student’s final semester before graduation.

ARTS 4301 Advanced Drawing
3 Semester Credit Hours
Emphasis on the development of content through drawing. Research on contemporary trends and process investigation will aid students in the development of visual ideas and lead to a cohesive body or work. May be taken three times for credit.
Prerequisite: ARTS 2323.
Co-requisite: SMTE 0097.

ARTS 4302 Advanced Printmaking
3 Semester Credit Hours
Furthers competencies attained in Printmaking I and Intermediate I & II courses. May be taken three times for credit.
Prerequisite: ARTS 3302 and 3307.
Co-requisite: SMTE 0097.

ARTS 4303 Advanced Painting
3 Semester Credit Hours
Assumes competencies attained in ARTS 3303. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4304 Advanced Sculpture
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3304. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4324 Advanced Ceramics
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3324. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4350 Pre-Columbian Art of Mesoamerica
3 Semester Credit Hours (3 Lecture Hours)
Explores the history of Pre-Columbian art from Mexico and Central America, from the Olmec through the Aztec cultures. May be taken three times for credit.

ARTS 4354 Art History, Minor
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major developments in the art of North America from Pre-Columbian times to the modern era

ARTS 4355 Advanced Ceramics
3 Semester Credit Hours (3 Lecture Hours)
Furthers competencies attained in Ceramics I & II courses. May be taken three times for credit.
Prerequisite: ARTS 3346.
Co-requisite: SMTE 0097.

ARTS 4356 Advanced Drawing
3 Semester Credit Hours
Furthers competencies attained in Drawing I & II courses. May be taken three times for credit.
Prerequisite: ARTS 3324.
Co-requisite: SMTE 0097.

ARTS 4357 Advanced Printmaking
3 Semester Credit Hours
Assumes competencies attained in ARTS 3357. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4358 Advanced Sculpture
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3358. May be taken three times for credit.
Co-requisite: SMTE 0097.
ARTS 4352 Modern Art of Mexico
3 Semester Credit Hours (3 Lecture Hours)
Explores the history of art during the nineteenth and twentieth centuries in Mexico. May be taken three times for credit.

ARTS 4354 Global Currents in Contemporary Art
3 Semester Credit Hours (3 Lecture Hours)
The course will cover key developments in contemporary art from the post-World War II era in the Western context to global currents in the present international arena. From a socio-political perspective, artistic tendencies will be considered as part of a trajectory that saw the center of the art world shift from being Euro- and Anglo-centric in the mid-twentieth century, to one without a discernible center in the early twenty-first century. Analysis of artworks from this decentralized cultural climate will focus on the evolution of conceptualism, the persistence of traditional modes of aesthetic practice, the role of the art market, and notions of environmentalism and sustainability as related to these "transnational transition." The course will consider works from Eastern Europe, South and Central America, the Caribbean, East/West/South/Southeast Asia, Oceania, and Africa.

ARTS 4356 Contemporary Art Since 1980
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the evolution of architecture, sculpture, painting, digital media, installation, and interdisciplinary arts in the global context from 1980 to the present, in light of the historical and intellectual background of the period. Topics covered will include the transition from postmodernism to contemporaneity, considering notions of appropriation, commodification, consumerism, memory, history, and globalization. Lectures will be constructed upon thematic analysis of contemporary, primary sources coupled with secondary source material, and complemented by presentation opportunities and class discussion.

ARTS 4365 Advanced Photography
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3365. Covers content as creative expression in addition to basic photographic skills. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4390 Topics in Art History
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary.

ARTS 4391 Topics in Studio Art
3 Semester Credit Hours
May be repeated when topics vary.
Co-requisite: SMTE 0097.

ARTS 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description. Offered on application
Co-requisite: SMTE 0097.

ARTS 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description. Offered on application.
Co-requisite: SMTE 0097.

Communication Studies, Minor
Program Requirements
The minor in Communication Studies consists of 18 semester hours of Communication Studies coursework.

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<td>Interpersonal Communication **</td>
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<td>or COMM 2333</td>
<td>Small Group Communication</td>
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<td>Presentational Communication</td>
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<td>Communication Theory</td>
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<td>COMM 1321</td>
<td>Business and Professional Communication</td>
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<td>COMM 3311</td>
<td>Nonverbal Communication</td>
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<td>COMM 3325</td>
<td>Relational Communication</td>
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<td>COMM 3326</td>
<td>Research Methods</td>
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<td>COMM 3330</td>
<td>Persuasion</td>
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<td>COMM 3350</td>
<td>Leadership</td>
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<td>COMM 4314</td>
<td>Gender Communication</td>
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<td>COMM 4335</td>
<td>Crisis Communication</td>
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<td>COMM 4350</td>
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<td>COMM 4360</td>
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<td>COMM 4390</td>
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<td>COMM 4399</td>
<td>Communication Internship</td>
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<td>MEDA 3380</td>
<td>New Media and Communication **</td>
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<td>Total Hours</td>
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* Online offering
^ Blended offering

Courses
COMM 1311 Foundation of Communication
3 Semester Credit Hours (3 Lecture Hours)
This course examines a breadth of topics fundamental to the study of communication and works to improve students' communication skills in three primary contexts: interpersonal relationships, group/teamwork, and presentational speaking.
TCCNS: SPCH 1311

COMM 1315 Public Speaking
3 Semester Credit Hours (3 Lecture Hours)
Research, composition, organization, and delivery of speeches for various purposes and occasions, with emphasis on listener analysis and on informative and persuasive techniques.
TCCNS: SPCH 1315

COMM 1318 Interpersonal Communication
3 Semester Credit Hours (3 Lecture Hours)
Predominant issues related to verbal and nonverbal communication with a focus on interpersonal relationships.
TCCNS: SPCH 1318

COMM 1321 Business and Professional Communication
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to basic skills, principles, and contexts of communication in business and professional settings by combining public speaking with aspects of communication ethics and organizational, small group, and interpersonal communication. Students will learn practical skills via presentations, research, resumes, interviews, meetings, and professional writing grounded in communication theory.
COMM 1342 Voice and Diction
3 Semester Credit Hours (3 Lecture Hours)
Basic voice training, including techniques for vocal production, manipulation, and control. Practical application of the vocal apparatus will be emphasized, including techniques of enunciation, projection, articulation, and the use of dialects. (Credit may not be given for both this course and THEA 1342.)
TCCNS: SPCH 1342

COMM 2330 Introduction to Public Relations
3 Semester Credit Hours (3 Lecture Hours)
An exploration of the history and development of public relations including the theory and process of public relations, and the various publics and careers associated with the public relations industry.
TCCNS: COMM 2330

COMM 2333 Small Group Communication
3 Semester Credit Hours (3 Lecture Hours)
Application of small group theories and techniques as they relate to group process and interaction.
TCCNS: SPCH 2333

COMM 2335 Presentational Communication
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the principles and methods of formal presentations for various purposes and audiences to further develop students into effective communicators. Course assignments will include various special occasion speeches, dynamic instructional speeches, extemporaneous speaking, creation of effective visual aids, and a group community action presentation.

COMM 3310 Communication Theory
3 Semester Credit Hours (3 Lecture Hours)
The foundations, processes, and effects of human communication. A survey of contemporary theory and research, including language theory, nonverbal and small group communication, persuasion, and mass communication.

COMM 3311 Nonverbal Communication
3 Semester Credit Hours (3 Lecture Hours)
The study of body movement, touch, paralanguage, space, environment, and other nonverbal factors in the communication process.

COMM 3325 Relational Communication
3 Semester Credit Hours (3 Lecture Hours)
This course is an advanced interpersonal communication course that focuses on communication within relationships, such as family, romantic, friendship, and workplace relationships.
Prerequisite: COMM 1318.

COMM 3326 Research Methods
3 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to increase student’s knowledge of the research process used in the Communication Studies discipline. Specifically, the course will allow students the opportunity to learn the goals of communication research and scrutinize various techniques for creating academic research and assessing academic knowledge.

COMM 3330 Persuasion
3 Semester Credit Hours (3 Lecture Hours)
Various theories and forms of rhetorical persuasion. Topics include practical reasoning skills, psychological theories of persuasion, and critical responses to persuasive messages.

COMM 3331 Public Relations Writing and Design
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce students to the basic principles and formatting requirements for public relations writing. Students will gain theoretical and practical experience in developing content for specific audiences.

COMM 3335 UIL Debate and Speech
3 Semester Credit Hours (3 Lecture Hours)
Understanding the University Interscholastic League debate and speech events. Students explore approaches to analytical reasoning, research delivery, and the conceptual basis for debate and gain practical experience in understanding and judging UIL in the high school setting.

COMM 3350 Leadership
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the communication of influence that takes place to achieve goals or encourage change. Specific attention will be devoted to a variety of approaches, processes, and theories that will provide students general knowledge of leadership.

COMM 4314 Gender Communication
3 Semester Credit Hours (3 Lecture Hours)
Examination of communication about women and men, as well as communication between them. Special course emphasis on explanations of gender, sexist language, media depiction of the sexes, and gender communication in the formation of social and work relationships.

COMM 4315 Communication and Sexuality
3 Semester Credit Hours (3 Lecture Hours)
This course will focus on communication and sexuality, specifically exploring sex and gender identity development and expression, intersections of race/ethnicity and sex/gender, how communication impacts various types of relationships, the role of communication in sexual activity, and power abuses related to sexual activity, with specific focus on consent and sexual safety.

COMM 4331 Public Relations Campaigns
3 Semester Credit Hours (3 Lecture Hours)
An application of the public relations process (including primary and secondary research, goals and objective development, the selection of proper strategies and tactics for implementation, and an evaluation of campaign effectiveness) through the production and presentation of a public relations campaign for a local organization.
Prerequisite: COMM 2330.

COMM 4335 Crisis Communication
3 Semester Credit Hours (3 Lecture Hours)
An application of crisis communication (including organizational research, risk and vulnerability assessment, strategic communication, and performance and damage evaluation) through the development and presentation of a crisis communication plan for a local organization.

COMM 4345 Intercultural Communication
3 Semester Credit Hours (3 Lecture Hours)
An investigation of the process by which persons and groups of different cultural backgrounds create understanding. Types of knowledge, skills, and sensitivity necessary for intercultural communication are developed.

COMM 4350 Organizational Communication
3 Semester Credit Hours (3 Lecture Hours)
Examination and exploration of realistic applications of communication theories within the framework of an organization. Particular attention will be given to techniques for diagnosing communication problems, as well as strategies for effecting change in communication.
Dance, Minor

Program Description

The Minor in Dance Program at Texas A&M University-Corpus Christi is comprised of technique courses in ballet, modern, and jazz with opportunities to perform in each course as well as perform in the dance performance course. Dance History provides the foundation necessary for the dance student and courses in World Dance & Culture, Choreography, and Dance Instruction enable the student to pursue multiple career opportunities in the arts and the field of dance.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>DANC 3141</td>
<td>Ballet I</td>
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<tr>
<td>DANC 3147</td>
<td>Jazz Dance I</td>
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<td>DANC 3148</td>
<td>Modern Dance I</td>
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<td>DANC 3104</td>
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<td>DANC 2141</td>
<td>Ballet II</td>
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<td>DANC 2147</td>
<td>Jazz Dance II</td>
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<td>DANC 2148</td>
<td>Modern Dance II</td>
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<td>DANC 3303</td>
<td>World Dance and Culture</td>
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<td>DANC 3306</td>
<td>Dance Choreography I</td>
<td>3</td>
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<td>DANC 3310</td>
<td>History of Dance</td>
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<td>DANC 4310</td>
<td>Dance Instruction</td>
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Electives

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<td>DANC 3147</td>
<td>Jazz Dance III</td>
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<tr>
<td>DANC 3148</td>
<td>Modern Dance III</td>
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<tr>
<td>DANC 4141</td>
<td>Ballet IV (may be repeated for credit)</td>
<td>1</td>
</tr>
<tr>
<td>DANC 4147</td>
<td>Jazz Dance IV (may be repeated for credit)</td>
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<td>DANC 4148</td>
<td>Modern Dance IV (may be repeated for credit)</td>
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<tr>
<td>DANC 4306</td>
<td>Dance Choreography II (may be repeated for credit)</td>
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Total Hours: 21

Courses

DANC 1141  Ballet I
1 Semester Credit Hour (3 Lab Hours)
A beginning ballet dance course aligned with the Theatre, Dance, and Musical Theatre disciplines. The student will learn fundamentals of classical ballet; terminology, alignment, barre and floor technique, as well as genres of the contemporary styles.
Co-requisite: SMTE 0098.

DANC 1147  Jazz Dance I
1 Semester Credit Hour (3 Lab Hours)
A beginning jazz dance course aligned with the Theatre, Dance, and Musical Theatre disciplines. Students will be introduced to genres of the jazz dance from primitive ritual through contemporary musical theatre compositions.
Co-requisite: SMTE 0098.

DANC 1148  Modern Dance I
1 Semester Credit Hour (3 Lab Hours)
A beginning modern dance course aligned with the Theatre, Dance, and Musical Theatre disciplines. Students will be introduced to the fundamentals of Modern Dance using a variety of modern dance styles, including technique, progressive movement and dance performance.
Co-requisite: SMTE 0098.

DANC 1304  Dance in Performance
3 Semester Credit Hours (3 Lecture Hours)
Students will be introduced to the fundamentals of choreography using a variety of dance styles and, using those skills, create dance intended for public performance. May be repeated for credit.
Co-requisite: SMTE 0098.
DANC 2141 Ballet II
1 Semester Credit Hour (3 Lab Hours)
This course focuses on further development of classical ballet as an art form with an emphasis on intermediate to advanced level technique, musicality and performance.
Co-requisite: SMTE 0098.

DANC 2147 Jazz Dance II
1 Semester Credit Hour (3 Lab Hours)
This course is for the student with previous jazz dance training. Jazz Dance II emphasizes technique and terminology. The course will focus on improving quality of movement and developing complex rhythms and patterns through the understanding and flexibility of the variety of jazz styles taught.
Co-requisite: SMTE 0098.

DANC 3148 Modern Dance II
1 Semester Credit Hour (3 Lab Hours)
This course is geared toward the student with previous modern dance training. The student will continue to develop physical, conceptual and aesthetic skills and explore the principles of movement and language common with variety of modern dance techniques.
Co-requisite: SMTE 0098.

DANC 3141 Ballet III
1 Semester Credit Hour (1 Lab Hour)
This course focuses on further development of classical ballet, based on previous training in Ballet I and II, as an art form with an emphasis on intermediate/advanced level technique, musicality and performance.
Prerequisite: (DANC 1141 and 2141).
Co-requisite: SMTE 0098.

DANC 3147 Jazz Dance III
1 Semester Credit Hour (1 Lab Hour)
This course focuses on the student who has taken Jazz I and II and executes the movement at an intermediate/advanced level. The course will focus on improving artistic expression within the quality of movement and developing complex technique and style through the understanding on rhythms and patterns of a variety of jazz styles.
Prerequisite: (DANC 1147 and 2147).
Co-requisite: SMTE 0098.

DANC 3148 Modern Dance III
1 Semester Credit Hour (1 Lab Hour)
This course focuses on the student who has taken Modern Dance I and II. The student will continue to develop physical, conceptual and aesthetic skills and explore principles of movement and language common with the variety of modern dance techniques.
Prerequisite: (DANC 1148, 2148 and 3148).
Co-requisite: SMTE 0098.

DANC 3303 World Dance and Culture
3 Semester Credit Hours (3 Lecture Hours)
Offers a cross cultural and historical view of a variety of theatrical, vernacular and sacred dance forms and investigates ways that dance functions across societies. No background in dance is necessary to successfully complete this course.
Co-requisite: SMTE 0098.

DANC 3306 Dance Choreography I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to techniques and principles of the craft and art of choreography. Solo and group choreography is expected. May be repeated for credit.
Co-requisite: SMTE 0098.

DANC 3310 History of Dance
3 Semester Credit Hours (3 Lecture Hours)
In this course, the student will explore the history of dance from an interactive arts approach, examining and investigating dance from ancient civilization throughout the world to the emerging times of dance in the U.S.

DANC 4141 Ballet IV
1 Semester Credit Hour (1 Lab Hour)
This course focuses on further development of classical ballet, based on previous training in Ballet I, II and III as an art form with an emphasis on advanced level technique, musicality and performance. Can be repeated for credit.
Prerequisite: (DANC 1141, 2141 and 3141).
Co-requisite: SMTE 0098.

DANC 4147 Jazz Dance IV
1 Semester Credit Hour (1 Lab Hour)
This course focuses on the student who has taken Jazz Dance I, II and III and executes the movement at an advanced level. The course will focus on improving artistic expression within the quality of movement from Jazz Dance III and developing complex technique and jazz styles. Can be repeated for credit.
Prerequisite: (DANC 1147, 2147 and 3147).
Co-requisite: SMTE 0098.

DANC 4148 Modern Dance IV
1 Semester Credit Hour (1 Lab Hour)
This course focuses on the student who has taken Modern Dance I, II and III. The student will continue to develop physical, conceptual and aesthetic skills and explore the principles of movement and language common with a variety of modern and contemporary modern dance techniques. Can be repeated for credit.
Prerequisite: (DANC 1148, 2148 and 3148).
Co-requisite: SMTE 0098.

DANC 4306 Dance Choreography II
3 Semester Credit Hours (3 Lecture Hours)
Demonstrate choreographic tools in the dance making process as it relates to group work; explore and create movement studies in groups as it pertains to art. May be repeated for credit.
Prerequisite: DANC 3306.
Co-requisite: SMTE 0098.

DANC 4310 Dance Instruction
3 Semester Credit Hours (3 Lecture Hours)
In this course, the student will research and explore the various modern philosophies of instruction and learn to apply those that are congruous with instructing dance as art in a variety of settings and to different age levels. Observation and instruction, combined with research satisfies the practical application portion of the course, while critiques from professionals in the field will serve as encouragement and confidence building for the future instructor in dance. May be repeated for credit.
Co-requisite: SMTE 0098.

DANC 4390 Topics in Dance
1-3 Semester Credit Hours
This course will explore aspects of various dance techniques (ballet, jazz, contemporary and hip hop infused) at the intermediate/advanced level, as well as repertory and yoga for dancers. Time allowing, we will delve into basic elements of choreographic composition.
Co-requisite: SMTE 0098.

DANC 4396 Directed Individual Study (DIS)
1-3 Semester Credit Hours (1-3 Lecture Hours)
See college description. Course is available by application.
DANC 4398  Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See college description. Course is available by application.

Digital Journalism, Minor

Program Description
The Digital Journalism minor will prepare TAMU-CC students for jobs within the ever-changing field of journalism. Within the core, students will learn the history and development of mass media within the United States, newswriting, legal, and ethical issues surrounding journalism and interviewing skills. Through elective credits, students will have the opportunity to take courses in the supporting areas of graphic design, web development, photography, video production, and media consumption.

Program Requirements

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<th>Code</th>
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<td>Core Courses</td>
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<tr>
<td>MEDA 1307</td>
<td>Media and Society</td>
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<td>MEDA 2311</td>
<td>Media Writing</td>
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<td>MEDA 4341</td>
<td>First Amendment and Ethical Issues in the Media</td>
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Electives
Select a minimum of 12 hours from the following: 12

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<td>MEDA 2350</td>
<td>Media Performance</td>
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<td>MEDA 2313</td>
<td>Intermediate Production: Documentary</td>
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<tr>
<td>MEDA 1315</td>
<td>Editing</td>
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<td>Editing &amp; Layout</td>
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<td>MEDA 3340</td>
<td>Photojournalism</td>
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<tr>
<td>MEDA 3361</td>
<td>Sports Writing</td>
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<td>MEDA 4342</td>
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<tr>
<td>MEDA 4399</td>
<td>Media Arts Internship</td>
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Total Hours 21

Courses

MEDA 1305 Film and Culture
3 Semester Credit Hours (3 Lecture Hours)
Introduction to film aesthetics, history, and criticism for non-communication majors. Establishes a vocabulary for examining films and their roles in American culture.
Co-requirement: PSYC 2301, UNIV 1102.

MEDA 1307 Media and Society
3 Semester Credit Hours (3 Lecture Hours)
History and development of mass media in the United States as well as the organizational, institutional, and cultural dynamics of today’s major commercial media. Included are substantial components on print media, radio, television, cinema, and computer Internet communication systems. Course themes include media production and consumption, globalization, cultural imperialism, race, class, gender in media and popular culture.
TCCNS: COMM 1307

MEDA 1315 Editing
3 Semester Credit Hours (3 Lecture Hours)
Intensive instruction in postproduction software, postproduction workflows, and editing techniques for moving images.

MEDA 1380 Introduction to Media Production
3 Semester Credit Hours (3 Lecture Hours)
Overview of tools and skills necessary to produce digital media content such as editing, cinematography, sound recording, producing and directing for film, television and new media.

MEDA 2311 Media Writing
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to teach the fundamentals of writing for the mass media. It includes instruction in professional methods and techniques for gathering, processing and delivering content. TCCNS: COMM 2311

MEDA 2313 Intermediate Production: Documentary
3 Semester Credit Hours (3 Lecture Hours)
Principles and techniques of media production with a focus on non-fiction filmmaking.
Prerequisite: (MEDA 1315 and 1380).

MEDA 2315 News Reporting
3 Semester Credit Hours (3 Lecture Hours)
This course focuses on advanced news-gathering and writing skills. It concentrates on the three-part process of producing news and features, which include discovering the news, reporting the news and writing news in different formats. This course will incorporate all forms of news writing, including: press release, print news, web news and TV and radio broadcast news.
Prerequisite: MEDA 2311.

MEDA 2316 Intermediate Production: Narrative
3 Semester Credit Hours (3 Lecture Hours)
Principles and techniques of media production with a focus on fictional narrative filmmaking.
Prerequisite: (MEDA 1315 and 1380).

MEDA 2350 Media Performance
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to teach students articulation, pronunciation, effective writing and on-air performance techniques for all kinds of media environments with videotaped and audio taped presentations.

MEDA 2350 Media Performance
3 Semester Credit Hours (3 Lecture Hours)
Examination of the formal elements of media texts, including cinematography/videoigraphy, sound, and editing, across a variety of media platforms and styles. Includes instruction in writing formal analysis.
TCCNS: COMM 2366

MEDA 2367 Media Industries
3 Semester Credit Hours (3 Lecture Hours)
Examination of the media industries, including how they have evolved and now operate, as well as broader theoretical and practical implications of changing media organizations and practices. Includes instruction in researching contemporary and historical modes of media production, distribution, and exhibition.
MEDA 3301 Television Criticism
3 Semester Credit Hours (3 Lecture Hours)
Exploration of how TV communicates through the study of programming content, production practices, and audiences. Includes a laboratory for screening assigned programs.
Prerequisite: MEDA 1307.

MEDA 3302 Film Criticism
3 Semester Credit Hours (3 Lecture Hours)
Exploration of the critical approaches to the study of film from a variety of historical and theoretical perspectives, with an emphasis on narrative film and some consideration of experimental cinema. Includes a laboratory for screening assigned films.
Prerequisite: MEDA 1307.

MEDA 3303 Documentary Studies
3 Semester Credit Hours (3 Lecture Hours)
Historical and critical study of the non-fictional film with attention to changing technologies, to varying uses and styles of documentary, and to contemporary critical and theoretical issues.
Prerequisite: MEDA 1307.

MEDA 3310 Media Theory and Research
3 Semester Credit Hours (3 Lecture Hours)
This course is intended to immerse students in the leading theoretical and methodological approaches employed within the field of media studies to gain understating of media texts, popular culture, and audiences. Closely affiliated with cultural studies, qualitative research methods will be a primary focus. Readings and case studies will offer students insight into the way these methods are being used in the field, including their limitations and strengths. A series of assignments will allow them to propose, design, and conduct multiple sample research projects and analyze data in ways that engage with a variety of theories.

MEDA 3314 Television Production
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of studio television production. Field-based course, transportation required.

MEDA 3317 Advanced Postproduction
3 Semester Credit Hours (3 Lecture Hours)
Intensive instruction in advanced postproduction software, postproduction workflows and editing techniques for moving images.
Prerequisite: MEDA 1315.

MEDA 3318 Editing & Layout
3 Semester Credit Hours (3 Lecture Hours)
This course will teach the principles of copy editing, with an emphasis on accuracy and fairness, as well as the principles of layout and design for print and web publications.
Prerequisite: MEDA 2311.

MEDA 3340 Photojournalism
3 Semester Credit Hours (3 Lecture Hours)
This course will instruct on photojournalism skills and methods for use in visual communication. It will examine ethical and legal limitations to photography and in editing. Student work in this class will be eligible for possible publication in the student newspaper or its accompanying website.

MEDA 3351 Screen Comedy
3 Semester Credit Hours (3 Lecture Hours)
Examination of the varieties of screen comedy, from silent comedy to contemporary forms, with some attention to the history and theory of comic performance.
Prerequisite: MEDA 1307.

MEDA 3360 Screenplay Writing
3 Semester Credit Hours (3 Lecture Hours)
Writing and analysis of the screenplay for narrative fictional films. Writing projects include problem-solving exercises and work on an original screenplay. Course can be repeated for credit.

MEDA 3361 Sports Writing
3 Semester Credit Hours (3 Lecture Hours)
This course will teach the elements of sports writing and reporting to include interviewing and writing to cover different aspects of sports coverage. This course will address content for print, Internet, radio and television. Campus-related sports assignments will be eligible for publication in the student newspaper and its accompanying website.

MEDA 3380 New Media and Communication
3 Semester Credit Hours (3 Lecture Hours)
Examines how new media technologies impact society and change communication practices. Particular emphasis placed on different modes of cultural expression and social interaction made possible through digital media and the Internet.

MEDA 4305 Interpreting and Making the Visual Culture of Hollywood
3 Semester Credit Hours (3 Lecture Hours)
This course examines the visual culture of Hollywood media production in a focused context, such as during a particular decade, or in relation to a particular genre, star, or cultural topic. The visual culture studied will include not just primary media texts such as films or television programs, but also posters, trailers, and other promotional materials, as well as visual culture not produced directly by the media industries, such as contemporary art. Students will learn and utilize basic design techniques to create their own artwork related to these materials, including movie posters, album covers, and sequential art. As resources and equipment availability allow, these designs will be produced using techniques including print-making.

MEDA 4308 Advanced Production: Commercial
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of client based commercial media content with a focus on conceptualization, production, and delivery of a commercial, PSA, or corporate video project.
Prerequisite: (MEDA 1315, 2313 and 2316).

MEDA 4310 Advanced Production: Documentary
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of documentary media content with a focus on conceptualization, production, and distribution of a short documentary film. Course can be repeated once for credit. This course serves as a capstone for the Media Production Track.
Prerequisite: MEDA 2313.

MEDA 4312 Advanced Production: Narrative
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of narrative media content with a focus on scripting, production, and distribution of a short narrative film. Course can be repeated once for credit. This course serves as a capstone for the Media Production Track.
Prerequisite: MEDA 2316.

MEDA 4317 After Effects
3 Semester Credit Hours (3 Lecture Hours)
Conceptualization and execution of digital media projects using visual effects, motion graphics and composition through the creation of video, animation, special effects and more using Adobe’s After Effects postproduction software.
Prerequisite: MEDA 1315.
MEDA 4340 Advertising Criticism
3 Semester Credit Hours (3 Lecture Hours)
The examination of advertising history through critical and cultural approaches.

MEDA 4341 First Amendment and Ethical Issues in the Media
3 Semester Credit Hours (3 Lecture Hours)
Study of legal and ethical issues in mediated communication, including the First Amendment and free speech, control, and regulation of broadcasting, obscenity in the media.
Prerequisite: MEDA 1307.

MEDA 4342 Global Media and International Communication
3 Semester Credit Hours (3 Lecture Hours)
Examines global media in the context of international communication, diversity of media and cultural production, styles of media practices abroad, including differences between U.S. news values and ethical and moral dimensions across differing societies of the world.

MEDA 4343 News Publication
3 Semester Credit Hours (3 Lecture Hours)
This course will be a hands-on newsroom experience with the student newspaper the Island Waves and its accompanying website. Individual assignments will be assigned by editors of the student media. Assignments may include writing, advertising, photography, cartooning and video production and editing. Students are required to work on the staff of the official college publication during prescribed hours under faculty supervision.
Prerequisite: MEDA 2311.

MEDA 4370 Advanced New Media Project
3 Semester Credit Hours (3 Lecture Hours)
As the capstone course for the New Media Arts Certificate, this course guides students through the planning, development, and execution of new media-based project.
Prerequisite: ARTS 2356, MEDA 2313 and 1315.

MEDA 4381 Senior Seminar in Media Studies
3 Semester Credit Hours (3 Lecture Hours)
The capstone course for seniors in the Media Studies offers opportunities to synthesize information learned in other Media Studies courses through in-depth study of a particular topic. Students will demonstrate their abilities to think and write critically, and to conduct independent research or produce media projects at an advanced level. Topics vary by instructor.
Prerequisite: MEDA 1307 and 3310.

MEDA 4390 Topics in Media Arts
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics and themes in media arts. May be repeated when topics vary.

MEDA 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description. By application. Only 3 semester hours of Directed Individual Study credit may be counted toward the major.

MEDA 4399 Media Arts Internship
3 Semester Credit Hours
Practical experience in the field through placement in a media internship position. Students interested in applying for the internship course must have a minimum cumulative GPA of 3.0; have at least junior standing at the university; be a media arts (media studies or media production emphasis) major or digital journalism minor; have completed at least 12 hours of coursework in the major or minor at TAMU-CC. Preferred applicants will have a minimum media arts or digital journalism GPA of 3.25. All applicants must solicit a recommendation form from a Department of Communication and Media faculty member. Course may be taken three times for credit; however only 3 semester hours of internship credit may be counted toward the major. A second internship may apply to the digital journalism minor; a third internship may be used as a free elective. Authorization to repeat the internship course is contingent on the students’ successful completion of the previous internship experience. This course is graded Credit/No Credit.

Music Industry, Minor

Program Description
The minor in music industry is designed to provide students with the basic specialized skills required for post-graduate employment opportunities in arts marketing and management, studio technology, and audio recording. Students will have hands-on opportunities to work with up-to-date software packages used in music industry. Finally, students will have a significant opportunity to undertake an independent practical project within a chosen area of the music industry.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIND 3311</td>
<td>Applications of Music Technology</td>
<td>3</td>
</tr>
<tr>
<td>MIND 3312</td>
<td>Recording Techniques I</td>
<td>3</td>
</tr>
<tr>
<td>MIND 3313</td>
<td>Recording Techniques II</td>
<td>3</td>
</tr>
<tr>
<td>MIND 3320</td>
<td>Music Business Survey</td>
<td>3</td>
</tr>
<tr>
<td>MIND 3321</td>
<td>Music Business II</td>
<td>3</td>
</tr>
<tr>
<td>MIND 4396</td>
<td>Directed Individual Study</td>
<td>1-3</td>
</tr>
<tr>
<td>or MIND 4398</td>
<td>Applied Experience</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 16-18

Courses

MIND 3311 Applications of Music Technology
3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course will focus on hands-on learning in a workshop environment. Students will gain perspective on the people, procedures, data, software and hardware associated with the creation of music. Topics discussed include: computer proficiency, MIDI, computer based music notation, sequencing music evaluation, music and the Internet, and current trends in music technology.
MIND 3312 Recording Techniques I  
3 Semester Credit Hours (3 Lecture Hours)  
Designed for both music majors and non-majors, this course is an examination of the art of audio recording. The curriculum will cover signal flow of the mixing console as it applies to both recording and sound reinforcement; microphones and techniques of application; use of sonic effects; recording devices (Digital, and Hard Disk); synchronization formats; etc.

MIND 3313 Recording Techniques II  
3 Semester Credit Hours (3 Lecture Hours)  
A continuation of MIND 3312 Recording Techniques. The curriculum will cover advanced topics regarding digital console technology, power and ground related issues, studio acoustics and design, digital audio technology, multimedia and web applications, amplifiers, noise reduction, monitoring, surround sound, and mastering procedures.

MIND 3314 Live Sound Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
Designed for both music majors and non-majors, an overview of the basic principles of sound and reinforcement and how audio can be manipulated utilizing current live sound technology. Topics will include signal flow, microphone selection and placement, signal processing, and mixing.

MIND 3315 Musical Acoustics  
3 Semester Credit Hours (3 Lecture Hours)  
Designed for both music majors and non-majors, an overview of acoustics with emphasis in the areas of scientific knowledge that are relevant to music: the physiological properties of sounds; the effect of acoustical environment; the acoustical behavior of musical instruments; and the various applications of electronics and computers to the production, reproduction, and composition of music.

MIND 3316 Introduction to MIDI Sound Synthesis and Control  
3 Semester Credit Hours (3 Lecture Hours)  
Designed for both music majors and non-majors, this course introduces students to the Musical Instrument Digital Interface (MIDI) sequencing using computer software and keyboard synthesizers. Students learn concepts, basic theory and techniques, and the application of MIDI techniques to the production of music. Hands-on projects are completed using MIDI keyboard synthesizers and sequencer software.

MIND 3320 Music Business Survey  
3 Semester Credit Hours (3 Lecture Hours)  
Designed for both music majors and non-majors, this course is an overview of the practices and procedures of the music industry, including such topics as career possibilities, publishing, labels, marketing, and copyrights. It also includes an overview of career options will include performer, composer, record producer and engineer, artist manager, booking agent, concert promoter, sales, marketing, and entertainment attorney.

MIND 3321 Music Business II  
3 Semester Credit Hours (3 Lecture Hours)  
Designed for both music majors and non-majors, this course is an in-depth examination of the practices and procedures of the music industry that pertain to accounting, taxes, copyright, licensing, marketing and contracts. The primary objective of this course is to develop a working knowledge of the music industry and to remain in compliance with the U.S. legal system.

MIND 3322 Entertainment Law and the Music Industry  
3 Semester Credit Hours (3 Lecture Hours)  
Designed for both music majors and non-majors, an overview of the legal practices and ramifications of United States law and its influence on the music industry. Topics will include intellectual property, business structures, contracts, distribution regulations, and copyrights. Legal practices for entertainment mediums will include television, film, live stage performances, recording, and publishing.

MIND 4396 Directed Individual Study  
1-3 Semester Credit Hours  
See College description. Offered on application.

MIND 4398 Applied Experience  
3 Semester Credit Hours  
See College description. Offered on application.

Music, Minor

Program Description

Students wishing to minor in music should possess a certain degree of musical competence, including the ability to read music and perform as a vocalist or on an instrument at an intermediate level. Students are encouraged to discuss their plans to pursue a music minor with an advisor within the Music Department or the academic advisor prior to enrolling in music coursework.

Program Requirements

The course of study leading to the minor is comprised of 21-22 semester credit hours from the following courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 1311</td>
<td>Musicianship I</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1312</td>
<td>Musicianship II</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1116</td>
<td>Aural Training I</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 1117</td>
<td>Aural Training II</td>
<td>1</td>
</tr>
<tr>
<td>MUAP 1XXX or higher</td>
<td>Secondary Applied Studio (two semesters)</td>
<td>2</td>
</tr>
<tr>
<td>MUAP 2XXX or higher</td>
<td>Secondary Applied Studio (two semesters)</td>
<td>2</td>
</tr>
</tbody>
</table>

Select four hours of the following:  
- MUEN 1123 Symphonic Winds  
- MUEN 3123 Symphonic Winds  
- MUEN 1124 Concert Orchestra  
- MUEN 3124 Concert Orchestra  
- MUEN 1151 University Singers  
- MUEN 3151 University Singers

Select two of the following:  
- MUSI 3253 Basic Conducting  
- MUSI 3310 History of Jazz  
- MIND 3311 Applications of Music Technology  
- MIND 3312 Recording Techniques I  
- MIND 3313 Recording Techniques II  
- MIND 3320 Music Business Survey  
- MIND 3321 Music Business II
Courses

MUSI 1116 Aural Training I
1 Semester Credit Hour (1 Lecture Hour)
A companion course to MUSI 1311, designed to strengthen the understanding of theoretical principles with development of aural perception and skills; exercises in melodic, harmonic, and rhythmic dictation; and drill in sight singing.
TCCNS: MUSI 1116

MUSI 1117 Aural Training II
1 Semester Credit Hour (1 Lecture Hour)
Continuation of MUSI 1116; a companion course to MUSI 1312.
Prerequisite: MUSI 1116 and 1311.
TCCNS: MUSI 1117

MUSI 1181 Class Piano I
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 1181

MUSI 1182 Class Piano II
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 1182

MUSI 1301 Fundamentals of Music
3 Semester Credit Hours (3 Lecture Hours)
Designed to teach beginning music students the basic tenet of music theory: note reading, rhythm, scales, key signatures, basic intervals and triads, and solfeggio.

MUSI 1302 Non-major Class Piano I
3 Semester Credit Hours (3 Lecture Hours)
Group instruction in the elements of piano playing, designed for the non-major. No previous experience necessary.

MUSI 1303 Basic Guitar I
3 Semester Credit Hours (3 Lecture Hours)
Group instruction in the fundamentals of guitar playing, designed for the non-major. The student must furnish an acceptable instrument. No previous experience necessary.
TCCNS: MUSI 1303

MUSI 1306 Understanding and Enjoying Music
3 Semester Credit Hours (3 Lecture Hours)
A course for the non-music major. Study of selected music literature of contrasting styles and forms with emphasis on listening to music with understanding.
TCCNS: MUSI 1306

MUSI 1307 Elements of Musical Style
3 Semester Credit Hours (3 Lecture Hours)
A survey of selected western and non-western musical styles, based upon the analysis of the characteristic use of the elements of music. Required for music majors and recommended for non-majors with a significant high school music background.
TCCNS: MUSI 1307

MUSI 1310 History of Rock and Roll
3 Semester Credit Hours (3 Lecture Hours)
A general survey of composers, performers, and styles of rock and roll. Emphasis on understanding stylistic elements of music, including rhythm, texture, form, and harmony.
TCCNS: MUSI 1310

MUSI 1311 Musicianship I
3 Semester Credit Hours (3 Lecture Hours)
First principles of chord progression and phrase harmonization. Theory assessment required prior to enrollment.
TCCNS: MUSI 1311

MUSI 1312 Musicianship II
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 1311, with a study of more advanced chord structures and their placement within the phrase through written exercises, analysis, and correlated keyboard projects.
Prerequisite: MUSI 1311 and 1116.
TCCNS: MUSI 1312

MUSI 2116 Aural Training III
1 Semester Credit Hour (1 Lecture Hour)
Continuation of MUSI 1117; a companion course to MUSI 2311. Designed to further the understanding of advanced theoretical principles and techniques through related aural exercises, dictation, and sight singing.
Prerequisite: MUSI 1117 and 1312.
TCCNS: MUSI 2116

MUSI 2117 Aural Training IV
1 Semester Credit Hour (1 Lecture Hour)
Continuation of MUSI 2116; a companion course to MUSI 2312.
Prerequisite: MUSI 2116 and 2311.
TCCNS: MUSI 2117

MUSI 2181 Class Piano III
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
Prerequisite: MUSI 1182.
TCCNS: MUSI 2181

MUSI 2182 Class Piano IV
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 2182
MUSI 2302 Non-major Class Piano II
3 Semester Credit Hours (3 Lecture Hours)
Extension of skill development begun in MUSI 1302 Non-Major Class Piano I.
Prerequisite: MUSI 1302.

MUSI 2303 Basic Guitar II
3 Semester Credit Hours (3 Lecture Hours)
Extension of skill development begun in MUSI 1303 - BASIC GUITAR I. The student must furnish an acceptable instrument.
Prerequisite: MUSI 1303.

MUSI 2311 Musicianship III
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 2311. A broad summary of classical and chromatic harmony, explored through written exercises, analysis, and correlated keyboard drill.
Prerequisite: MUSI 1312 and 1117.
TCCNS: MUSI 2311

MUSI 2312 Musicianship IV
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 2311. An exploration of 20th-century techniques through written exercises, analysis, and correlated keyboard drill.
Prerequisite: MUSI 2311 and 2116.
TCCNS: MUSI 2312

MUSI 3085 Junior Recital
0 Semester Credit Hours
Required for all students presenting a Junior Recital in partial fulfillment of the requirements for the Bachelor of Music in Performance Degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Department Chair.

MUSI 3162 Diction for Singers I
1 Semester Credit Hour (1 Lecture Hour)
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in English and French.

MUSI 3165 Diction for Singers II
1 Semester Credit Hour (1 Lecture Hour)
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in Italian and German.

MUSI 3166 Woodwind Techniques I
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the oboe, bassoon, and saxophone. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3167 Woodwind Techniques II
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the flute and clarinet. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3168 Brass Techniques I
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the trumpet and French horn. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3169 Brass Techniques II
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the trombone, euphonium, and tuba. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3170 Voice Techniques for Instrumentalists
1 Semester Credit Hour (1 Lab Hour)
Group instruction and practical experience in the fundamentals of voice production and song interpretation for the instrumental music educator. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3188 Percussion Techniques
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the instruments of the percussion family. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3189 String Techniques
1 Semester Credit Hour (1 Lab Hour)
Basic techniques of playing and teaching the violin, viola, 'cello, and string bass. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3252 Foundations of Music Programs
2 Semester Credit Hours (2 Lecture Hours)
A survey of the historical, social, and philosophical bases of music education in the United States, psychological theories of learning and musical responsiveness, and studies of how these foundations have been applied in various types of music curricula.
Prerequisite: MUSI 2311 and 2116.

MUSI 3253 Basic Conducting
2 Semester Credit Hours (2 Lecture Hours)
A skills acquisition course designed to give students competence in basic baton techniques and musical control of an ensemble. Includes score study and musical terminology.
Prerequisite: MUSI 2311 and 2116.

MUSI 3310 History of Jazz
3 Semester Credit Hours (3 Lecture Hours)
A study of jazz styles, influences, trends, innovators, and literature. Readings include interviews and articles that discuss origins of jazz, definitions of jazz, and race politics of jazz. No previous experience is necessary.

MUSI 3334 Music Cultures of the World
3 Semester Credit Hours (3 Lecture Hours)
The course introduces the student to ethnomusicology and the cross-cultural study of music and society. It emphasizes the role of music in human life, and explores music and performance from around the world. The student will learn about classical, folk and popular styles found on all seven continents. This course is appropriate for any student of any musical background.

MUSI 3345 Composition
1-3 Semester Credit Hours
Creative writing with a view toward developing an individual style of musical composition. Variable credit, 1, 2, or 3 hrs. One private lesson per week.
Prerequisite: MUSI 2312 and 2117.
MUSI 3346 Form and Analysis of Tonal Music
3 Semester Credit Hours (3 Lecture Hours)
Analysis of the melodic and harmonic design of tonal music, including the aural and visual analysis of scores for piano, voice, chamber ensembles, and orchestra.
Prerequisite: MUSI 2312 and 2117.

MUSI 3354 Advanced Conducting
3 Semester Credit Hours (3 Lecture Hours)
A continuation of MUSI 3252. Advanced experiences with score preparation and effective ensemble rehearsal and management techniques.
Prerequisite: MUSI 3252.

MUSI 3370 Class Voice
3 Semester Credit Hours (3 Lecture Hours)
Group instruction and practical experience in the fundamentals of voice production, music reading, and song interpretation. Dramatic stage movement and singing will be explored using Classical and Broadway song literature. This course is designed for the non-major. No previous experience is necessary.

MUSI 4085 Senior Recital
0 Semester Credit Hours
Required for all students presenting a Senior Recital in partial fulfillment of the requirements for any music degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Program Coordinator.

MUSI 4334 History of Western Music I
3 Semester Credit Hours (3 Lecture Hours)
An in-depth study of the evolution of Western musical style from antiquity through the 18th-century.
Prerequisite: MUSI 1307, 2312 and 2117.

MUSI 4335 History of Western Music II
3 Semester Credit Hours (3 Lecture Hours)
Continuation of MUSI 4334, an in-depth study of the evolution of Western musical style from the age of Beethoven to the present.
Prerequisite: MUSI 4334.

MUSI 4340 Studies in Repertoire
3 Semester Credit Hours
Systematic examination of the history and literature of a specific performance medium.

MUSI 4346 Orchestration and Arranging
3 Semester Credit Hours (3 Lecture Hours)
The compass, timbre, and techniques of arranging and/or orchestration for instruments and/or voices. Practical experience in arranging for orchestra, band, and other instrumental and vocal combinations.
Prerequisite: MUSI 2312 and 2117.

MUSI 4355 Music for Young Children
3 Semester Credit Hours (3 Lecture Hours)
Study of musical development in children in grades K-6. Study of and practical experience with pedagogical approaches and materials appropriate for that age group.
Prerequisite: MUSI 3252.

MUSI 4357 Choral Literature and Techniques
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the literature, pedagogy, and management techniques required for successful vocal ensembles in secondary schools.
Prerequisite: MUSI 3253.

MUSI 4358 Instrumental Literature and Techniques
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the literature, pedagogy, and management techniques required for successful instrumental ensembles in secondary schools. Includes a segment pertaining to the development of marching band shows.
Prerequisite: MUSI 3253.

MUSI 4360 STUDIES IN PEDAGOGY
3 Semester Credit Hours
Methods, materials and psychology of presenting musical materials to students at various ages. Evaluation of teaching materials and techniques. Classes are organized by specific performance areas.

MUSI 4385 Senior Capstone
3 Semester Credit Hours
The Senior Capstone is intended to provide students seeking the Bachelor of Arts in Music with an opportunity to demonstrate their musical scholarship through scholarly analysis and writing within a field of music of their choosing. May include a performance component, as in a lecture recital, but musical performance may comprise no more than 40% of the capstone project.

MUSI 4390 Topics in Music
1-3 Semester Credit Hours (1-3 Lecture Hours)
May be repeated for credit when topics vary.

MUSI 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

MUSI 4398 Applied Experience
3 Semester Credit Hours
See College description.

Public Relations, Minor

Program Description
Public Relations (PR) is a strategic communication process that builds mutually beneficial relationships between an organization and its publics. PR strategy has evolved alongside technological advances, and organizations are now required to connect with diverse publics using a variety of platforms. The core courses in the public relations minor provide students with practical skills in public relations writing and design, research, strategy and crisis communication. Furthermore, students are guided in the development of a career portfolio showcasing this diverse skill set. Students should utilize electives to gain skills in supplemental areas such as media production, digital journalism, marketing, and persuasion.

The minor consists of 18 semester hours, which include 4 core courses. At least 15 hours for the minor must be upper division.

Students who select this minor must consult with the Faculty Adviser to the Public Relations Minor prior to completing 6 semester hours of coursework listed in the program. The minor declaration must be filed with the Advisor in the College of Liberal Arts.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 2330</td>
<td>Introduction to Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>COMM 3331</td>
<td>Public Relations Writing and Design</td>
<td>3</td>
</tr>
</tbody>
</table>
COMM 4335  Crisis Communication  3
COMM 4394  Professional PR Portfolio  3

Electives
Select 6 hours from the following: 1

COMM 3330  Persuasion  3
COMM 4331  Public Relations Campaigns  3
COMM 4350  Organizational Communication  3
COMM 4390  Topics in Communication Studies  3
COMM 4399  Communication Internship  3
ENGL 4321  Grants and Proposals  3
MEDA 3318  Editing & Layout  3
MEDA 3340  Photojournalism  3
MEDA 3361  Sports Writing  3
MEDA 3380  New Media and Communication *  3
MEDA 4340  Advertising Criticism  3
MEDA 4341  First Amendment and Ethical Issues in the Media  3
MEDA 4342  Global Media and International Communication  3
MKTG 3320  Basic Advertising  3

Total Hours  18

1 Elective selection must be approved by the Faculty Adviser to the Public Relations Minor.
* Online offering
^ Blended offering

Courses
Communication Courses
COMM 1311  Foundation of Communication  3
3 Semester Credit Hours (3 Lecture Hours)
This course examines a breadth of topics fundamental to the study of communication and works to improve students' communication skills in three primary contexts: interpersonal relationships, group/teamwork, and presentational speaking.
TCCNS: SPCH 1311

COMM 1315  Public Speaking  3
3 Semester Credit Hours (3 Lecture Hours)
Research, composition, organization, and delivery of speeches for various purposes and occasions, with emphasis on listener analysis and on informative and persuasive techniques.
TCCNS: SPCH 1315

COMM 1318  Interpersonal Communication  3
3 Semester Credit Hours (3 Lecture Hours)
Predominant issues related to verbal and nonverbal communication with a focus on interpersonal relationships.
TCCNS: SPCH 1318

COMM 1321  Business and Professional Communication  3
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to basic skills, principles, and contexts of communication in business and professional settings by combining public speaking with aspects of communication ethics and organizational, small group, and interpersonal communication. Students will learn practical skills via presentations, research, resumes, interviews, meetings, and professional writing grounded in communication theory.

COMM 1332  Voice and Diction  3
3 Semester Credit Hours (3 Lecture Hours)
Basic voice training, including techniques for vocal production, manipulation, and control. Practical application of the vocal apparatus will be emphasized, including techniques of enunciation, projection, articulation, and the use of dialects. (Credit may not be given for both this course and THEA 1342.)
TCCNS: SPCH 1342

COMM 2330  Introduction to Public Relations  3
3 Semester Credit Hours (3 Lecture Hours)
An exploration of the history and development of public relations including the theory and process of public relations, and the various publics and careers associated with the public relations industry.
TCCNS: COMM 2330

COMM 2333  Small Group Communication  3
3 Semester Credit Hours (3 Lecture Hours)
Application of small group theories and techniques as they relate to group process and interaction.
TCCNS: SPCH 2333

COMM 2335  Presentational Communication  3
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the principles and methods of formal presentations for various purposes and audiences to further develop students into effective communicators. Course assignments will include various special occasion speeches, dynamic instructional speeches, extemporaneous speaking, creation of effective visual aids, and a group community action presentation.

COMM 3310  Communication Theory  3
3 Semester Credit Hours (3 Lecture Hours)
The foundations, processes, and effects of human communication. A survey of contemporary theory and research, including language theory, nonverbal and small group communication, persuasion, and mass communication.

COMM 3311  Nonverbal Communication  3
3 Semester Credit Hours (3 Lecture Hours)
The study of body movement, touch, paralanguage, space, environment, and other nonverbal factors in the communication process.

COMM 3325  Relational Communication  3
3 Semester Credit Hours (3 Lecture Hours)
This course is an advanced interpersonal communication course that focuses on communication within relationships, such as family, romantic, friendship, and workplace relationships.
Prerequisite: COMM 1318.

COMM 3326  Research Methods  3
3 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to increase student's knowledge of the research process used in the Communication Studies discipline. Specifically, the course will allow students the opportunity to learn the goals of communication research and scrutinize various techniques for creating academic research and assessing academic knowledge.

COMM 3330  Persuasion  3
3 Semester Credit Hours (3 Lecture Hours)
Various theories and forms of rhetorical persuasion. Topics include practical reasoning skills, psychological theories of persuasion, and critical responses to persuasive messages.
COMM 3331 Public Relations Writing and Design
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce students to the basic principles and formatting requirements for public relations writing. Students will gain theoretical and practical experience in developing content for specific audiences.

COMM 3335 UIL Debate and Speech
3 Semester Credit Hours (3 Lecture Hours)
Understanding the University Interscholastic League debate and speech events. Students explore approaches to analytical reasoning, research delivery, and the conceptual basis for debate and gain practical experience in understanding and judging UIL in the high school setting.

COMM 3350 Leadership
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the communication of influence that takes place to achieve goals or encourage change. Specific attention will be devoted to a variety of approaches, processes, and theories that will provide students general knowledge of leadership.

COMM 3314 Gender Communication
3 Semester Credit Hours (3 Lecture Hours)
Examination of communication about women and men, as well as communication between them. Special course emphasis on explanations of gender, sexist language, media depiction of the sexes, and gender communication in the formation of social and work relationships.

COMM 3315 Communication and Sexuality
3 Semester Credit Hours (3 Lecture Hours)
This course will focus on communication and sexuality, specifically exploring sex and gender identity development and expression, intersections of race/ethnicity and sex/gender, how communication impacts various types of relationships, the role of communication in sexual activity, and power abuses related to sexual activity, with specific focus on consent and sexual safety.

COMM 3331 Public Relations Campaigns
3 Semester Credit Hours (3 Lecture Hours)
An application of the public relations process (including primary and secondary research, goals and objective development, the selection of proper strategies and tactics for implementation, and an evaluation of campaign effectiveness) through the production and presentation of a public relations campaign for a local organization.

Prerequisite: COMM 2330.

COMM 3335 Crisis Communication
3 Semester Credit Hours (3 Lecture Hours)
An application of crisis communication (including organizational research, risk and vulnerability assessment, strategic communication, and performance and damage evaluation) through the development and presentation of a crisis communication plan for a local organization.

COMM 3345 Intercultural Communication
3 Semester Credit Hours (3 Lecture Hours)
An investigation of the process by which persons and groups of different cultural backgrounds create understanding. Types of knowledge, skills, and sensitivity necessary for intercultural communication are developed.

COMM 3350 Organizational Communication
3 Semester Credit Hours (3 Lecture Hours)
Examination and exploration of realistic applications of communication theories within the framework of an organization. Particular attention will be given to techniques for diagnosing communication problems, as well as strategies for effecting change in communication.

COMM 4360 International Leadership
3 Semester Credit Hours (3 Lecture Hours)
Study of international leadership in the context of communication and in multi-cultural and diverse settings. Influence of global economy, politics, social values in international leadership.

COMM 4380 Senior Seminar in Communication Studies
3 Semester Credit Hours (3 Lecture Hours)
This course serves as the capstone for the Communication Studies degree. It offers students opportunities to synthesize information learned in other Communication courses and demonstrate abilities to think critically, conduct independent research linked to appropriate communication theories, create individual and collaborative projects that demonstrate effective use of communication strategies, and present written and oral work at an advanced level.

Prerequisite: (COMM 2335, 3310 and 3326).

COMM 4390 Topics in Communication Studies
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics and themes in communication studies. May be repeated when topics vary.

Prerequisite: COMM 2330, MEDA 2350, COMM 4331 and 4335.

COMM 4394 Professional PR Portfolio
3 Semester Credit Hours (3 Lecture Hours)
Students prepare documents, explore strategies for enhancing their marketability, and assemble a professional portfolio of public relations work.

Prerequisite: COMM 3330, MEDA 2350, COMM 4331 and 4335.

COMM 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description. By application. Only 3 semester hours of Directed Individual Study credit may be counted toward the major.

COMM 4399 Communication Internship
3 Semester Credit Hours
Practical experience in the field through placement in a communication internship position. Students interested in applying for the internship course must have a minimum cumulative GPA of 3.0; have at least junior standing at the university; be a communication studies major or minor; or public relations minor; have completed at least 12 hours of coursework in the major or minor at TAMU-CC. Preferred applicants will have a minimum communication or public relations GPA of 3.25. All applicants must solicit a recommendation from a Department of Communication and Media faculty member. Course may be taken three times for credit; however only 3 semester hours of internship credit may be counted toward the major. A second internship may apply to the communication studies minor or public relations minor; a third internship may be used as a free elective. Authorization to repeat the internship course is contingent on the students’ successful completion of the previous internship experience. This course is graded Credit/No Credit.

Media Courses

MEDA 1305 Film and Culture
3 Semester Credit Hours (3 Lecture Hours)
Introduction to film aesthetics, history, and criticism for non-communication majors. Establishes a vocabulary for examining films and their roles in American culture.

Co-requisite: PSYC 2301, UNIV 1102.
MEDA 1307 Media and Society
3 Semester Credit Hours (3 Lecture Hours)
History and development of mass media in the United States as well as the organizational, institutional, and cultural dynamics of today's major commercial media. Included are substantial components on print media, radio, television, cinema, and computer Internet communication systems. Course themes include media production and consumption, globalization, cultural imperialism, race, class, gender in media and popular culture.
TCCNS: COMM 1307

MEDA 1315 Editing
3 Semester Credit Hours (3 Lecture Hours)
Intensive instruction in postproduction software, postproduction workflows, and editing techniques for moving images.

MEDA 1380 Introduction to Media Production
3 Semester Credit Hours (3 Lecture Hours)
Overview of tools and skills necessary to produce digital media content such as editing, cinematography, sound recording, producing and directing for film, television and new media.

MEDA 2311 Media Writing
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to teach the fundamentals of writing for the mass media. It includes instruction in professional methods and techniques for gathering, processing and delivering content.
TCCNS: COMM 2311

MEDA 2313 Intermediate Production: Documentary
3 Semester Credit Hours (3 Lecture Hours)
Principles and techniques of media production with a focus on non-fiction filmmaking.
Prerequisite: (MEDA 1315 and 1380).

MEDA 2315 News Reporting
3 Semester Credit Hours (3 Lecture Hours)
This course focuses on advanced news-gathering and writing skills. It concentrates on the three-part process of producing news and features, which include discovering the news, reporting the news and writing news in different formats. This course will incorporate all forms of news writing, including: press release, print news, web news and TV and radio broadcast news.
Prerequisite: MEDA 2311.

MEDA 2316 Intermediate Production: Narrative
3 Semester Credit Hours (3 Lecture Hours)
Principles and techniques of media production with a focus on fictional narrative filmmaking.
Prerequisite: (MEDA 1315 and 1380).

MEDA 2350 Media Performance
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to teach students articulation, pronunciation, effective writing and on-air performance techniques for all kinds of media environments with videotaped and audio taped presentations.

MEDA 2366 Media Forms
3 Semester Credit Hours (3 Lecture Hours)
Examination of the formal elements of media texts, including cinematography/videoigraphy, sound, and editing, across a variety of media platforms and styles. Includes instruction in writing formal analysis.
TCCNS: COMM 2366

MEDA 2367 Media Industries
3 Semester Credit Hours (3 Lecture Hours)
Examination of the media industries, including how they have evolved and now operate, as well as broader theoretical and practical implications of changing media organizations and practices. Includes instruction in researching contemporary and historical modes of media production, distribution, and exhibition.

MEDA 3301 Television Criticism
3 Semester Credit Hours (3 Lecture Hours)
Exploration of how TV communicates through the study of programming content, production practices, and audiences. Includes a laboratory for screening assigned programs.
Prerequisite: MEDA 1307.

MEDA 3302 Film Criticism
3 Semester Credit Hours (3 Lecture Hours)
Exploration of the critical approaches to the study of film from a variety of historical and theoretical perspectives, with an emphasis on narrative film and some consideration of experimental cinema. Includes a laboratory for screening assigned films.
Prerequisite: MEDA 1307.

MEDA 3303 Documentary Studies
3 Semester Credit Hours (3 Lecture Hours)
Historical and critical study of the non-fictional film with attention to changing technologies, to varying uses and styles of documentary, and to contemporary critical and theoretical issues.
Prerequisite: MEDA 1307.

MEDA 3310 Media Theory and Research
3 Semester Credit Hours (3 Lecture Hours)
This course is intended to immerse students in the leading theoretical and methodological approaches employed within the field of media studies to gain understating of media texts, popular culture, and audiences. Closely affiliated with cultural studies, qualitative research methods will be a primary focus. Readings and case studies will offer students insight into the way these methods are being used in the field, including their limitations and strengths. A series of assignments will allow them to propose, design, and conduct multiple sample research projects and analyze data in ways that engage with a variety of theories.

MEDA 3314 Television Production
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of studio television production. Field-based course, transportation required.

MEDA 3317 Advanced Postproduction
3 Semester Credit Hours (3 Lecture Hours)
Intensive instruction in advanced postproduction software, postproduction workflows and editing techniques for moving images.
Prerequisite: MEDA 1315.

MEDA 3318 Editing & Layout
3 Semester Credit Hours (3 Lecture Hours)
This course will teach the principles of copy editing, with an emphasis on accuracy and fairness, as well as the principles of layout and design for print and web publications.
Prerequisite: MEDA 2311.
MEDA 3340  Photojournalism
3 Semester Credit Hours (3 Lecture Hours)
This course will instruct on photojournalism skills and methods for use in visual communication. It will examine ethical and legal limitations to photography and in editing. Student work in this class will be eligible for possible publication in the student newspaper or its accompanying website.

MEDA 3351  Screen Comedy
3 Semester Credit Hours (3 Lecture Hours)
Examination of the varieties of screen comedy, from silent comedy to contemporary forms, with some attention to the history and theory of comic performance.
Prerequisite: MEDA 1307.

MEDA 3360  Screenplay Writing
3 Semester Credit Hours (3 Lecture Hours)
Writing and analysis of the screenplay for narrative fictional films. Writing projects include problem-solving exercises and work on an original screenplay. Course can be repeated for credit.

MEDA 3361  Sports Writing
3 Semester Credit Hours (3 Lecture Hours)
This course will teach the elements of sports writing and reporting to include interviewing and writing to cover different aspects of sports coverage. This course will address content for print, Internet, radio and television. Campus-related sports assignments will be eligible for publication in the student newspaper and its accompanying website.

MEDA 3380  New Media and Communication
3 Semester Credit Hours (3 Lecture Hours)
Examines how new media technologies impact society and change communication practices. Particular emphasis placed on different modes of cultural expression and social interaction made possible through digital media and the Internet.

MEDA 3385  Interpreting and Making the Visual Culture of Hollywood
3 Semester Credit Hours (3 Lecture Hours)
This course examines the visual culture of Hollywood media production in a focused context, such as during a particular decade, or in relation to a particular genre, star, or cultural topic. The visual culture studied will include not just primary media texts such as films or television programs, but also posters, trailers, and other promotional materials, as well as visual culture not produced directly by the media industries, such as contemporary art. Students will learn and utilize basic design techniques to create their own artwork related to these materials, including movie posters, album covers, and sequential art. As resources and equipment availability allow, these designs will be produced using techniques including print-making.

MEDA 3380  Advanced Production: Commercial
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of client-based commercial media content with a focus on conceptualization, production, and delivery of a commercial, PSA, or corporate video project.
Prerequisite: (MEDA 1315, 2313 and 2316).

MEDA 4310  Advanced Production: Documentary
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of documentary media content with a focus on conceptualization, production, and distribution of a short documentary film. Course can be repeated once for credit. This course serves as a capstone for the Media Production Track.
Prerequisite: MEDA 2313.

MEDA 4312  Advanced Production: Narrative
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of narrative media content with a focus on scripting, production, and distribution of a short narrative film. Course can be repeated once for credit. This course serves as a capstone for the Media Production Track.
Prerequisite: MEDA 2316.

MEDA 4317  After Effects
3 Semester Credit Hours (3 Lecture Hours)
Conceptualization and execution of digital media projects using visual effects, motion graphics and composition through the creation of video, animation, special effects and more using Adobe’s After Effects postproduction software.
Prerequisite: MEDA 1315.

MEDA 4340  Advertising Criticism
3 Semester Credit Hours (3 Lecture Hours)
The examination of advertising history through critical and cultural approaches.

MEDA 4341  First Amendment and Ethical Issues in the Media
3 Semester Credit Hours (3 Lecture Hours)
Study of legal and ethical issues in mediated communication, including the First Amendment and free speech, control, and regulation of broadcasting, obscenity in the media.
Prerequisite: MEDA 1307.

MEDA 4342  Global Media and International Communication
3 Semester Credit Hours (3 Lecture Hours)
Examines global media in the context of international communication, diversity of media and cultural production, styles of media practices abroad, including differences between U.S. news values and ethical and moral dimensions across differing societies of the world.

MEDA 4343  News Publication
3 Semester Credit Hours (3 Lecture Hours)
This course will be a hands-on newsroom experience with the student newspaper the Island Waves and its accompanying website. Individual assignments will be assigned by editors of the student media. Assignments may include writing, advertising, photography, cartooning and video production and editing. Students are required to work on the staff of the official college publication during prescribed hours under faculty supervision.
Prerequisite: MEDA 2311.

MEDA 4370  Advanced New Media Project
3 Semester Credit Hours (3 Lecture Hours)
As the capstone course for the New Media Arts Certificate, this course guides students through the planning, development, and execution of new media-based project.
Prerequisite: ARTS 2356, MEDA 2313 and 1315.

MEDA 4381  Senior Seminar in Media Studies
3 Semester Credit Hours (3 Lecture Hours)
The capstone course for seniors in the Media Studies offers opportunities to synthesize information learned in other Media Studies courses through in-depth study of a particular topic. Students will demonstrate their abilities to think and write critically, and to conduct independent research or produce media projects at an advanced level. Topics vary by instructor.
Prerequisite: MEDA 1307 and 3310.

MEDA 4390  Topics in Media Arts
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics and themes in media arts. May be repeated when topics vary.
MEDA 4399 Media Arts Internship
3 Semester Credit Hours
Practical experience in the field through placement in a media internship position. Students interested in applying for the internship course must have a minimum cumulative GPA of 3.0; have at least junior standing at the university; be a media arts (media studies or media production emphasis) major or digital journalism minor; have completed at least 12 hours of coursework in the major or minor at TAMU-CC. Preferred applicants will have a minimum media arts or digital journalism GPA of 3.25. All applicants must solicit a recommendation form from a Department of Communication and Media faculty member. Course may be taken three times for credit; however only 3 semester hours of internship credit may be counted toward the major. A second internship may apply to the digital journalism minor; a third internship may be used as a free elective. Authorization to repeat the internship course is contingent on the students' successful completion of the previous internship experience. This course is graded Credit/No Credit.

Studio Art, Minor
Program Requirements
This minor is for students who have a desire to develop their creative problem solving and artmaking skills alongside a major in another college or department. By minoring in Studio Art, a student can complement their undergraduate studies by demonstrating their abilities to visually communicate concepts and to utilize interdisciplinary approaches to critical thinking. The minor consists of 21 semester hours in Studio Art courses (7 classes).

The Studio Art Minor introduces students to the creative process and visual thinking in foundation courses. Through several options for upper level courses, a student can examine a wide range of visual and artistic traditions as they develop a more individualized approach to their area(s) of interest.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ARTS 1301</td>
<td>Life Drawing</td>
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<td>ARTS 1302</td>
<td>Screen Printing</td>
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<td>ARTS 1303</td>
<td>Intermediate Painting</td>
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<td>ARTS 1304</td>
<td>Fabrication Sculpture</td>
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<td>ARTS 1305</td>
<td>Mold Making and Casting Sculpture</td>
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<td>ARTS 1306</td>
<td>Figurative Sculpture</td>
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<tr>
<td>ARTS 1307</td>
<td>Lithography and Planographic Process</td>
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<td>ARTS 1311</td>
<td>Color Theory</td>
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<td>ARTS 1313</td>
<td>Figure Painting</td>
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<td>ARTS 1324</td>
<td>Wheel Throwing</td>
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<td>ARTS 1325</td>
<td>Handbuilt Ceramic Techniques</td>
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<td>ARTS 1326</td>
<td>Photography II</td>
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<td>ARTS 1327</td>
<td>Digital Design Tools and Applications</td>
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<td>ARTS 1301</td>
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<td>ARTS 1304</td>
<td>Advanced Sculpture</td>
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<td>ARTS 1324</td>
<td>Advanced Ceramics</td>
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<td>ARTS 1365</td>
<td>Advanced Photography</td>
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<td>ARTS 4391</td>
<td>Topics in Studio Art</td>
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<tr>
<td>ARTS 4396</td>
<td>Directed Individual Study</td>
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</tbody>
</table>

Total Hours 21

Courses
ARTS 1301 Art and Society
3 Semester Credit Hours (3 Lecture Hours)
Designated for non-art majors. Establishes a working vocabulary for evaluating works of art in various media. Objects are interpreted in terms of their specific historical contexts and the changing relationships between art and society. This course does not fulfill the art history requirement for art majors.

TCCNS: ARTS 1301

ARTS 1303 Art History Survey I
3 Semester Credit Hours (3 Lecture Hours)
An examination of painting, sculpture, architecture, and other arts from the ancient through medieval periods.

TCCNS: ARTS 1303

ARTS 1304 Art History Survey II
3 Semester Credit Hours (3 Lecture Hours)
A further examination of painting, sculpture, architecture, and other arts from the Renaissance through Modern periods. This course satisfies the university core curriculum requirement in fine arts.

TCCNS: ARTS 1304

ARTS 1311 Design I
3 Semester Credit Hours
A studio course concerning the fundamentals of art with emphasis on two-dimensional concepts.

TCCNS: ARTS 1311
ARTS 1312 Design II
3 Semester Credit Hours
A studio course concerning the fundamentals of art with emphasis on three-dimensional concepts. This 3D foundations course utilizes creative problem-solving strategies and basic sculpture tools to explore spatial relationships and to create sculptural forms in space.
Co-requisite: SMTE 0097.
TCCNS: ARTS 1312

ARTS 1316 Drawing I
3 Semester Credit Hours (3 Lecture Hours)
A studio course investigating a variety of media techniques, including their descriptive and expressive possibilities.
TCCNS: ARTS 1316

ARTS 1317 Drawing II
3 Semester Credit Hours
A further investigation of media techniques explored in Drawing I, including their descriptive and expressive possibilities.
Prerequisite: ARTS 1316.
Co-requisite: SMTE 0097.
TCCNS: ARTS 1317

ARTS 2311 Design III: Color
3 Semester Credit Hours
Investigation of the properties of color. Color is studied and applied to studio-oriented design assignments.
Co-requisite: SMTE 0097.

ARTS 2316 Painting I
3 Semester Credit Hours (3 Lecture Hours)
A studio course exploring the potentials of painting media.
Prerequisite: ARTS 1316.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2316

ARTS 2323 Drawing III
3 Semester Credit Hours
A studio course continuing the investigation of media and techniques explored in Drawing I and Drawing II. Students investigate how formal aspects and selected media along with conceptual choices create specific visual ideas.
Prerequisite: ARTS 1317.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2323

ARTS 2326 Sculpture I
3 Semester Credit Hours
An introductory studio course exploring sculptural approaches, materials, concepts, and technical processes. Materials include wood, plaster, steel, and plastics.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2326

ARTS 2333 Printmaking I
3 Semester Credit Hours
An introductory studio course in basic printmaking processes and techniques.
Prerequisite: ARTS 1316 or 1311.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2333

ARTS 2346 Ceramics I
3 Semester Credit Hours (3 Lecture Hours)
An introductory studio course in basic ceramic processes.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2346

ARTS 2356 Photography I
3 Semester Credit Hours
This course is an introduction to digital photography capture, processing, and basic editing software. While focusing on the fundamentals of digital photography and printing techniques, it will introduce students to the theory and practice of photography and assist them in producing a conceptually devised and technically consistent portfolio.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2356

ARTS 2367 Watercolor
3 Semester Credit Hours (3 Lecture Hours)
A studio course exploring techniques in water-base media.
Co-requisite: SMTE 0097.

ARTS 3301 Life Drawing
3 Semester Credit Hours
Drawing from the model using a variety of techniques and media.
Prerequisite: (ARTS 1317).
Co-requisite: SMTE 0097.

ARTS 3302 Screen Printing
3 Semester Credit Hours
Traditional printmaking processes will be explored using black and white color techniques, including but not limited to screenprinting.
Prerequisite: ARTS 1311 or 1316.
Co-requisite: SMTE 0097.

ARTS 3303 Intermediate Painting
3 Semester Credit Hours (3 Lecture Hours)
Explores the issues of content, imagery, application, and influences of master artists.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.

ARTS 3304 Fabrication Sculpture
3 Semester Credit Hours
Building upon introductory skills, this course explores construction and fabrication in sculpture focusing on a primary material for the semester and applying advanced techniques and processes for this material. Through this material and techniques, students begin defining and developing their visual vocabulary relative to art history and contemporary sculptural issues.
Prerequisite: ARTS 2326.
Co-requisite: SMTE 0097.

ARTS 3305 Mold Making and Casting Sculpture
3 Semester Credit Hours
This course is designed to build upon the fundamental principles of mold making and casting while exploring more complex concepts, materials, and techniques. Creating multi-part molds, flexible molds, and investment molds, the project assignments incorporate the unique versatility of mold making and casting for exchanging media and making a series of multiples. In addition to making casts, students compare methods for assembling cast forms together to create larger sculptural artworks and installations.
Co-requisite: SMTE 0097.
ARTS 3306 Figurative Sculpture
3 Semester Credit Hours
A study of the human figure from an anatomical and artistic perspective. Examines the skeletal and muscular components of the figure in order to create lifelike and emotive sculptures. Discussion of the figure in both classical and contemporary art. Working with armature and modeling clay.
Co-requisite: SMTE 0097.

ARTS 3307 Lithography and Planographic Process
3 Semester Credit Hours
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to lithography and monoprinting.
Prerequisite: ARTS 2311 or 1316.
Co-requisite: SMTE 0097.

ARTS 3311 Color Theory
3 Semester Credit Hours
This course develops an understanding of color properties and relationships through formal exercises, research and creative thinking. Students build a vocabulary for analyzing and identifying color and color phenomena. Concepts of color theorists and color use in a variety of fields are examined to understand the application of color theory. Students will investigate the use of color in their own work and in the work of others to understand the conceptual and aesthetic application of color.
Prerequisite: ARTS 1311.

ARTS 3313 Figure Painting
3 Semester Credit Hours
This course addresses the structure and anatomy of the human figure using oil paint. Painting techniques and color theory exercises will familiarize students with tradition painting methods. Students will render proportions, balance, form and mass of the human figure. Research and discussions will address the human form throughout history as well as in the contemporary context. Image presentations, critiques and live model sessions will supplement studio work.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.

ARTS 3316 Art Activities I
3 Semester Credit Hours (3 Lecture Hours)
Practical experience with basic design, drawing, painting, and sculpture, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the elementary school.

ARTS 3322 Art Activities II
3 Semester Credit Hours (3 Lecture Hours)
Practical experiences with basic design, drawing, painting, printmaking, sculpture, and crafts, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the secondary school.

ARTS 3324 Wheel Throwing
3 Semester Credit Hours
Covers wheel-thrown ceramics (other production techniques may be included), basic glazemaking, and an introduction to kiln firing and loading.
Prerequisite: ARTS 2346.
Co-requisite: SMTE 0097.
ARTS 3366  Analogue Photography  
3 Semester Credit Hours  
An introductory studio course in analogue photography using film cameras and the silver gelatin darkroom process. While focusing on the fundamentals of black and white, analogue photography and printing techniques this course will assist students in producing a conceptually devised and technically consistent portfolio.  
Prerequisite: (ARTS 2356).  
Co-requisite: SMTE 0097.

ARTS 3367  Digital Design Tools and Applications  
3 Semester Credit Hours  
This studio course explores the fundamental principles, standard creative processes and basic digital tools utilized in graphic design. The concepts and software learned are employed in projects specifically targeted to serve the professional and promotional needs of studio artists and design enthusiasts.

ARTS 4085  Senior Capstone  
0 Semester Credit Hours  
Required for all art students in partial fulfillment of the requirements for the BA in Art, BFA in Art studio track and the BFA with Teacher Certification in Art tracks. This course collects capstone materials for ARTS degrees. The course must be taken in the student's final semester before graduation.

ARTS 4301  Advanced Drawing  
3 Semester Credit Hours  
Emphasis on the development of content through drawing. Research on contemporary trends and process investigation will aid students in the development of visual ideas and lead to a cohesive body or work. May be taken three times for credit.  
Prerequisite: ARTS 2323.  
Co-requisite: SMTE 0097.

ARTS 4302  Advanced Printmaking  
3 Semester Credit Hours  
Furthers competencies attained in Printmaking I and Intermediate I & II courses. May be taken three times for credit.  
Prerequisite: ARTS 3302 and 3307.  
Co-requisite: SMTE 0097.

ARTS 4303  Advanced Painting  
3 Semester Credit Hours (3 Lecture Hours)  
Assumes competencies attained in ARTS 3303. May be taken three times for credit.  
Co-requisite: SMTE 0097.

ARTS 4304  Advanced Sculpture  
3 Semester Credit Hours (3 Lecture Hours)  
Assumes competencies attained in ARTS 3304. May be taken three times for credit.  
Co-requisite: SMTE 0097.

ARTS 4324  Advanced Ceramics  
3 Semester Credit Hours (3 Lecture Hours)  
Assumes competencies attained in ARTS 3324. May be taken three times for credit.  
Co-requisite: SMTE 0097.

ARTS 4350  Pre-Columbian Art of Mesoamerica  
3 Semester Credit Hours (3 Lecture Hours)  
Explores the history of Pre-Columbian art from Mexico and Central America, from the Olmec through the Aztec cultures. May be taken three times for credit.

ARTS 4352  Modern Art of Mexico  
3 Semester Credit Hours (3 Lecture Hours)  
Explores the history of art during the nineteenth and twentieth centuries in Mexico. May be taken three times for credit.

ARTS 4354  Global Currents in Contemporary Art  
3 Semester Credit Hours (3 Lecture Hours)  
The course will cover key developments in contemporary art from the post-World War II era in the Western context to global currents in the present international arena. From a socio-political perspective, artistic tendencies will be considered as part of a trajectory that saw the center of the art world shift from being Euro- and Anglo-centric in the mid-twentieth century, to one without a discernible center in the early twenty-first century. Analysis of artworks from this decentralized cultural climate will focus on the evolution of conceptualism, the persistence of traditional modes of aesthetic practice, the role of the art market, and notions of environmentalism and sustainability as related to these “transnational transition.” The course will consider works from Eastern Europe, South and Central America, the Caribbean, East/West/South/Southeast Asia, Oceania, and Africa.

ARTS 4356  Contemporary Art Since 1980  
3 Semester Credit Hours (3 Lecture Hours)  
The course will examine the evolution of architecture, sculpture, painting, digital media, installation, and interdisciplinary arts in the global context from 1980 to the present, in light of the historical and intellectual background of the period. Topics covered will include the transition from postmodernism to contemporaneity, considering notions of appropriation, commodification, consumerism, memory, history, and globalization. Lectures will be constructed upon thematic analysis of contemporary, primary sources coupled with secondary source material, and complemented by presentation opportunities and class discussion.

ARTS 4365  Advanced Photography  
3 Semester Credit Hours (3 Lecture Hours)  
Assumes competencies attained in ARTS 3365. Covers content as creative expression in addition to basic photographic skills. May be taken three times for credit.  
Co-requisite: SMTE 0097.

ARTS 4390  Topics in Art History  
3 Semester Credit Hours (3 Lecture Hours)  
May be repeated when topics vary. 

ARTS 4391  Topics in Studio Art  
3 Semester Credit Hours  
May be repeated when topics vary.  
Co-requisite: SMTE 0097.

ARTS 4396  Directed Individual Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
See College description. Offered on application  
Co-requisite: SMTE 0097.

ARTS 4398  Applied Experience  
3 Semester Credit Hours (3 Lecture Hours)  
See College description. Offered on application.  
Co-requisite: SMTE 0097.

Theatre, Minor  
Program Description  
The Theatre minor is designed for students who wish to pursue the study of Theatre but who plan to major in another field. The Theatre minor
consists of a minimum 19 semester hours of Theatre, including 12 upper-level hours.

Students who select this minor must consult with their Faculty Advisor for the Theatre Minor prior to completing 6 semester hours of coursework listed in the program. The minor plan must be filed with the Academic Advisor in the College of Liberal Arts and certified prior to application for graduation by the Dean of the College in which their major field of study is awarded.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>THEA 1351</td>
<td>Acting I</td>
<td>3</td>
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<tr>
<td>THEA 3311</td>
<td>Script Analysis</td>
<td>3</td>
</tr>
<tr>
<td>THEA 4360</td>
<td>Stage Direction I</td>
<td>3</td>
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<td>Select one of the following:</td>
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<tr>
<td>THEA 1120 &amp; THEA 1371</td>
<td>Theatre Practicum 1 and Costume Technology</td>
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<tr>
<td>OR</td>
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<tr>
<td>THEA 1121 &amp; THEA 1330</td>
<td>Theatre Practicum 2 and Theatre Stagecraft</td>
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<tr>
<td>THEA 3370</td>
<td>History of the Theatre I</td>
<td>3</td>
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<tr>
<td>or THEA 3371</td>
<td>History of the Theatre II</td>
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<tr>
<td>THEA 3300</td>
<td>Stage Movement</td>
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<tr>
<td>or THEA 4390</td>
<td>Topics in Theatre</td>
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</tbody>
</table>

Total Hours 19

Courses

THEA 1120 Theatre Practicum 1
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Linked with THEA 1342 - Costume Technology.
Co-requisite: SMTE 0098, THEA 1342.

THEA 1121 Theatre Practicum 2
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Linked with THEA 1330 - Theatre Stagecraft.
Co-requisite: SMTE 0098, THEA 1330.

THEA 1310 Theatre Appreciation
3 Semester Credit Hours (3 Lecture Hours)
Survey of theatre including its history, dramatic works, stage techniques, production procedures, and relation to other art forms. Participation in productions may be required.
TCCNS: DRAM 1310

THEA 1330 Theatre Stagecraft
3 Semester Credit Hours (3 Lab Hours)
Study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, and sound.
Co-requisite: SMTE 0098, THEA 1121.

THEA 1341 Stage Makeup
3 Semester Credit Hours (3 Lecture Hours)
A practical exploration of basic stage makeup techniques. The student will also investigate the relationships of character to makeup and begin to understand the work needed to design makeup for a production.
TCCNS: DRAM 1341

THEA 1351 Acting I
3 Semester Credit Hours (3 Lecture Hours)
The development of basic skills and techniques of acting, including sensory awareness, ensemble performing, character analysis, and script analysis. Emphasis on the mechanics of voice, body, emotion, and analysis as tools for the actor.
TCCNS: DRAM 1351

THEA 1352 Acting II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of Acting I with emphasis on characterization and working with extended realism. The student will study the theories of Constantin Stanislavski.
Prerequisite: THEA 1351.
TCCNS: DRAM 1352

THEA 1371 Costume Technology
3 Semester Credit Hours (3 Lecture Hours)
A BEGINNING OVERVIEW OF THE VOCABULARY AND BASIC SEWING METHODS OF THEATRICAL COSTUMING.
Co-requisite: SMTE 0098, THEA 1120.
TCCNS: DRAM 1342

THEA 2120 Theatre Practicum 3
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Co-requisite: SMTE 0098.

THEA 2121 Theatre Practicum 4
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Co-requisite: SMTE 0098.

THEA 2336 Voice for the Actor
3 Semester Credit Hours (3 Lecture Hours)
Principles, practices, and exercises in awareness, relaxation, freedom, flexibility, and expressiveness in the actor’s vocal instrument.

THEA 3120 Theatre Practicum 5
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Co-requisite: SMTE 0098.

THEA 3121 Theatre Practicum 6
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Co-requisite: SMTE 0098.

THEA 3165 The Design and Technical Portfolio
1 Semester Credit Hour (1 Lecture Hour)
A basic course in the development of the student portfolio for the areas of design and technology with emphasis in the theatrical job market or graduate school.
THEA 3300 Stage Movement
3 Semester Credit Hours (3 Lecture Hours)
Students will gain insights into the physical skills, practices, exercises, and staging techniques developed and used by actors and directors in theatrical performance, with an emphasis on relaxation, freedom, expressiveness, spatial relationships, and composition.
Prerequisite: THEA 1351 and 1352.

THEA 3302 Creative Dramatics
3 Semester Credit Hours (3 Lecture Hours)
Theories and practices incorporating the techniques of creative drama in the elementary, middle, and high school classroom. Especially recommended for elementary education, recreation, and the social sciences.

THEA 3303 Theatre in the Public Schools
3 Semester Credit Hours (3 Lecture Hours)
Theories and practices of incorporating theatre activities in the public schools. Especially recommended to students of elementary and secondary education, recreation and the social sciences.

THEA 3310 Contemporary Theatre
3 Semester Credit Hours (3 Lecture Hours)
An overview of the nature and function of theatre in our contemporary society with discussion of representative plays and playwrights, theatrical styles, and avant-garde theatre. Students will explore multicultural, political, and experimental themes, attend theatrical productions, and meet with actors, designers, and directors to discuss contemporary practices.

THEA 3311 Script Analysis
3 Semester Credit Hours (3 Lecture Hours)
Students will learn the principles, techniques, and processes of dramatic structure found in written scripts as seen through the perception of the stage director, actor, and designer. A written intensive analysis of each script studied during the semester will be required. Focus will be on the theories of Aristotle and Eugene Scribe's "Well Made Play Formula".
Prerequisite: THEA 1352 and 2370.

THEA 3312 Stage Combat I
3 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Stage combat is a unique form of acting and movement; integral to the training of the professional actor and an extremely marketable skill. This course is an introduction to the stage fight discipline. It is important as actors that we develop a keen sense of duality in performance; a seemingly impromptu, theatrically engaging moment of violence built upon a foundation of safe, consistent physical dialogue. In this way, we can enhance the physical lives of all the characters we play; especially those engaged in acts of violence. This course explores many fundamental acting techniques in a new light including responsibility to a partner, listening and responding, projection, articulation, spatial awareness and above all intent. May be repeated for credit.

THEA 3335 UIL Debate and Speech
3 Semester Credit Hours (3 Lecture Hours)
This course will prepare students to coach High School speech events as extra-curricular and co-curricular activities. The class will focus primarily on Texas University Interscholastic Leagues (UIL competitions) but will also cover events sponsored by the Texas Forensics Association (TFA) and the National Forensics League (NFL). Areas covered will include oral interpretation, extemporaneous speaking, and debate.

THEA 3340 Audition Preparation
3 Semester Credit Hours (3 Lecture Hours)
Provides the student with the information and skills needed for auditioning in both professional and educational theatre.
Prerequisite: THEA 1351 and 1352.

THEA 3350 Production Management
3 Semester Credit Hours (3 Lecture Hours)
This course is a survey of stage management and theatre administration. Topics to be studied include stage management, production management, professional unions, publicity/marketing, box office and house management.
Prerequisite: THEA 1371, 2370 and 3311.

THEA 3370 History of the Theatre I
3 Semester Credit Hours (3 Lecture Hours)
Historical investigation of the nature and function of theatre from primitive rituals through the Renaissance periods with discussions of representative plays/playwrights, theatrical styles and stage design.
Prerequisite: THEA 3311.

THEA 3371 History of the Theatre II
3 Semester Credit Hours (3 Lecture Hours)
Historical investigation of theatre from the Restoration era to the present. Focus on the nature and function as well as the critical analysis of theatre and design, various movements, and influential people.
Prerequisite: THEA 3311.

THEA 3373 Principles of Design
3 Semester Credit Hours (3 Lecture Hours)
Builds upon the student's practical lab experience and understanding of theatrical design begun in costume construction and theatre stagecraft. Students will explore the creative process of theatre production as it pertains to lighting, set, sound, props, and costume design projects.
Prerequisite: THEA 1371 and 2370.

THEA 3375 Acting III: Period Styles
3 Semester Credit Hours (3 Lecture Hours)
Specific training for actors in period plays. Emphasis on training the actor for the Classical, Renaissance, Shakespearean, and Modern Periods.
Prerequisite: THEA 1351 and 1352.

THEA 3380 History of Theatrical Styles
3 Semester Credit Hours (3 Lecture Hours)
A survey and research-oriented course which studies the major impact of the visual, artistic, historical, and social period movements. The course will focus on the approach that the actor, designer, director, and playwright take in developing the understanding of the environment of a play's location and time period.

THEA 3381 Drawing and Rendering for the Stage
3 Semester Credit Hours (3 Lecture Hours)
Examination of the uses of the various materials used and the development of the techniques employed in the creation and presentation of theatrical renderings and models.

THEA 3382 Drafting and Computer-Aided Design for the Stage
3 Semester Credit Hours (3 Lecture Hours)
Practical examination and practice in theatrical drafting conventions with an emphasis on the development of hand drafting techniques and CAD (computer-aided design).
Prerequisite: THEA 2370.
THEA 3385 Musical Theatre
3 Semester Credit Hours (3 Lecture Hours)
The focus of the course is on musical theatre history, exploring trends in the genre, audition techniques, characterization, staging and choreography.

THEA 3386 Playwriting
3 Semester Credit Hours (3 Lab Hours)
is a fundamentals course in writing for the stage. The course will cover playwriting for monologues, 10 Minute Plays, and One Act Plays. Completion of Script Analysis is strongly suggested but not required. May be repeated for credit.

THEA 3387 Dramaturgy
3 Semester Credit Hours (3 Lecture Hours)
This class will provide a brief overview of many of the skills and tools that dramaturgs possess. We will study the history of the field and learn about currently working dramaturgs, while also covering the foundational skills of historical research, structural analysis, and theoretical application. Completion of Script Analysis is strongly suggested but not required. May be repeated for credit.

THEA 4100 Senior Seminar
1 Semester Credit Hour (1 Lecture Hour)
A seminar class for the graduating senior. The student will be given the opportunity to address individual weaknesses and strengths in preparation for graduate school or entering the job market.

THEA 4200 Senior Capstone
2 Semester Credit Hours (2 Lab Hours)
The course is designed to provide the graduating senior an opportunity to complete a final project in the acting/directing or design/tech focus areas. The student's project will be juried by the entire faculty and include a research and production component.

THEA 4312 Stage Combat II
3 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Stage combat is a continuation of the skills of acting and movement; integral to the training of the professional actor and an extremely marketable skill. This course is an advanced weaponry course in the stage fight discipline. It is important as actors that we develop a keen sense of duality in performance; a seemingly impromptu, theatrically engaging moment of violence built upon a foundation of safe, consistent physical dialogue. In this way, we can enhance the physical lives of all the characters we play; especially those engaged in acts of violence. May be repeated for credit.

THEA 4313 Theatre Technologies
3 Semester Credit Hours (3 Lecture Hours)
Designed to provide a forum for intensive study of a particular aspect of modern theatrical technologies. Various topics may be selected based on current industry trends, student needs and available resources.

THEA 4314 Collaborative Approaches to Design
3 Semester Credit Hours (3 Lecture Hours)
An advanced design course where the student will examine the process of design from the standpoint of the relationship created within the design team. Through class projects, the student will participate in a design process which fosters communication of ideas, written analysis and collaboration in pursuit of a unified design in all aspects of production.

THEA 4323 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study, primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or ENGL 4370.)

THEA 4333 Technical Direction
3 Semester Credit Hours (3 Lecture Hours)
An advanced technical class geared for the student who wishes to receive training and employment as a technical director.

THEA 4360 Stage Direction I
3 Semester Credit Hours (3 Lecture Hours)
The study and practical application of directing principals for the beginning director. Elements of script analysis, blocking, movement, character development, tempo, and design will be investigated as part of the directing process. The student will direct a ten-minute play for public performance.

THEA 4361 Stage Direction II
3 Semester Credit Hours (3 Lecture Hours)
An advanced study in directing with actual experience in organization, interpretation, casting, and producing the one-act play. The student will direct a one-act play for public performance.

THEA 4365 Costume Design
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of costume design utilizing the human form as a design element for the stage. Encompasses theatre form, style, and drafting and drawing techniques. Students are required to work on University Theatre productions as part of this course.

THEA 4366 Scene Painting
3 Semester Credit Hours
The examination and practice of the various materials and techniques of professional scenic painting, including material mixing, faux techniques, and textural applications.

THEA 4370 Set Design
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of set design. Students will learn the fundamentals of theatre design and will apply this knowledge to projects. Projects will encompass theatre form, style, and concept utilization. Students are required to work on University Theatre productions as a part of this course.

THEA 4371 Acting for the Camera
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes the practice of various acting styles for television, video, and film. The student will receive practical experience in commercial styles, public service announcements, television and video style acting, and film scene study. (Credit may not be given for both this course and COMM 4371.)

THEA 4372 Theatre Practicum
3 Semester Credit Hours (3 Lecture Hours)
Advanced practice and participation in set construction, lighting implementation, and stagecraft. Students will build upon skills in the areas of theatre production and design for production in the University Theatre. Class meets twice weekly with additional crew/lab work requirements as well. Students are required to work on University Theatre productions as a part of this course. May be repeated twice for credit.
THEA 4373  Improvisation Skills Level I
3 Semester Credit Hours (3 Lecture Hours)
is a fundamentals of improvisation course that teaches the guidelines for successful improvisation skills. The course emphasizes the basics of successful improvisation as it pertains to Theatre, Communication, and the student who wants to improve their communication skills. May be repeated for credit.

THEA 4374  Improvisation Skills Level II
3 Semester Credit Hours (3 Lecture Hours)
is a continuation of Improvisation course level I that instructs the student in the guidelines for advanced improvisation skills. The course teaches the skills necessary for advanced individual and group improvisation. Emphasis is on ensemble performance. May be repeated for credit. Prerequisite: THEA 4373.

THEA 4375  Lighting Design
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of lighting design. Practical experiences in University Theatre are included to provide exposure to the total design and implementation of lighting design. Students will become familiar with the techniques and aesthetics of lighting theatrical performances and will apply skills to create designs for projects and actual plays. Students are required to work on University Theatre productions as a part of this course.

THEA 4380  Advanced Stage Makeup
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of designing makeup for the stage. Students will learn about aesthetics, application, and techniques of stage makeup. Students will do makeup designs as projects in the class. Students are required to work on University Theatre productions as part of this course.

THEA 4384  Theatre Production
1-3 Semester Credit Hours (1-3 Lecture Hours)
An applied production experience in which students perform in a play, work back stage or on a stage crew, or learn to design a play or musical from conception to final production. Students enrolling in the course but not cast in the shows will work backstage (technical production) or in another production capacity. Enrollment is by application only, and must be approved by the instructor in advance of registration. As part of the application process the number of credit hours will be determined by the instructor. May be repeated for credit.

THEA 4390  Topics in Theatre
1-3 Semester Credit Hours (1-3 Lecture Hours)
Study of specialized topics and themes in the areas of acting, directing, and theatre history. May be repeated when topics vary.

THEA 4396  Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description. By application.

THEA 4398  Applied Experience
3 Semester Credit Hours
See College description. By application.

College of Nursing and Health Sciences  
Mission
The College of Nursing & Health Sciences positively impacts the health of the global population through the education of health care leaders and providers of tomorrow with innovative educational programs in the

College of Nursing and Health Sciences Goals
The goals of the College of Nursing and Health Sciences assist the College in implementing the university and college missions:

1. To develop within the student the knowledge and skills necessary for beginning professional and advanced health care practice, cultivating basic and specialized abilities needed to successfully pursue a career.
2. To promote the concept of caring and facilitate attainment of a care delivery system sensitive to multicultural diverse communities and their health values.
3. To offer individuals the opportunity to increase the breadth and depth of the theoretical and ethical base for health care practice, enhance and expand competence, prepare for role specialization and contribute to the discovery of new health care knowledge.
4. To provide an educational environment of respect within which students may evolve as broadly educated, responsible and accountable professionals dedicated to the principles of lifelong learning.
5. To build a foundation for life-long learning & systematic practice, and
6. To ethically serve diverse communities as health care experts, leaders, consultants, and advocates of resources.

Undergraduate Degrees
The College of Nursing and Health Sciences offers course work leading to the following undergraduate degrees:

• Bachelor of Science in Nursing (BSN)
• Bachelor of Science in Healthcare Administration (BS)
• Bachelor of Science in Health Sciences (BSHS) (Being phased out)

Undergraduate Courses
All course descriptions are located in Courses A-Z (p. 558).

Programs
• Bachelor Degree Programs (p. 355)
  • Health Sciences, BSHS (p. 356)
  • Healthcare Administration, BS (p. 357)
  • Nursing, BSN (p. 359)
• Minors (p. 366)
  • Health Sciences, Minor (p. 366)
  • Healthcare Administration, Minor (p. 366)

Bachelor Degree Programs
• Health Sciences, BSHS (p. 356)
• Healthcare Administration, BS (p. 357)
• Nursing, BSN (p. 359)
Health Sciences, BSHS

Program Description
Program Closure Date: 14 August 2023. Last term students can complete the Health Science Major: Summer 2023.

Effective start date of Healthcare Administration Major: Fall 2020.

Students may remain in the HLSC degree program or transfer to the Bachelor of Science in Healthcare Administration Program (BSHA) which begins Fall 2020. Intent to transfer must be made to advising by 1 March 2020.

Date the program provider will cease recommending candidates to the BSHS degree program: 1 December 2019.

The Bachelor of Science in Health Sciences (BSHS) prepares graduates for a variety of career opportunities in the health care field by providing the management skills necessary for success. By designing a degree plan using electives in such areas as computer science, geographic information systems, mathematics, business administration, accounting, international business, and information systems, the student may pursue specific areas of interest. Students can also use electives to design a degree plan that will satisfy entrance requirements for admission to professional schools such as medicine, dentistry, physical therapy, public health, law, and business.

Student Learning Outcomes
Students will:

• Demonstrate a thorough understanding of the theoretical and practical aspects of the health care delivery system from a historical, comparative, economic, cultural, and ethical perspective.
• Employ a variety of business and management skills and techniques including marketing, financial management, law, and information management to effectively and efficiently advance the goals of the organization.
• Demonstrate creativity in defining, negotiating, and solving problems.
• Communicate and educate, using the most current information and communication technology.

Program Requirements
All of the following requirements must be completed and turned into the appropriate personnel before the practicum is begun. Students who do not have the following completed will not be able to participate in HLSC 4680 Practicum (6 sch):

• City Wide Orientation Completion Date and/or Hospital Orientation Date
• Immunization Record
• Background Investigation

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
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</tbody>
</table>

Health Science Support Courses/
Minor 37-40
Health Science Major Requirements 36
Total Credit Hours 115-120

1 Students must have all core curriculum and Health Science supporting courses completed before starting Health Science courses.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Core Curriculum Program</td>
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<td>Health Science Major Requirements</td>
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<tr>
<td>HLSC 3300</td>
<td>The Health Care System</td>
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<td>HLSC 3310</td>
<td>Epidemiology</td>
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<tr>
<td>HLSC 3320</td>
<td>Health Care Marketing</td>
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<tr>
<td>HLSC 3330</td>
<td>Financial Management in Health Care</td>
<td>3</td>
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<tr>
<td>HLSC 3340</td>
<td>Health Program Planning and Evaluation</td>
<td>3</td>
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<tr>
<td>HLSC 3350</td>
<td>Information Systems and Technology in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 3370</td>
<td>Complementary and Alternative Medicine</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 4300</td>
<td>Management and Organization Behavior in Health Care</td>
<td>3</td>
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<td>Health Law</td>
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<td>Quality Management and Evaluation in Health Care</td>
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<tr>
<td>HLSC 4680</td>
<td>Practicum</td>
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</tbody>
</table>

Specialization Area
Students may complete a designated minor in the following areas: 18-22

| Geographic Information Systems (22 sem. hrs.) |
| Computer Science (22 sem. hrs.)               |
| Mathematics (18 sem. hrs.)                    |
| Business Administration (18 sem. hrs.)        |
| Accounting (18 sem. hrs.)                     |
| Economics (18 sem. hrs.)                      |
| International Business (18 sem. hrs.)         |

Total Hours 96-100

* Online offering
^ Blended offering

With approval, students can design a degree plan with an interdisciplinary area of specialization (22 hrs) or use electives to satisfy pre-professional school requirements.

Course Sequencing

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>First Year</td>
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<tr>
<td>Fall</td>
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<td>Communication Core Requirement</td>
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<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
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<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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</table>
Creative Arts Core Requirement 3
Life & Physical Science Core Requirement 3

Spring
Communication Core Requirement 3
MATH 1442 Statistics for Life (or MATH 1342 or MATH 2342) 3-4
Life & Physical Science Core Requirement 3
UNIV 1102 First-Year Seminar II 1
American History Core Requirement 3

Hours 13-14

Summer
Component Area Option Core Requirement 3
Language, Philosophy & Culture Core Requirement 3

Hours 6

Second Year
Fall
POLS 2306 State and Local Government 3
Social and Behavioral Sciences Core Requirement 3
Elective/Minor 3
Elective/Minor 3

Hours 12

Spring
American History Core Requirement 3
Component Area Option Core Requirement 3
Elective/Minor 3

Hours 9

Summer
HLSC 3300 The Health Care System 3
HLSC 3310 Epidemiology 3
HLSC 3340 Health Program Planning and Evaluation 3

Hours 12

Third Year
Fall
HLSC 3310 Epidemiology 3
HLSC 3340 Health Program Planning and Evaluation 3
HLSC 4300 Management and Organization Behavior in Health Care 3
Elective/Minor 3

Hours 12

Spring
HLSC 3350 Information Systems and Technology in Health Care 3
HLSC 4340 Quality Management and Evaluation in Health Care 3
HLSC 3320 Health Care Marketing 3
HLSC 4310 Health Law 3

Hours 12

Summer
HLSC 3370 Complementary and Alternative Medicine 3
Elective/Minor 3

Total Hours 122-123

Healthcare Administration, BS

Program Description
The Bachelor of Science in Healthcare Administration (BSHA) prepares graduates for a variety of career opportunities in the health care field by providing the management skills necessary for success. By designing a degree plan using electives in such areas as computer science, marketing, education, business administration, accounting, human resource management, and information systems, the student may pursue specific areas of interest. Students can also use electives to design a degree plan that will satisfy entrance requirements for admission to professional schools such as medicine, dentistry, physical therapy, public health, law, and business.

Student Learning Outcomes
Students will:

• Demonstrate a thorough understanding of the theoretical and practical aspects of the health care delivery system from a historical, comparative, economic, cultural, and ethical perspective.
• Employ a variety of business and management skills and techniques including marketing, financial management, law, and information management to effectively and efficiently advance the goals of the organization.
• Demonstrate creativity in defining, negotiating, and solving problems.
• Communicate and educate, using the most current information and communication technology.

Program Requirements for Healthcare Administration
Prior to designation as a BSHA major, students must meet with the advisor to create a degree completion and minor area of specialization plan.

Articulation
Del Mar College—Articulation agreement details: See advising for assistance.
Grading
1. A scholastic grade point average of 2.25 is a minimum requirement in the upper division courses designated for the Bachelor of Science in Healthcare Administration. A minimum grade of C is required in all courses in the BSHA major.
2. If a student earns a grade of D, F, or W in a healthcare administration course, that course must be repeated. A course in which a grade of less than C (i.e., D, F, or W, Withdrawal) was earned may be repeated only once.
3. A student who has earned a grade of less than C (i.e., D, F, or W, Withdrawal) in two courses or who has earned a grade of less than C (D, F, or W, Withdrawal) twice in the same course will be dismissed from the BSHA program.
4. Students receiving a grade of D, F, or W (Withdrawal) or I (Incomplete) in a course may not progress to courses for which that course is a prerequisite.

General Requirements

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<tr>
<td>Healthcare Administration Major Requirements</td>
<td>46</td>
</tr>
<tr>
<td>Electives</td>
<td>6-14</td>
</tr>
<tr>
<td>Specialization</td>
<td>18-22</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>112-124</td>
</tr>
</tbody>
</table>

1. Students generally have all core curriculum and supporting courses completed before admittance into the program. This includes a completed Core Curriculum, 18-22 hours of a specialization area, and 6-14 hours of other electives.
2. Specialization hours may be taken concurrently with the Healthcare Administration Major courses. Advising approval is required prior to declaration of the Healthcare Administration Major.

Program Requirements

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<tr>
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<td>HCAD 3360</td>
<td>Health Education and Promotion</td>
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<tr>
<td>HCAD 4100</td>
<td>Assessment of Accumulated Knowledge</td>
<td>1</td>
</tr>
<tr>
<td>HCAD 4300</td>
<td>Management and Organizational Behavior in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>HCAD 4310</td>
<td>Health Law, Policy and Ethics</td>
<td>3</td>
</tr>
<tr>
<td>HCAD 4320</td>
<td>Project Management in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>HCAD 4330</td>
<td>Human Resource Management in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>HCAD 4340</td>
<td>Quality Management and Evaluation in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>HCAD 4350</td>
<td>Global Health/Health Disparities</td>
<td>3</td>
</tr>
<tr>
<td>HCAD 4680</td>
<td>Practicum</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>6-14</td>
</tr>
</tbody>
</table>

Specialization Area
Students must complete a designated minor in one of the following 18-22 areas:
- Geographic Information Systems (22 sem. hrs.)
- Computer Science (22 sem. hrs.)
- Business Administration (18 sem. hrs.)
- Accounting (18 sem. hrs.)
- International Business (18 sem. hrs.)
- Management Information Systems (18 sem. hrs.)
- Education (18 sem. hrs.)
- Marketing (18 sem. hrs.)
- Communication Studies (18 sem. hrs.)
- Public Relations (21 sem. hrs.)
- Social Work (18 sem. hrs.)
- Sociology (18 sem. hrs.)
- Human Resource Management (18 sem. hrs.)
- Psychology (18 sem. hrs.)
- Environmental Science (20-22 sem. hrs.)
- Management (18 sem. hrs.)

Total Hours: 112-124

With approval, students can design a degree plan with an interdisciplinary area of specialization (18-22 hrs) or use electives to satisfy pre-professional school requirements.

Course Sequencing

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication Core Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
<td>3</td>
</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>Creative Arts Core Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Science Core Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td>13</td>
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<tr>
<td>Communication Core Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>MATH 1442</td>
<td>Statistics for Life (or MATH 1342 or MATH 2342)</td>
<td>3-4</td>
</tr>
<tr>
<td>Life &amp; Physical Science Core Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>American History Core Requirement</td>
<td></td>
<td>3</td>
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<tr>
<td>Summer</td>
<td></td>
<td>13-14</td>
</tr>
<tr>
<td>Component Area Option Core Requirement</td>
<td></td>
<td>3</td>
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<tr>
<td>Language, Philosophy &amp; Culture Core Requirement</td>
<td></td>
<td>3</td>
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<td></td>
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</table>
Second Year

Fall
POLS 2306  State and Local Government  3
Social and Behavioral Sciences Core Requirement  3
Elective/Specialization Area  3
Elective/Specialization Area  3

Hours  12

Spring
American History Core Requirement  3
Component Area Option Core Requirement  3
Elective/Specialization Area  3

Hours  12

Summer
Elective/Specialization Area  3
Elective/Specialization Area  3

Hours  6

Third Year

Fall
HCAD 3300  The Health Care System  3
HCAD 3310  Epidemiology  3
HCAD 3340  Health Program Planning and Evaluation  3
HCAD 3320  Health Care Marketing  3

Hours  12

Spring
HCAD 3350  Information Systems and Technology in Health Care  3
HCAD 3360  Health Education and Promotion  3
HCAD 4350  Global Health/Health Disparities  3
Elective/Specialization Area  3
HCAD 3330  Financial Management in Health Care  3

Hours  15

Summer
Elective/Specialization Area  3
Elective/Specialization Area  3

Hours  6

Fourth Year

Fall
HCAD 4100  Assessment of Accumulated Knowledge  1
HCAD 4300  Management and Organizational Behavior in Health Care  3
HCAD 4310  Health Law, Policy and Ethics  3
HCAD 4340  Quality Management and Evaluation in Health Care  3
Elective/Specialization Area  3

Hours  13

Spring
HCAD 4680  Practicum  6
HCAD 4330  Human Resource Management in Health Care  3

Nursing, BSN

Program Description
The philosophical foundations of the Texas A&M University-Corpus Christi Baccalaureate Nursing Program are based on the belief that caring is the essence of nursing. Students are unique individuals with differing backgrounds, needs, and interests, and have the freedom and responsibility to make considered choices. Nursing faculty subscribe to the belief that professional nurses must have a solid foundation in the arts, sciences, and humanities that provides a reservoir of knowledge from which to draw when making critical clinical decisions in the roles of care provider or care coordinator (A.A.C.N., Essentials of Baccalaureate Nursing, 2008). To this purpose, baccalaureate students complete 62 semester hours of pre-requisite program coursework. In addition, they complete 58 semester hours in the nursing courses. Total program hours = 120.

The Nursing Program provides a Bachelor of Science in Nursing degree through three options:
1. Pre-licensure (Traditional/eLine/eLine military) nursing education for the individual who wishes to earn the BSN degree while preparing to become a Registered Nurse (RN).
2. RN-BSN Completion for the RN who wishes to build upon previous education and earn a baccalaureate degree.
3. Accelerated

Student Learning Outcomes
Students will:
- Incorporate the philosophy, “Caring is the Essence of Nursing” into nursing practice.
- Practice nursing utilizing the nursing process and other systematic approaches derived from the sciences and liberal arts to promote optimum health for individuals, families, and communities from diverse populations.
- Communicate and collaborate purposefully, using creative approaches that acknowledge interdependent roles and relationships.
- Demonstrate leadership through the application and utilization of theories for the improvement and enhancement of care and health status.
- Display critical thinking and independent decision-making that utilize and apply theory and research in practice.
- Show awareness of political, ethical, and social issues; accountability for professional practice and commitment for continuing professional development.
- Accept nursing leadership roles that respond to a changing society and health care delivery system.

The baccalaureate degree program in nursing at Texas A & M University, Corpus Christi is accredited by the Commission on Collegiate Nursing Education (http://www.ccneaccreditation.org). The objectives of the program are published in the College of Nursing and Health Sciences Student Handbook, which may be found at http://conhs.tamucc.edu/.
The Texas Board of Nursing requires disclosure of criminal history or disciplinary action and an FBI background check before licensure is granted. In order to promote the safety of the clients in their care and to meet the requirements of the BON and affiliated clinical agencies, students will complete the background check and be deemed eligible to take the licensing exam by the Texas Board of Nursing before acceptance to the program is granted. See the TBON web site http://www.bne.state.tx.us for the statutes and rules regulating licensure.

**Admission Requirements and Procedures**

### Pre-licensure Option

1. For those seeking entrance into the nursing major, the admission procedure is competitive. Admission to the program is two times per year – fall and spring. Three pre-licensure track options are available – traditional, eLine, and eLine Military. Texas A&M University-Corpus Christi sophomores and transfer students will be accepted based on their grade point average for the last 60 credit hours. No “D” or “F” grades will be accepted for credit. Science courses may not be older than 7 years. Those students seeking admission to the nursing program must contact the College of Nursing and Health Sciences to obtain materials to complete the application process. The application process is as follows:
   a. Students must complete an online application to the College of Nursing and Health Sciences using NursingCAS (see College of Nursing and Health Sciences web page for admission deadlines application procedure http://conhs.tamucc.edu/.) If the student is not already enrolled at Texas A&M University-Corpus Christi, the student must also apply to the University for admission. Admission to the University does not constitute admission to the nursing program.
   b. The HESI A2 with critical thinking scores must be uploaded to the NursingCAS application during the application period. (see college web page for information http://conhs.tamucc.edu)
   c. The admissions committee meets to review applications and to make recommendations.
   d. Admission is dependent on a matrix including: last 60 hour GPA, science GPA, HESI A2 composite score, reading comprehension score and HESI critical thinking score. (see program web page (https://conhs.tamucc.edu/future-students/traditional.html) for IDEAL scores listed under “How to be a competitive nursing applicant.”)
   e. Notification of the results of the admission review is emailed to students. Admission to the program is conditional pending submission of the background check, proof of vaccination status, and possession of a current CPR card.
   f. Pre-nursing courses may be continued in the spring and summer semester prior to the junior year.
2. Freshmen generally declare pre-nursing as their intended course of study. Prior to registration, students need to contact the nursing academic advisor to assist in degree planning.
3. All pre-nursing students must complete the Core Curriculum Program (42 semester hours) and required nursing support courses prior to admission to the nursing major. Please see “Core Curriculum Program (p. 556)” in this catalog for information on Core Curriculum Program requirements.
   Students should consult their academic advisor and/or faculty mentor for additional information on Core Curriculum Program and support courses, including the sequence in which the courses should be taken. To lighten the academic load, it is suggested that some of these courses be taken in the summer sessions. Science courses may not be older than 7 years for Pre-licensure BSN students.1
4. A personal interview with the applicant may be requested.
5. Transfer students from another nursing school who have completed nursing courses over 2 years ago must validate completed course work or repeat the course. Additionally, students should provide nursing course descriptions from the college catalog and the course syllabi (must have at least the course objectives, course outline, and a list of textbooks used) from the transferring college/school of nursing. Students should also submit a letter from the Dean or Director of the transferred nursing program indicating they are in good standing and eligible to return. Any student needing to validate courses must meet with the academic advisor who will forward materials to the Associate Dean.
6. Students may only apply for one track into the program. The students choice must be designated on the Nursing CAS application.

### Accelerated Baccalaureate Nursing Option

1. This program, 1) is an intensive, accelerated 4 semester program with students graduating with a BSN, 2) coursework consists of hybrid, on-campus and online courses, 3) includes 9 semester hours of graduate course work – dual credit to BSN students, 4) is committed to an integrated framework of health care delivery, 5) leverages technology to reduce carbon footprint, and 6) in collaboration with the TAMUCC Department of Art and Design, this nursing program is enriched through the integration of arts and culture.
   a. Designed specifically for students with baccalaureate degrees in other fields (from a regionally accredited university/college) who seek to transition into nursing.
   b. The program prepares students to sit for the NCLEX-RN licensing exam.
   c. It is expected that students are not employed during enrollment in this intensive program.
2. The application process is as follows:
   a. All applicants are required to complete the online application through the NursingCAS website (https://nursingcas.liaisoncas.com/applicant-ux/#/login) (see College of Nursing and Health Sciences web page for admission deadlines & application procedure http://conhs.tamucc.edu).
      i. Unverified applications will not be reviewed for consideration by the committee. Admission decisions will be made on a rolling basis.
      ii. It is the responsibility of the applicant, without exception, to meet all application deadlines and maintain all updates to the applicant’s NursingCAS application.
3. Admission criteria:
   a. All prerequisite coursework must be completed from a national/regional accredited institution.
   b. Applicants must have satisfactory completion of all prerequisite coursework with grades of C or better.
   c. The four prerequisite science courses listed below must be completed within seven years of the submission of the application for consideration.1 All science labs must be completed through on-campus instruction.
      i. General Chemistry with lab
      ii. Microbiology with lab
      iii. Two semesters of Human Anatomy and Human Physiology with labs - taken as two separate courses or as a sequence
d. Completion of a medical terminology course (for credit or certificate of completion) is encouraged.
e. The personal statement should be uploaded to the Personal Statement tab under program materials in the Nursing CAS application.
f. A baccalaureate degree in any field from a national/regional accredited institution with a minimum cumulative GPA of 2.75 on a 4.00 scale
g. Minimum 3.0 cumulative GPA in all prerequisite courses:

<table>
<thead>
<tr>
<th>TAMU-CC Prerequisite Courses</th>
<th>Equivalent Courses</th>
<th>Required Number of Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 2420</td>
<td>Microbiology with Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>Chemistry with Lab</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 2301</td>
<td>Introduction to Psychology/Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2401</td>
<td>Anatomy &amp; Physiology I with Lab</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2402</td>
<td>Anatomy &amp; Physiology II with Lab</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 2314</td>
<td>Human Growth &amp; Development through Lifespan</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1442&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Statistics</td>
<td>4</td>
</tr>
</tbody>
</table>

<sup>1</sup> Students actively utilizing and applying content of science courses may request a waiver to the 7-year rule. Students should consult their academic advisor for more information.

<sup>2</sup> MATH 1342 will be acceptable as a transfer equivalent to MATH 1442 Statistics for Life (4 sch)

RN-BSN Completion Option

1. This option is designed for RNs who have completed one of two types of Nursing Programs:
   - Completion of a nationally accredited associate degree nursing program.
   - Completion of a nationally accredited diploma school of nursing program.
   For students who are graduates of a non-accredited program, Texas A&M University-Corpus Christi College of Nursing and Health Sciences honors the Texas Nursing Articulation Model, the first voluntary statewide model for transitioning from one level of education to another without repetition in learning. The assumptions of the model that apply to graduates from nonaccredited programs are the following: 5. Articulation without testing is an educationally and professionally sound practice based upon the accepted competencies; 6. Texas nurses seeking educational mobility demonstrate minimal competence on the basis of an official transcript(s) and a valid Texas license(s). (The Texas Nursing Articulation Model 1997-2000)

2. A student receives 30 hours of credit from previous nursing courses, which is held in escrow until the student has successfully completed 12 hours of nursing courses.

3. The application process is as follows:
   a. Provide evidence of current unencumbered Texas registered nurse license.
   b. Attend a personal interview if requested.
   c. Transfer credit if grade is C or better.
   d. Have a grade point average of 2.5 (4.0 scale) or better in the last 60 hours of course work.
   Students who are currently enrolled in their last semester of an associate nursing degree program may apply for admission. These students must take and pass the state board examination on the first date they are eligible. Associate degree students receiving conditional admission status may take up to 5 semester hours of selected nursing courses prior to full status admission. These courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 4318</td>
<td>Nurse as Research Consumer *</td>
<td>3</td>
</tr>
<tr>
<td>NURS 4250</td>
<td>Professional Nursing Issues *</td>
<td>2</td>
</tr>
<tr>
<td>NURS 3435</td>
<td>Health Assessment *</td>
<td>4</td>
</tr>
</tbody>
</table>

* Online offering

Program Requirements for All Undergraduate Students

Students will be considered out of compliance if a designated immunization or other item required to be submitted to the CONHS Castle branch database manager or other agency is not updated by the designated deadline throughout their clinical courses. Additionally,
there may be further requirements from a clinical facility that students will be required to meet. Any student who is out of compliance may be disenrolled from his/her classes.

1. The Texas Department of State Health Services has specific immunization requirements for students involved with direct patient contact. These requirements, as stated in the Texas Administrative Code, Title 25, Part 1, Chapter 97, Subchapter B, Rule 97.64, include the following:
   a. “Students cannot be provisionally enrolled without at least one dose of measles, mumps, and rubella vaccine if direct patient contact will occur during the provisional enrollment period.”
   b. “Polio vaccine is not required. Students enrolled in health-related courses are encouraged to ascertain that they are immune to poliomyelitis”
   c. “One dose of tetanus-diphtheria toxoid (Td) is required within the last ten years.”
   d. “Students who were born on or after January 1, 1957, must show, prior to patient contact, acceptable evidence of vaccination of two doses of measles containing vaccine
   e. “Students must show, prior to patient contact acceptable evidence of vaccination of one dose of rubella vaccine.”
   f. “Students born on or after January 1, 1957, must show, prior to patient contact, acceptable evidence of vaccination of one dose of mumps vaccine.”
   g. “Students shall receive a complete series of hepatitis B vaccine prior to the start of direct patient care or show serologic confirmation of immunity to hepatitis B virus.”
   h. “Students shall receive two doses of varicella vaccine unless the first dose was received prior to thirteen years of age.”
   For additional information, please see the Texas Administrative Code, Title 25, Part 1, Chapter 97, Subchapter B, which is accessible at http://www.sos.state.tx.us/tac/index.shtml (http://www.sos.state.tx.us/tac/index.shtml/). Please note that some hospitals have stricter requirements than the state minimum standards.
   Rule 97.65 lists the following exceptions to the immunization requirements:
   i. “Serologic confirmations of immunity to measles, rubella, mumps, hepatitis A, hepatitis B, or varicella, are acceptable. Evidence of measles, rubella, mumps, hepatitis A, or hepatitis B, or varicella illness must consist of a laboratory report that indicates either confirmation of immunity or infection.”
   ii. “A parent or physician validated history of varicella disease (chickenpox) or varicella immunity is acceptable in lieu of vaccine. A written statement from a physician, or the student's parent or guardian, or school nurse, must support histories of varicella disease.”
   (Immunizations are available for a nominal fee at Coastal Bend Wellness Center, the City of Corpus Christi Health District or Amistad Health Center.)

2. Results of tuberculosis PPD screening are required annually.

3. To meet CPR requirements, students will complete their HeartCode® BLS Course during the Fundamentals course lab days. Semester one students will be given more information once classes begin.

4. All Students are required to complete a criminal background check through the Texas Board of Nursing before acceptance into the program.

5. Students are required to purchase professional liability coverage through the University. Fees for this coverage are included in the fees paid at the time of registration at the beginning of each academic year. (See College of Nursing & Health Sciences Student Handbook http://conhs.tamucc.edu/shb/. See “General Education Requirement” in this catalog for information on ways in which transfer students can

6. Medical insurance coverage is strongly recommended. The University and affiliating clinical agencies accept no responsibility for medical care sought as a result of accidents/incidents occurring during the course of nursing instruction or clinical assignments (See College of Nursing & Health Sciences Student Handbook: http://conhs.tamucc.edu/shb/).

7. Students forced to interrupt their regular rotation for personal or academic reasons may apply for reinstatement. Students must complete and submit the application for reinstatement. The academic advisor is available for assistance with this process. The Admissions, Progression & Academic Standards committee may admit a student conditionally if there is evidence of extenuating circumstances.

Grading Policies: Progression, Retention and Dismissal

The following requirements refer to grading policies.

1. A scholastic grade point average of 2.25 is a minimum requirement in the upper division nursing courses designated for the Bachelor of Science in Nursing. A minimum grade of C is required in all courses in the nursing major.

2. If a student earns a grade of D, F, or W in a nursing course, that course must be repeated. A course in which a grade of less than C (i.e., D, F, or W, Withdrawal) was earned may be repeated only once.

3. A student who has earned a grade of less than C (i.e., D, F, or W, Withdrawal) in two nursing courses or who has earned a grade of less than C (D, F, or W, Withdrawal) twice in the same nursing course will be dismissed from the nursing program.

4. Students receiving a grade of D, F, or W (Withdrawal) or I (Incomplete) in a nursing course may not progress to courses for which that course is a prerequisite.

5. Administration and faculty reserve the right to dismiss students without previous warning for unsafe and/or unprofessional behavior. The conduct of nursing students should meet ethical standards as defined by American Nurses Association (ANA) in the Code of Ethics for Nurses. Personal integrity is reflected in professional judgments. Consequently, the College of Nursing and Health Sciences reserves the right to dismiss students from the program for unprofessional or unsafe behavior. (See College of Nursing and Health Sciences Student Handbook for further examples and to review the Academic Honesty and Professional Integrity Policy http://conhs.tamucc.edu/current-students/assets/student-handbook-2017.pdf.)

6. Following dismissal, students may apply for reinstatement to the nursing program. Reinstatement is competitive and based upon space availability.

7. Students must meet the standards for minimal performance and progression established by Texas A&M University-Corpus Christi (see the catalog section on Academic Policies and Regulations).

8. In order for students to progress through the program, they must be in compliance with immunizations/CPR and Hospital Orientation regulations. (See College of Nursing and Health Sciences Student Handbook for consequences for noncompliance to these policies.)

9. Students must complete the Core Curriculum Program. (See “Core Curriculum Program (p. 556)” in this catalog). See “General Education Requirement” in the “Undergraduate Programs” section of this catalog for information on ways in which transfer students can
fulfill requirements. In addition to the core curriculum requirements, students must also take the required support courses, which are listed earlier in the nursing section of this catalog.

Advising

Every effort has been made to assure the accuracy of the information in this catalog. However, information is subject to change without notice. Therefore, students must consult with their Nursing Program advisors each semester prior to registration. Transfer students must meet with their advisors.

Students in the nursing majors are assigned a faculty mentor. If for any reason the faculty mentor-student assignment is not effective, the student or the faculty member can request a change in assignment. Freshmen and sophomore students pursing the pre-nursing curriculum are also assigned a nursing faculty mentor. The academic advisor for the College of Nursing and Health Sciences is available for advisement. Students must make appointments for advisement.

RN-MSN Option

See the Nursing section of the Graduate catalog.

General Requirements

Pre-licensure Option

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Nursing Support Courses</td>
<td>15</td>
</tr>
<tr>
<td>Major in Nursing (Generic) section Requirements</td>
<td>58</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>115-117</strong></td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   • UNIV 1101 First-Year Seminar I (1 sch)
   • UNIV 1102 First-Year Seminar II (1 sch)

2. First-Year Seminars or Electives

Overlap may occur between the Core Curriculum Program and Nursing Support Courses. There is a nursing elective area of the degree plan which may be utilized to ensure student meets the minimum 120 Sem Hrs requirement. Students should seek advisement to confirm which courses can be utilized to meet the nursing elective block, if needed. The nursing elective block may not be utilized if student meets the minimum 120 Sem Hrs requirement.

Accelerated Baccalaureate Nursing Option

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
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<tr>
<td>Nursing Support Courses</td>
<td>26</td>
</tr>
<tr>
<td>Major in Nursing (Generic) section Requirements</td>
<td>60</td>
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<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>128</strong></td>
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</tbody>
</table>

RN-BSN Completion Option

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>Nursing Support Courses</td>
<td>26</td>
</tr>
<tr>
<td>Articulation Coursework</td>
<td>30</td>
</tr>
<tr>
<td>RN-BSN Courses</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>

1. Students must have all Core Curriculum Program and supporting courses completed before admittance into the program; this includes a completed Core Curriculum Program, prerequisites, and 30 hours of Nursing Articulation.

2. Overlap may occur between the Core Curriculum Program and Nursing Support Courses. There is a nursing elective area of the degree plan which may be utilized to ensure student meets the minimum 120 Sem Hrs requirement. Students should seek advisement to confirm which courses can be utilized to meet the nursing elective block, if needed. The nursing elective block may not be utilized if student meets the minimum 120 Sem Hrs requirement.

Degree Requirements

Pre-licensure Option

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Full-time, First-year Students</strong></td>
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</tr>
<tr>
<td></td>
<td>First year seminars</td>
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</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td></td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core Curriculum Program</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>University Core Curriculum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nursing Support Courses</td>
<td>1,2</td>
</tr>
<tr>
<td>BIOL 2420</td>
<td>Principles of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>or BIOL 2421</td>
<td>Microbiology</td>
<td></td>
</tr>
<tr>
<td>CHEM 1411</td>
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<td>Health Alterations (recommended)</td>
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<tr>
<td>or BIMS 3401</td>
<td>Pathophysiology</td>
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<td>PSYC 2314</td>
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<td>MATH 1442</td>
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<td>NURS 3342</td>
<td>Use of Pharmacology Principles</td>
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<td><strong>Major in Nursing (Generic) section Requirements</strong></td>
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<td>NURS 3318</td>
<td>Nurse as therapeutic Communicator</td>
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<td>NURS 3435</td>
<td>Health Assessment</td>
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NURS 3614  Fundamentals of Nursing Care  6
NURS 3548  Nursing Care of Children and their Families  5
NURS 3550  Nursing Care of Parents/newborns  5
NURS 3628  Nursing Care of Adults I  6
NURS 4318  Nurse as Research Consumer  3
NURS 4564  Nursing Care of Psychiatric Clients  5
NURS 4628  Nursing Care of Adults II  6
NURS 4660  Nursing Care of Community Health Clients  6
NURS 4370  Nurse Coordinating Care  3
NURS 4470  Professional Transitions  4
NURS 4150  Professional Nursing Issues II  1

**Total Hours 132-134**

1. Overlap may occur between the Core Curriculum Program and Nursing Support Courses. There is a nursing elective area of the degree plan which may be utilized to ensure student meets the minimum 120 Sem Hrs requirement. Students should seek advisement to confirm which courses can be utilized to meet the nursing elective block, if needed. The nursing elective block may not be utilized if student meets the minimum 120 Sem Hrs requirement.

2. MATH 1342 or MATH 2342 are acceptable from other institutions.

3. The numbers of weekly lecture and laboratory hours associated with each course are designated by (lecture:lab) following the semester hours (1 lab hour = 3 contact hours.) Additional laboratory work may be required to complete the assignments. All courses involving labs will require appropriate fees.

* Online offering

### Accelerated Baccalaureate Nursing Option

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<td>Nursing Care of Children and their Families</td>
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<td>NURS 3550</td>
<td>Nursing Care of Parents/newborns</td>
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<td>NURS 4318</td>
<td>Nurse as Research Consumer</td>
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<td>NURS 4564</td>
<td>Nursing Care of Psychiatric Clients</td>
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<td>NURS 4370</td>
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<td>NURS 4470</td>
<td>Professional Transitions</td>
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**Total Hours**

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<td>Biobehavioral Health of Complex Conditions Clinical</td>
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<td>NURS 4362</td>
<td>Biobehavioral Nursing Concepts II: Population Health and Chronic Health Issues Across the Life</td>
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<td>Biobehavioral Nursing Concepts III: Family and Child Health and Complex Health Issues Across the Life</td>
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<td>NURS 4364</td>
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<td>NURS 5314</td>
<td>Research Methods in Advanced Nursing Practice (Graduate Course)</td>
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<td>Health Policy and Cultural Diversity (Graduate Course)</td>
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<td>NURS 5331</td>
<td>Nursing informatics (Graduate Course)</td>
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</table>

**Total Hours 127**

1. Overlap may occur between the Core Curriculum Program and Nursing Support Courses. There is a nursing elective area of the degree plan which may be utilized to ensure student meets the minimum 120 Sem Hrs requirement. Students should seek advisement to confirm which courses can be utilized to meet the nursing elective block, if needed. The nursing elective block may not be utilized if student meets the minimum 120 Sem Hrs requirement.

2. MATH 1342 or MATH 2342 are acceptable from other institutions.

Graduate courses will only count for TAMU-CC MS in Nursing degree programs. For all 3 courses to count, a student should pursue the MSN in Leadership in Nursing Systems degree. Alternatively, a student may count 2 of the 3 courses in one of the other TAMU-CC MSN programs - either the Family Nurse Practitioner or Nurse Educator degree. Graduate courses and/or credits may or may not transfer to other Universities.

### RN-BSN Completion Option

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<tr>
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<tbody>
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<td>NURS 3614</td>
<td>Fundamentals of Nursing Care</td>
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<tr>
<td>NURS 3548</td>
<td>Nursing Care of Children and their Families</td>
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<tr>
<td>NURS 3550</td>
<td>Nursing Care of Parents/newborns</td>
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<tr>
<td>NURS 3628</td>
<td>Nursing Care of Adults I</td>
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<td>NURS 4318</td>
<td>Nurse as Research Consumer</td>
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<td>NURS 4564</td>
<td>Nursing Care of Psychiatric Clients</td>
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<tr>
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<td>Nursing Care of Community Health Clients</td>
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<td>NURS 4370</td>
<td>Nurse Coordinating Care</td>
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<td>NURS 4470</td>
<td>Professional Transitions</td>
<td>4</td>
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<tr>
<td>NURS 4150</td>
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**Total Hours**

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<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>NURS 4254</td>
<td>Professional Nursing Issues IV</td>
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<td>NURS 4260</td>
<td>Wellness and Health Promotion Across the Lifespan</td>
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<tr>
<td>NURS 4281</td>
<td>Biobehavioral Care of Chronic Conditions Clinical</td>
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<td>Biobehavioral Health of Complex Conditions Clinical</td>
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<tr>
<td>NURS 4353</td>
<td>Professional Nursing Issues III</td>
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<tr>
<td>NURS 4361</td>
<td>Biobehavioral Nursing Concepts I: Health Assessment and Foundations of Nursing Across the Life</td>
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<td>Biobehavioral Nursing Concepts II: Population Health and Chronic Health Issues Across the Life</td>
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<td>Synthesis of Nursing Knowledge, Evidence and Practice</td>
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<td>Health Policy and Cultural Diversity (Graduate Course)</td>
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<tr>
<td>NURS 5331</td>
<td>Nursing informatics (Graduate Course)</td>
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</table>

**Total Hours 127**

1. Overlap may occur between the Core Curriculum Program and Nursing Support Courses. There is a nursing elective area of the degree plan which may be utilized to ensure student meets the minimum 120 Sem Hrs requirement. Students should seek advisement to confirm which courses can be utilized to meet the nursing elective block, if needed. The nursing elective block may not be utilized if student meets the minimum 120 Sem Hrs requirement.

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<thead>
<tr>
<th>Course</th>
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### RN-BSN Courses

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<td>NURS 4318</td>
<td>Nurse as Research Consumer *</td>
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<td>NURS 4320</td>
<td>Principles and Concepts of Patient Education - RN/BSN *</td>
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<td>NURS 4322</td>
<td>Health Alterations *</td>
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<td>Nurse as Caregiver - RN/BSN *</td>
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<td>Care of the Individual within a Family -RN/BSN *</td>
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<td>NURS 4471</td>
<td>Leadership/management - RN/BSN *</td>
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<td>NURS 4560</td>
<td>Nursing Care of Community - RN/BSN *</td>
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</table>

Total Hours 98

1. Students must have all Core Curriculum Program and supporting courses completed before admittance into the program; this includes a completed Core Curriculum Program, prerequisites, and 30 hours of Nursing Articulation.

2. Overlap may occur between the Core Curriculum Program and Nursing Support Courses. There is a nursing elective area of the degree plan which may be utilized to ensure student meets the minimum 120 Sem Hrs requirement. Students should seek advisement to confirm which courses can be utilized to meet the nursing elective block if needed. The nursing elective block may not be utilized if student meets the minimum 120 Sem Hrs requirement.

3. General Chemistry I may be waived

4. MATH 1342 or MATH 2342 are acceptable from other institutions

* Online offering

^ Blended offering

---

**Note:**

Students must have all core curriculum and supporting courses completed before admittance into the program.

### Course Sequencing

<table>
<thead>
<tr>
<th>Course</th>
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<td><strong>Fall</strong></td>
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<td>ENGL 1302</td>
<td>Writing and Rhetoric</td>
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<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
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<td>BIOL 2401</td>
<td>Anatomy and Physiology I</td>
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<td>UNIV 1101</td>
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<td>COMM 1311</td>
<td>Foundation of Communication</td>
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<td>HIST 1301</td>
<td>U.S. History to 1865</td>
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<td>Nurse as Research Consumer</td>
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<td>NURS 3548</td>
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<td>Nurse Coordinating Care</td>
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<td>NURS 4470</td>
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Texas A&M University - Corpus Christi Undergraduate Catalog
Minors

- Health Sciences, Minor (p. 366)
- Healthcare Administration, Minor (p. 366)

Health Sciences, Minor

Program Description

Program Closure Date: 14 August 2023. Last term students can complete the Health Science Minor: Summer 2023.

Effective start date of Healthcare Administration Minor: Fall 2020.

Students may remain in the HLSC degree program or transfer to the Bachelor of Science in Healthcare Administration Program (BSHA) which begins Fall 2020. Intent to transfer must be made to advising by 1 March 2020.

Program Requirements

<table>
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<th>Code</th>
<th>Title</th>
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<td>The Health Care System</td>
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<td>HLSC 3310</td>
<td>Epidemiology</td>
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<td>HLSC 3350</td>
<td>Information Systems and Technology in Health Care^</td>
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<td>HLSC 4310</td>
<td>Health Law^</td>
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* Online offering
^ Blended offering

Healthcare Administration, Minor

Program Description

Undergraduate students majoring in other disciplines can earn a Minor in Healthcare Administration. The minor provides foundational learning that augments the knowledge, skills and values necessary for successful careers in healthcare and related disciplines. The minor program assists students to manage, lead and improve the changing health care needs in South Texas, and to emphasize culturally appropriate patient-centered service delivery systems.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
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<td>HCAD 3300</td>
<td>The Health Care System</td>
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</tr>
<tr>
<td>HCAD 3350</td>
<td>Information Systems and Technology in Health Care</td>
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<tr>
<td>HCAD 4310</td>
<td>Health Law, Policy and Ethics</td>
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<td>HCAD 4340</td>
<td>Quality Management and Evaluation in Health Care</td>
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</table>

College of Science and Engineering

The College of Science and Engineering offers undergraduate and graduate degrees in basic and applied sciences to support the technical requirements of our post-industrial society. In addition, the College provides many courses supporting the science literacy requirements of non-majors. Specialized course offerings and degree sequences support Education majors seeking science and mathematics teaching certifications. The office of the Dean is located in Center for Instruction, Suite 350.

Purpose Statement

The College of Science and Engineering is committed to maintaining an academic environment in which students may develop as productive citizens who will contribute to society. In this regard, the faculty recognizes the need to prepare individuals who have an understanding of the foundations and principles of their respective fields and professions. The administration of the College encourages and supports the faculty in meeting their responsibility to continue their professional development and to contribute to the University, the community, and their chosen fields.

In order to accomplish this purpose, the administration and faculty of the College share the following objectives:

1. To provide the opportunity for each student to assimilate and apply the body of knowledge required by a chosen discipline through a clearly defined sequence of courses.
2. To develop each student’s ability to think critically and to communicate effectively through creative and challenging educational experiences.
3. To encourage each student to become a well-rounded, educated person through exposure to other disciplines within the University.
4. To contribute to the greater body of knowledge in specialized disciplines through research, scholarship, and professional endeavor.
5. To serve as a professional and educational resource to the local area and larger community by providing consultation and special services.

Centers for Research and Continuing Education

The College of Science and Engineering is the academic home to several major research units, which are physically housed in the Natural Resources Center on the west end of campus.

The National Spill Control School, established in 1977, promotes education on environmental issues. The primary focus of its programs is in presenting continuing education short courses on-campus or on-site for personnel involved in spill prevention and the control of oil, hazardous materials, and hazardous waste. Other areas of interest include allied safety concerns and improving knowledge in these fields through research and targeted education programs.

The Center for Coastal Studies, established in 1984, is an interdisciplinary research unit of the College of Science and Engineering at Texas A&M University-Corpus Christi. The main purpose of the Center is to perform coastal ecosystem research and contract studies on the Padre/Mustang barrier island chain, the Laguna Madre, and the Nueces/Corpus Christi Bay Complex. Currently, cooperative agreements with several branches of the U.S. Fish and Wildlife Service and the Texas Parks and Wildlife
Department provide research and practical training experience for Texas A&M University-Corpus Christi science students.

The Conrad Blucher Institute for Surveying and Science, dedicated in 1987, encourages scientific research and education, with a special emphasis on surveying. To provide for the unique needs of Texas surveyors, the Institute is developing strong continuing education and research programs in surveying. As funds and resources permit, the Institute will also promote research and education in all of the supporting sciences. Science education is a vital base for surveyors and scientists. The Institute supports activities to improve these areas and help create professional and student interest in surveying and science.

The Center for Water Supply Studies was established in 1991. The Center provides science students with the opportunity to pursue research in the broad areas of water resources. The Center also provides regional governmental entities with an academic organization through which studies of issues relating to water supply may be carried out.

The Center for Information Assurance, Statistics, and Quality Control (CIASQC) leverages the skills of university experts working together with community leaders to meet the increasing demands for secured information environments and improved quality of education, government, health care and business. The mission of CIASQC is to become the primary South Texas and Gulf of Mexico resource of information assurance, modeling, statistical and quality improvement services, and software engineering for the education, government, health care, and private sectors.

In 2000, Texas A&M University-Corpus Christi received a $46 million pledge from publisher Ed Harte to create the Harte Research Institute for Gulf of Mexico Studies. The Institute supports the Ph.D. programs in Coastal and Marine System Science and Marine Biology offered through the College of Science and Engineering.

**Science and Engineering Degree Programs**

The College of Science and Engineering offers course work leading to the following Bachelor of Science, Master of Science, and Doctor of Philosophy degrees:

- Atmospheric Sciences ATSC, BS
- Biology BIOL, BS, MS
- Biomedical Science BIMS, BS
- Chemistry CHEM, BS, MS
- Civil Engineering CEEN, BS
- Clinical Laboratory Science CLSC, BS
- Coastal and Marine System Science CMSS, PhD
- Computer Science COSC, BS, MS
- Electrical Engineering EEEN, BS
- Environmental Science ESCI, BS, MS
- Fisheries and Mariculture FAMA, MS
- Geographic Information Science GISC, BS
- Geography GEOG (minor only)
- Geology GEOI, BS
- Geospatial Computing Sciences GCSC, PhD
- Geospatial Surveying Engineering GSEN, MS
- Industrial Engineering IEEN, BS
- Marine Biology MARB, MS, PhD
- Mathematics MATH, BS, MS
- Mechanical Engineering MEEN, BS
- Mechanical Engineering Technology ENTC, BS
- Physics PHYS, BS

Science, Mathematics and Technology Education SMTE (teacher certification programs only, in 4-8 level Science, 7-12 level Life Science, 7-12 level Physical Science, and 7-12 level Mathematics)¹

See the university Graduate Catalog for information on graduate programs.

¹ A teacher certification program in 4-8 level Mathematics is available through the College of Education and Human Development.

**Undergraduate Programs**

A minimum of 120 semester hours of credit are required. Most curricula require more. Please consult the academic advisor and/or faculty advisor for specific details.

**Specific Requirements for the College of Science and Engineering**

Each student entering the College must comply with the curriculum requirements of the University Core Curriculum Program and University degree requirements. Transfer students can meet some or all of these requirements by transfer of courses/core curricula taken and completed prior to entry. Please consult the University Core Curriculum Program advisors.

**Upper-Division Hours**

A minimum of 45 semester hours of upper-division credit (courses numbered in the 3000 and 4000 series) is required.

**Residence Requirements**

A minimum of 36 hours of upper-division course work required for graduation must be successfully completed in residence at Texas A&M University-Corpus Christi to obtain a baccalaureate degree. A minimum of 12 hours of these 36 hours must be in the major. See "Degree Requirements (p. 43)" in the general section of this catalog for additional university requirements.

**Grade-Point Average (GPA)**

A minimum cumulative grade-point average of 2.0 ("C") on a 4 point scale (4.0 = A) in all work taken and a minimum grade-point average of 2.25 in all courses in the major field of study taken at this University are required. The courses in the major field of study are defined for each major, and can be found on the pages for that major. For teacher certification and certain majors in the college, grade point average requirements are higher. Refer to “Teacher Certification Programs” in this section, and/or the requirements of the major of interest.

**Directed Independent Study (DIS)**

Each area of the College offers courses in directed independent study. These courses appear with 4X96 numbers in the course offerings of each discipline and may carry variable credit depending upon the course design. The student must register for a specific number of hours according to a course plan approved by the instructor, the Department Chairperson, and the Dean in advance of registration. The 4X96 courses may be repeated for credit.
Graduation Under a Particular Catalog
In accordance with general University policy, the student may receive the baccalaureate degree upon satisfying the requirements of the chosen degree area in the College of Science and Engineering, upon satisfying the requirements of the catalog under which credit was first earned in this university, or upon satisfying the requirements of the catalog governing any subsequent year in which credit was earned as a student in the university. In the case of courses which are no longer offered, the faculty will prescribe substitutions. Students who do not complete the degree to which they have been admitted within 6 years will be subject to review and may, if necessary, be required to update knowledge and meet catalog requirements currently in effect.

Teacher Certification Programs
Students seeking state certification to teach science and mathematics in Texas schools must major in an approved teaching field and complete all major study and related requirements for a baccalaureate degree in that field. They must also comply with teacher certification requirements. Prospective candidates for teacher certification are strongly urged to obtain current certification information from the College of Education and Human Development prior to formulating a degree plan or pursuing degree-specific course work.

Study programs at this university leading to teacher certification in science and mathematics are:

- 4-8 level Science
- 7-12 level Life Science
- 7-12 level Physical Science
- 4-8 level Mathematics (College of Education and Human Development)
- 7-12 level Mathematics

Major study and course requirements in teaching fields are detailed in the Science, Mathematics and Technology Education (SMTE) section of this catalog and the College of Education and Human Development section for the baccalaureate degree leading to 4-8 level Mathematics certification. For a complete listing of the available certification plans and details of the requirements for obtaining a teaching certificate, please consult the College of Education and Human Development section of this catalog.

Teacher preparation is considered to be an integral role of the College; therefore, all certification requirements are integrated into the degree requirements for those who desire teacher certification.

In addition to the academic specialization discussed above, teacher certification programs require the completion of general education courses, including the core curriculum, and professional development courses. A student who seeks a teaching certificate should contact a Certification Officer in the College of Education and Human Development about requirements and procedures that must be met to obtain the certificate. The professional development sequence of required courses must be taken in a specific order and it is recommended that students contact the College of Education and Human Development early in their academic careers for specific details on these courses.

Grade Point Average for Students Seeking Middle School (Grades 4-8) and/or High School (Grades 7-12) Certification
A minimum grade point average of 2.50 (4.0 = A) in all work attempted, a minimum grade point average of 2.75 in all science, math, or specialization areas, and no grade below “C” in any science or math course on a student’s degree plan and/or education courses within the professional education block of courses are required. (See Requirements for Programs Leading to Teacher Certification)

Alteration of a Certification Plan
Any amendment to a degree plan originally filed must be approved by the student’s academic advisor, the Department Chair, the Dean of the College of Science and Engineering, and the Certification Officer of the College of Education and Human Development for the degree to be granted.

Minors
Course requirements for a minor are determined by the faculty in each corresponding academic discipline, and variations in the minor requirements are subject to the approval of the faculty in that area. Therefore, the student should consult the description of the minor in the section of the catalog dedicated to that discipline. Questions about the minor course work should be directed to the appropriate advisor within the minor discipline.

Contact Information
College of Science and Engineering, Texas A&M University-Corpus Christi, Corpus Christi, TX 78412-5806. Phone: (361) 825-5777. Web: http://www.sci.tamucc.edu/

Programs
- Bachelor Degree Programs (p. 369)
  - Atmospheric Sciences, BS (p. 369)
  - Biology, BS (p. 373)
  - Biomedical Sciences, BS (p. 381)
  - Chemistry, BS (p. 394)
  - Clinical Laboratory Science, BS (p. 399)
  - Environmental Science, BS (p. 401)
  - Geology, BS (p. 407)
  - Mathematics, BS (p. 413)
  - Physics, BS (p. 419)
- Bachelor Degree Programs - School of Engineering & Computing Sciences (p. 422)
  - Civil Engineering, BS (p. 422)
  - Computer Science, BS (p. 428)
  - Electrical Engineering, BS (p. 434)
  - Geographic Information Science, BS (p. 438)
  - Industrial Engineering, BS (p. 442)
  - Mechanical Engineering Technology, BS (p. 447)
  - Mechanical Engineering, BS (p. 451)
- Teaching Certificates (p. 457)
  - Biology, BS - Grades 7-12 Life Science Education Concentration (p. 457)
  - Chemistry, BS - Grades 7-12 Physical Science Education Concentration (p. 464)
  - Elementary Education, BS - Grades 4-8 with Mathematics Certification (p. 468)
Bachelor Degree Programs

- Atmospheric Sciences, BS (p. 369)
- Biology, BS (p. 373)
- Biomedical Sciences, BS (p. 381)
- Chemistry, BS (p. 394)
- Clinical Laboratory Science, BS (p. 399)
- Environmental Science, BS (p. 401)
- Geology, BS (p. 407)
- Mathematics, BS (p. 413)
- Physics, BS (p. 419)

### Atmospheric Sciences, BS

**Program Description**

The Bachelor of Science program in Atmospheric Sciences addresses the needs of students interested in studying meteorology or climate science. The program provides students with an in-depth knowledge of the physical characteristics, motions and processes of air, as well as the interactions of this protective layer with the underlying oceans and continents. The undergraduate program emphasizes a systems approach, combining traditional atmospheric sciences with emerging fields. In particular, the program focuses on the fields of tropical meteorology and oceanography that are directly linked to the Gulf of Mexico and surrounding coastal regions where the university is strategically located.

**Student Learning Outcomes**

Students will:

- Possess a broad understanding of the field of atmospheric sciences in preparation for successful careers in related disciplines;
- Gain experience and professional competence in the use of scientific method to develop and conduct atmospheric sciences related work;
- Acquire the necessary skills to effectively communicate the meteorology and climate sciences information to a range of audiences and participate in community and/or professional service through various organizations.

**General Requirements**

The Bachelor of Science in Atmospheric Sciences degree requires a minimum of 120 semester credit hours: 42 are from designated University Core Curriculum Program courses, 60 are from atmospheric sciences core courses and 18 are from career track courses. The atmospheric sciences core provides students with a broad background in meteorology and climate sciences, and satisfy the requirements for federal employment as a National Weather Service meteorologist (also referred to as NOAA GS1340 positions). The students can choose a career track in either general atmospheric sciences or the broadcast meteorology. Students should select a career track as soon as possible after they complete their freshman year and well before they begin their junior year.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>Atmospheric Sciences Core Courses</td>
<td>60</td>
</tr>
<tr>
<td>Atmospheric Sciences Career Track 18 Courses - Electives</td>
<td>18</td>
</tr>
</tbody>
</table>

**Total Credit Hours**: 120-122

1 Full-time, first time in college students are required to take the first-year seminars.

- UNIV 1101 First-Year Seminar I (1 sch)
- UNIV 1102 First-Year Seminar II (1 sch)
### Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Full-time, First-year Students</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

### Core Curriculum Program

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Core Curriculum</td>
<td></td>
<td>42</td>
</tr>
</tbody>
</table>

ATSC majors are required to take:

1. **MATH 2413** Calculus I
2. **PHYS 2425** University Physics I
3. **PHYS 2426** University Physics II

### Atmospheric Sciences Core Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATSC 2403</td>
<td>Introduction to Meteorology</td>
<td>4</td>
</tr>
<tr>
<td>ATSC 2301</td>
<td>Weather Observations</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 2302</td>
<td>Introduction of Data Analysis in Atmospheric Sciences</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 3305</td>
<td>Physical Meteorology</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 3306</td>
<td>Atmospheric Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 3401</td>
<td>Synoptic Meteorology</td>
<td>4</td>
</tr>
<tr>
<td>ATSC 3402</td>
<td>Mesoscale Meteorology</td>
<td>4</td>
</tr>
<tr>
<td>ATSC 4301</td>
<td>Dynamic Meteorology I</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 4305</td>
<td>Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I *</td>
<td>4</td>
</tr>
<tr>
<td>ATSC 4335</td>
<td>Climate and Climate Variability</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3311</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3315</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2415</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>ESCI 4360</td>
<td>Physical Oceanography</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3345</td>
<td>Statistical Modeling and Data Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

### Career Tracks in Atmospheric Sciences

Select one of the following Tracks:

1. **Atmospheric Sciences Track (p. 370)**
2. **Broadcast Meteorology Track (p. 370)**

**Total Hours**: 122

1. The ATSC Freshmen are encouraged to take advantage of the First-Year Writing classes (COMM 1311 Foundation of Communication (3 sch) & ENGL 1302 Writing and Rhetoric (3 sch)) as part of the First-Year Learning Communities Program to give them opportunities to work together, get to know each other, and learn together.

2. These three 4 semester credit hours courses will result in 3 extra semester credit hours, which may be counted as part of the Component Area Option in the University Core Curriculum.

* Online offering

### Atmospheric Sciences Track

The students in the general atmospheric sciences track are required to take 21 Sem. Hrs. from the following electives.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESCI 1401</td>
<td>Environmental Science: Intro to Environmental Science</td>
<td>21</td>
</tr>
<tr>
<td>ESCI 3351</td>
<td>Oceanography</td>
<td></td>
</tr>
<tr>
<td>GISC 1470</td>
<td>Geospatial Systems I</td>
<td></td>
</tr>
<tr>
<td>ATSC 4496</td>
<td>Directed Independent Study</td>
<td></td>
</tr>
<tr>
<td>ATSC 4590</td>
<td>Selected Topics</td>
<td></td>
</tr>
<tr>
<td>PHYS 1304</td>
<td>Introduction to Astronomy: Solar System</td>
<td></td>
</tr>
<tr>
<td>CHEM 1412</td>
<td>General Chemistry II</td>
<td></td>
</tr>
<tr>
<td>CHEM 3411</td>
<td>Organic Chemistry I</td>
<td></td>
</tr>
<tr>
<td>GEOL 4444</td>
<td>Hydrogeology</td>
<td></td>
</tr>
<tr>
<td>MATH 4315</td>
<td>Partial Differential Equations</td>
<td></td>
</tr>
<tr>
<td>GEOL 1403</td>
<td>Physical Geology</td>
<td></td>
</tr>
<tr>
<td>MATH 2305</td>
<td>Discrete Mathematics I</td>
<td></td>
</tr>
<tr>
<td>ATSC 4498</td>
<td>Internship in Atmospheric Science</td>
<td></td>
</tr>
<tr>
<td>ATSC 4302</td>
<td>Dynamic Meteorology II</td>
<td></td>
</tr>
<tr>
<td>GISC 1301</td>
<td>Physical Geography</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours**: 21

### Broadcast Meteorology Track

Those students interested in becoming broadcast meteorologists should follow the Broadcast Meteorology Track. Students in this track take COMM 1311 Foundation of Communication (3 sch), ATSC 2101 Weathercasting (1 sch) and an additional 9 hours from the other electives listed below plus another 8 hours from the Atmospheric Sciences Track electives.

Students interested in English-only broadcasting need to take all 9 hours from the communication (COMM or MEDA) courses. Students interested in bilingual English-Spanish broadcasting must choose 3 hours from the communication (COMM or MEDA) courses, and 6 hours from the Spanish (SPAN) courses. An internship experience through ATSC 4498 Internship in Atmospheric Science (1-4 sch) is highly recommended for all broadcast meteorology students, preferably during their junior or senior years.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 1311</td>
<td>Foundation of Communication</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 2101</td>
<td>Weathercasting</td>
<td>1</td>
</tr>
</tbody>
</table>

Select 9 hours of electives of the following:

1. **MEDIA 2311** Media Writing
2. **MEDIA 2350** Media Performance
3. **SPAN 2312** Continuing Spanish
4. **SPAN 2313** Spanish for Heritage Speakers
5. **SPAN 3302** Spanish Composition
6. **SPAN 3303** Spanish Conversation
7. **ATSC 4498** Internship in Atmospheric Science

Select 8 hours of additional electives of the general Atmospheric Sciences Track

**Total Hours**: 21
Additional 8 semester hours of the electives from the general Atmospheric Sciences Track will be needed to satisfy the 18 semester hours of electives requirement. Other MEDA/COMM courses may be substituted with faculty mentor approval.

Course Sequencing
General Atmospheric Sciences

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>COMM 1311</td>
<td>Foundation of Communication</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1301</td>
<td>U.S. History to 1865</td>
<td>3</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 2403</td>
<td>Introduction to Meteorology</td>
<td>4</td>
</tr>
<tr>
<td>or ATSC 3403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 2306</td>
<td>State and Local Government</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td><strong>Second Year</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Fall</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I</td>
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<tr>
<td>ATSC Elective</td>
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<tr>
<td>Creative Arts Core Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
<td>3</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>MATH 2415</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 2301</td>
<td>Weather Observations</td>
<td>4</td>
</tr>
<tr>
<td>ATSC 2302</td>
<td>Introduction of Data Analysis in</td>
<td>3</td>
</tr>
<tr>
<td>Atmospheric Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture Core Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td><strong>Third Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 3311</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 3305</td>
<td>Physical Meteorology</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 3306</td>
<td>Atmospheric Thermodynamics</td>
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</tr>
<tr>
<td>ATSC Elective</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Social and Behavioral Sciences Core Requirement</td>
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<td>3</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
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<td>16</td>
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<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>MATH 3315</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
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<td>ATSC 3401</td>
<td>Synoptic Meteorology</td>
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<tr>
<td>ATSC 4335</td>
<td>Climate and Climate Variability</td>
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<tr>
<td><strong>Fourth Year</strong></td>
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<tr>
<td><strong>Fall</strong></td>
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<td></td>
</tr>
<tr>
<td>MATH 3345</td>
<td>Statistical Modeling and Data Analysis</td>
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<td>Dynamic Meteorology I</td>
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<td>UL ATSC Elective</td>
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<td>4</td>
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<tr>
<td><strong>Hours</strong></td>
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<td>13</td>
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<tr>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATSC 4305</td>
<td>Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 4302</td>
<td>Dynamic Meteorology II</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 3402</td>
<td>Mesoscale Meteorology</td>
<td>4</td>
</tr>
<tr>
<td>UL ATSC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Electives as needed for min 120</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td>120</td>
</tr>
</tbody>
</table>

Courses

ATSC 2101  Weathercasting
1 Semester Credit Hour (1 Lecture Hour)
This course is to practice in preparing and presenting weathercasts for radio and television. The instructors of this course will provide the students with: (1) information in the form of lectures and supplemental readings; (2) opportunities to practice weathercasting on video, and (3) advice, supervision, and guidance. In lecture, students will spend most of the course learning about geography and weathercasting rules. A large portion of the course is to practice the weathercasting and report.
**Prerequisite:** ATSC 3403.

ATSC 2301  Weather Observations
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction of the basic concept of meteorology. The focus is on the measurements of the atmosphere and weather related phenomenon. The principle of the instruments used to measure temperature, pressure, moisture, radiation, precipitation and other weather related properties of the atmosphere will be introduced. The differences among the observations from in-situ, balloon borne, airborne, and satellite borne instruments will be examined and discussed.
**Prerequisite:** ATSC 2403.

ATSC 2302  Introduction of Data Analysis in Atmospheric Sciences
3 Semester Credit Hours (3 Lecture Hours)
This course will enhance student skills for analyzing atmospheric science-related datasets under various scientific programming environments. The focus is on developing a data analysis and problem-solving skillsets using mostly Python. The course includes: basic concepts of operating systems and high-level programming languages; basics of programming in Python; general data analysis methods and tools; scientific data formats used in remote sensing data and numerical model output; publication-quality scientific graphics; and critical steps of building a large programming project. Examples with IDL and FORTRAN are also included.
Prerequisite: divergence, circulation theorem, and planetary wave. The equations of motion on rotating earth, vorticity, potential vorticity, and barotropic instability, two-dimensional turbulence, atmospheric teleconnection, El Nino/Southern Oscillation, Madden-Julian Oscillation, global warming, and numerical modeling of atmospheric circulations.

Prerequisite: ATSC 4301.

ATSC 4305 Remote Sensing
3 Semester Credit Hours (3 Lecture Hours)
This course aims to introduce the fundamentals of satellite/airborne remote sensing techniques and demonstrates its application to various aspects of Earth Sciences. Topics include physical principles of remote sensing from ultraviolet to the microwave, radiometry, sensors and sensor technology, calibration, and environmental applications for land, ocean and atmosphere research.

Prerequisite: PHYS 2426.

ATSC 4335 Climate and Climate Variability
3 Semester Credit Hours (3 Lecture Hours)
This course intended to guide environmental science undergraduate students in developing a conceptual understanding of Earth’s global climate and its variability. Review past climates, present mean state of the climate system, climate variability from seasonal to multi-decadal time scales, and climate change. Special attention will be given to climates of the Gulf of Mexico, Caribbean Sea and surrounding land regions. Plausible climate-change scenarios, as well as mitigation and adaptation strategies will also be discussed. Cross listed with ESCI 4335.

Prerequisite: (ATSC 2403 or ESCI 3351).

ATSC 4496 Directed Independent Study
1-4 Semester Credit Hours (1-4 Lecture Hours, 4 Lab Hours)
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College.

ATSC 4498 Internship in Atmospheric Science
1-4 Semester Credit Hours
ATSC 4498 (Internship in Atmospheric Science) gives ATSC undergraduates an opportunity to obtain valuable paid or unpaid work experience related to atmospheric science, to better position them for employment after graduation. Students contract to work a specified number of hours weekly over a full semester with a state or federal agency or private industry related to atmospheric science, in return for college credit as follows: 3-6 hrs./week=1 sem. hr., 6-9 hrs./week =2 sem. hrs., 9-12 hrs./week=3 sem. hrs., 12-15 hrs./week=4 sem. hrs. Students may contract for 1-2 sem. hrs. in a single summer session (5.5 weeks) but may contract for up to 4 sem. hrs. if carrying out internship over a regular long semester or two summer sessions (11 weeks). If interning for the summer, students should increase the number of hours interned weekly to account for the shortened period worked, so total hours interned will be equivalent to those in a regular long semester. A student may intern only twice with a single office or agency. The internships will not apply towards graduate credit.

ATSC 4590 Selected Topics
1-5 Semester Credit Hours (1-5 Lecture Hours, 5 Lab Hours)
This course includes special topics with variable content. May be repeated for credit. Offered on sufficient demand.
Biology, BS

Program Description

Purpose of Biology Program

The biology program provides diverse training for careers in the biological sciences. The biology curriculum includes content courses required for

1. teacher certification in life science,
2. acceptance to post-graduate studies, and
3. pre-professional studies in preparation for admission to professional schools.

Students will acquire content and skills to enter a variety of biology-related careers such as research, marine biology, wildlife and coastal management, environmental protection, laboratory technician, biotechnology industry, medical or environmental microbiology, technical writing, pharmaceutical sales, careers in the medical, dental, and allied health fields, and science education.

Field and laboratory courses emphasize the development of practical skills in using special materials and equipment. Focus is on enhancement of critical thinking skills, which will prepare the student for careers in the biological sciences as well as in other general areas of employment.

Student Learning Outcomes

Students will:

- Possess a broad understanding of biology.
- Understand the scientific method and use it to develop and conduct biological experiments.
- Have the skills necessary to successfully communicate biological information to a range of audiences.

The Honors Program

The Honors Program (admission by application only) offers highly motivated students from any academic discipline an enriched program of study in which to develop global perspectives. Appropriate courses approved by both a student’s biology faculty mentor and Honors advisor may count toward the Biology degree. Thus, a Biology student in the Honors track can usually graduate with no additional course work.

For more information, consult the section entitled “Honors Program (p. 556)”.

Fast Track from Bachelor’s to Master’s Degree

The university allows the opportunity for high-achieving students to count a select number of graduate credits toward their undergraduate degree and thereby obtain a graduate degree at an accelerated pace. For more information, see Fast Track Biology, BS to Biology, MS (p. 490).

General Requirements

The Bachelor of Science in Biology degree requires a minimum of 120 semester credit hours: 42 are designated University Core Curriculum Program courses, 46 are from biology core courses and 32 are from biology career track courses. The biology core provides students with a broad biological background and includes coursework in four key areas: mathematics, the chemistry of life/cell biology, form and function, and organismal biology. In each of these areas students select one course from a list of appropriate courses, depending on their interests and choice of biology career track. The biology career track areas are: (A) Ecology, (B) Marine Biology, (C) Cell/Molecular Biology, (D) Microbiology, (E) Organismal Biology and (F) Integrative Biology. Students should select a biology career track as soon as possible after they complete their freshman year and well before they begin their junior year.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>Biology Core Courses</td>
<td>46</td>
</tr>
<tr>
<td>Biology Track Courses</td>
<td>32</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>120-122</strong></td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars. The First-Year Seminars will not count towards the 120 hour minimum requirements to graduate.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

2. For 4 of the four-hour science and mathematics courses that are required for all Biology students, some or all of the hours may be counted as part of the University Core requirement. For BIOL 1406 Biology I (4 sch), BIOL 1407 Biology II (4 sch), and MATH 2413 Calculus I (4 sch), the 3 lecture hours of each will be counted in the Life and Physical Sciences or Mathematics Foundational Areas; and each one-hour laboratory component will be counted in the Component Area Option of the University Core Curriculum. For CHEM 1411 General Chemistry I (4 sch), the 3 lecture hours will be counted in the Component Area Option of the University Core Curriculum, but the 1 laboratory hour will be counted as part of the Biology Core.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full-time, First-year Students</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
<td>1</td>
</tr>
<tr>
<td><strong>Core Curriculum Program</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Core Curriculum</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Biology majors are required to take:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 1406</td>
<td>Biology I</td>
<td></td>
</tr>
<tr>
<td>BIOL 1407</td>
<td>Biology II</td>
<td></td>
</tr>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td></td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
<td></td>
</tr>
<tr>
<td><strong>Biology Core Courses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 1406</td>
<td>Biology I (included in University Core)</td>
<td></td>
</tr>
<tr>
<td>BIOL 1407</td>
<td>Biology II (included in University Core)</td>
<td></td>
</tr>
<tr>
<td>BIOL 2300</td>
<td>Science Communication</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2416</td>
<td>Genetics</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2421</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2371</td>
<td>Principles of Evolution</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3428</td>
<td>Principles of Ecology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I (lecture included in University Core)</td>
<td>1</td>
</tr>
</tbody>
</table>
A minimum grade point average of 2.5 in the major field of upper-division credit (courses numbered 3000 or 4000) is required to earn the 120 hours necessary for graduation. A minimum of 45 hours Students must complete 32 additional hours in one of the Biology Tracks.

### Biology Career Tracks

Each biology career track is designed to provide specific background in a biological discipline. The integrative biology track provides a broad background in the biological sciences.

Any track will prepare a student for entry-level biological careers in a variety of academic, governmental, or private sector settings, but many careers will require training beyond the BS degree. A students should consult their faculty mentor to determine the track that is the best fit for their career goals.

Each track consists of 32 hours, including a core of required courses and electives. Students are strongly encouraged to consult their faculty mentor for guidance in choosing the electives.

### Ecology Track

The Ecology Track focuses on interactions between organisms and between organisms and the physical environment. Students choosing this track will be preparing for careers in fields such as agriculture, environmental protection, conservation, natural resource management, and public education.

A total of at least 120 hours is required to graduate with the B.S. degree.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 3479</td>
<td>Plant Ecology</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 4405</td>
<td>Limnology</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 4408</td>
<td>Microbial Diversity and Ecology</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 4336</td>
<td>Marine Ecology</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 4446</td>
<td>Tropical Ecosystems &amp; Conservation</td>
<td>8</td>
</tr>
</tbody>
</table>

### Marine Biology Track

The Marine Biology track focuses on organisms in marine and coastal systems. Students choosing this track will be preparing for careers in fisheries and aquaculture, coastal/marine resource management and conservation, outdoor recreation, and aquatic science.

A total of at least 120 hours is required to graduate with the B.S. degree.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 4336</td>
<td>Marine Ecology</td>
<td>3</td>
</tr>
</tbody>
</table>

Select three of the following Marine Organisms courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 4429</td>
<td>Marine Botany</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4430</td>
<td>Marine Plankton</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4432</td>
<td>Ichthyology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4444</td>
<td>Estuarine Organisms</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4452</td>
<td>Ecology and Evolution of Fishes</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following Human Impacts courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 4302</td>
<td>Coral Reef Conservation</td>
<td>3</td>
</tr>
</tbody>
</table>
BIOL 4308  Biogeography  
BIOL 4323  Global Change Ecology  
BIOL 4328  Fisheries  
BIOL 4343  Oceans and Human Health  

**Field or Laboratory Experience**  
Each student must take a minimum of 3 hours of Field or Laboratory Experience from the following list; courses on the list may also be taken as electives.  

- BIOL 4312  Mariculture Techniques  
- BIOL 4329  Fisheries Techniques  
- BIOL 4353  Down the River: Biology of Gulf Coast Fishes  
- BIOL 4355  Public Aquarium and Animal Care Operations  
- BIOL 4399  Directed Independent Research  
- BIOL 4547  Marine Science Field Camp  
- BIOL 4590  Selected Topics  
- BIOL 4598  Biology Internship  
- BIOL 4609  Field and Sampling Techniques  

**Marine Biology Electives**  
Select 9-11 hours of upper division electives (p. 376)  

Any course that is listed as a requirement in the Marine Biology Core but is not taken to fulfill a core requirement can be taken as an elective.

**Total Hours**  
9-11

---

**Cell/Molecular Biology Track**  
The Cell/Molecular Biology track focuses on the chemical, cellular, and tissue levels of biological organization. Students choosing this track will be preparing for careers in biotechnology and healthcare professions, research laboratories, biological/pharmaceutical manufacturing and quality control, agricultural testing, and health- or biotechnology-related sales. This track also prepares students for graduate studies in biology, biotechnology, and health-related sciences.

A total of at least 120 hours is required to graduate with the B.S. degree.

**Code**  
**Title**  
**Hours**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 3403</td>
<td>Molecular Biology (include in the Biology Core)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 3410</td>
<td>Cell Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 4340</td>
<td>Genomics, Proteomics and Bioinformatics</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 4401</td>
<td>Biochemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 4402</td>
<td>Biochemistry II</td>
<td>4</td>
</tr>
</tbody>
</table>

**Cell/Molecular Biology Electives**  
Select 17 hours of upper division electives (p. 376)  

**Total Hours**  
17

---

**Microbiology Track**  
This Microbiology track focuses on bacteria, viruses, fungi and protozoa. Many of these organisms are important to industry, agriculture, and health care. Students choosing this track will be preparing for careers in industrial, environmental, medical, public health, and agricultural laboratories, industrial quality control, health care professions, research, biotechnology, and microbiology-related sales.

A total of at least 120 hours is required to graduate with the B.S. degree.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 3403</td>
<td>Molecular Biology (include in the Biology Core)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 4406</td>
<td>Immunology</td>
<td>4</td>
</tr>
<tr>
<td>BIMS 4374</td>
<td>Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 4401</td>
<td>Biochemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 4402</td>
<td>Biochemistry II</td>
<td>4</td>
</tr>
</tbody>
</table>

Select one Physics sequence from the following:  

- PHYS 1401  General Physics I & PHYS 1402  General Physics II
- PHYS 2425  University Physics I & PHYS 2426  University Physics II

**Microbiology Electives**  
Select 9 hours of upper division electives (p. 376)  

**Total Hours**  
32

---

**Organismal Biology Track**  
The Organismal Biology track focuses on the natural history, ecology, structure, and function of plants and/or animals. Students can choose to emphasize plants or animals, or take courses that result in a broad understanding of both. Students choosing this track will be preparing for careers that include, but are not limited to, wildlife management, fisheries, natural resource management, parks and recreation, biodiversity and conservation, habitat restoration, and agriculture or horticulture. This track also prepares students for graduate studies in biology, wildlife and fisheries sciences, wildlife management, forestry, or taxonomy and systematics.

A total of at least 120 hours is required to graduate with the B.S. degree.

**Code**  
**Title**  
**Hours**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 2472</td>
<td>Principles of Botany (include in Biology Core)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 3455</td>
<td>Plant form and Function (include in Biology Core)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 4411</td>
<td>Plant Ecology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 4422</td>
<td>Plant Taxonomy</td>
<td>4</td>
</tr>
</tbody>
</table>

**Organismal Biology Electives**  
Select 8 hours from the following:  

**Plant Emphasis**  
- BIOL 2472  Principles of Botany (include in Biology Core)
- BIOL 3455  Plant form and Function (include in Biology Core)
- BIOL 3479  Plant Ecology
- BIOL 4422  Plant Taxonomy

**Animal Emphasis**  
- BIOL 3413  Invertebrate Zoology (include in Biology Core)
- BIOL 3414  Vertebrate Zoology
- BIOL 4411  Animal Behavior

Select one of the following (include in Biology Core):  

- BIOL 3425  Functional Anatomy  
- BIOL 4330  Physiology

**Organismal Biology Electives**
Select 24 hours of upper division electives (p. 376) 24

Total Hours 32

^ Blended offering

Integrative Biology Track

The Integrative Biology track emphasizes the integration of physical factors, cells, tissues, organs, and organ systems in producing functional organisms. Students choosing this track will be preparing for careers in health care, government or academic research, agriculture, or biology sales. This track is also a good choice for students planning to attend graduate school because it provides a great deal of flexibility depending on the student’s interests and career goals.

A total of at least 120 hours is required to graduate with the B.S. degree.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 3410</td>
<td>Cell Biology (include in Biology Core)</td>
<td></td>
</tr>
<tr>
<td>BIOL 3425</td>
<td>Functional Anatomy (include in Biology Core)</td>
<td></td>
</tr>
<tr>
<td>BIOL 3430</td>
<td>Physiology</td>
<td>4</td>
</tr>
</tbody>
</table>

Select one Physics sequence from the following: 8

- PHYS 1401 General Physics I
- PHYS 1402 General Physics II
- PHYS 2425 University Physics I
- PHYS 2426 University Physics II

Integrative Biology Electives

Select 20 hours of upper division electives (p. 376) 20

Total Hours 32

Approved Electives

BIMS 4333 Medical Entomology 3
BIMS 4334 Human Genetics 3
BIMS 4335 Endocrinology * 3
BIMS 4374 Medical Microbiology 3
BIMS 4375 Mechanisms of Microbial Pathogenesis * 3
BIMS 4410 Histology 4

PHYS 1401 General Physics I 4
or PHYS 2425 University Physics I 4

PHYS 1402 General Physics II 4
or PHYS 2426 University Physics II 4

MATH 2414 Calculus II 4
MATH 3342 Applied Probability and Statistics ** 3

* Online offering
^ Blended offering

Course Sequencing

Marine Biology

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
</table>

First Year

Fall

- BIOL 1406 Biology I 4
- CHEM 1411 General Chemistry I 4
- University Core Curriculum Requirements 6
- UNIV 1101 First-Year Seminar I 1

Hours 15

Spring

- BIOL 1407 Biology II 4
- CHEM 1412 General Chemistry II 4
- University Core Curriculum Requirements 6
- UNIV 1102 First-Year Seminar II 1

Hours 15

Summer

- MATH 2413 Calculus I 4
- University Core Curriculum Requirements 6

Hours 10

Second Year

Fall

- BIOL 2416 or BIOL 2421 or BIOL 2371 Genetics or Microbiology or Principles of Evolution 3-4
- CHEM 3411 Organic Chemistry I 4
- University Core Curriculum Requirements 6
- BIMS 2200 Professional Skills 2

Hours 15-16

Spring

- CHEM 3412 Organic Chemistry II 4
- BIOL 2416 or BIOL 2421 or BIOL 2371 Genetics or Microbiology or Principles of Evolution 3-4
- University Core Curriculum Requirements 3
- MATH 3342 Applied Probability and Statistics 3

Hours 13-14
Texas A&M University - Corpus Christi Undergraduate Catalog 377

Courses

BIOL 1308  Science for Life I (Non-Majors Biology)
3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A non-majors science course in which students will learn basic biological principles, identify the relevance of science in everyday life, and will understand the scientific method. Hands-on lab activities will reinforce course concepts. This course does not substitute for BIOL 1406 - Biology I or BIOL 1407 - Biology II for science majors.
Co-requisite: SMTE 0091.
TCCNS: BIOL 1308

BIOL 1406  Biology I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Presentation of basic biological concepts including scientific method, cytology, energetics, nucleic acids and genetics. This course is suitable for all majors.
Prerequisite: (MATH 1314, 1316, 2305, 2413, minimum score of 21 in 'ACT Math' or minimum score of 550 in 'SAT Math').
Co-requisite: SMTE 0091.
TCCNS: BIOL 1406

BIOL 1407  Biology II
4 Semester Credit Hours (4 Lecture Hours)
This course is an overview of the major concepts in biological diversity and plant and animal biology. Laboratory work will include individual/team activities as well as technology-related assignments.
Prerequisite: BIOL 1406.
Co-requisite: SMTE 0091.
TCCNS: BIOL 1407

BIOL 2300  Science Communication
3 Semester Credit Hours (3 Lecture Hours)
This course involves presentation and discussion of selected topics relating to the professional skills of practicing biological scientists, including basic software instruction, a review of library services pertinent to science, the application of scientific literature research skills, hypothesis generation and statistical tests, critical reviews of scientific articles, and an introduction to ethical issues in science.

BIOL 2371  Principles of Evolution
3 Semester Credit Hours (3 Lecture Hours)
An overview of the mechanisms by which heritable information changes, adaptations develop, and species diversify. Provides a foundation for molecular, cellular, and organismal studies in the biological sciences.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 2401  Anatomy and Physiology I
4 Semester Credit Hours (4 Lecture Hours)
Structure and function of the human body emphasizing biological chemistry, cell biology, tissues, and the integumentary, skeletal, muscular, and nervous systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his/her career track and obtain approval for a substitution from his/her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.
Co-requisite: SMTE 0091.
TCCNS: BIOL 2401

BIOL 2402  Anatomy and Physiology II
4 Semester Credit Hours (4 Lecture Hours)
Structure and function of the human body emphasizing blood, growth, development, genetics, and the endocrine, digestive, respiratory, cardiovascular, lymphatic, immune and urogenital systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his/her career track and obtain approval for a substitution from his/her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.
Prerequisite: BIOL 2401.
Co-requisite: SMTE 0091.
TCCNS: BIOL 2402

BIOL 2416  Genetics
4 Semester Credit Hours (3 Lecture Hours)
Principles of genetic transmissions and molecular basis of heredity and variation. Weekly recitation periods will involve team assignments, problem solving activities, and seminars.
Prerequisite: BIOL 1406 and 1407.
TCCNS: BIOL 2416

BIOL 2420  Principles of Microbiology
4 Semester Credit Hours (4 Lecture Hours)
Introduction to microorganisms with emphasis on those of importance in patient care. Principles of disinfection, sterilization, immunity. This class is intended for nursing majors; it cannot substitute for BIOL 2421 - Microbiology.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2420
BIOL 2421  Microbiology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An introduction to microorganisms including the bacteria, fungi, and viruses. Laboratory involves microbiological techniques and development of basic laboratory skills.
Prerequisite: BIOL 1406, 1407, CHEM 1411 and 1412.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2421

BIOL 2472  Principles of Botany
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the structure, function, diversity and application of plants. Laboratory focus on anatomical features, physiological adaptations, classification, and life cycles.
Prerequisite: BIOL 1407 and CHEM 1411.
Co-requisite: SMTE 0091.

BIOL 3300  Animal Nutrition
3 Semester Credit Hours (3 Lecture Hours)
Examines the dietary requirements of both companion animals and livestock. Includes the anatomy, physiology and biochemistry of the gastrointestinal system, nutrient procurement and use, feed additives, growth stimulants, metabolic diseases, and diet therapy. Cross listed with BIMS 3300.
Prerequisite: BIOL 1407 and CHEM 3411 and (CHEM 3412 or 3412*).

BIOL 3325  Biostatistics
3 Semester Credit Hours (3 Lecture Hours)
The application of statistical analyses to biological data. Students will gain an understanding of how to apply statistical analyses to biological data through study of the principles of experimental design including how to frame informative research questions. At a fundamental level, these concepts are linked to the philosophy of science and our understanding of the way the world works.

BIOL 3345  Cell Physiology
3 Semester Credit Hours (3 Lecture Hours)
Emphasis on cellular functions that underlie physiological processes, transport across membranes, membrane potential and excitability, the cell nucleus, and organelles and their relationship to energy, metabolism, and transport mechanisms within the cell. Offered during Spring semester of odd-numbered years
Prerequisite: BIOL 2200 or BIMS 2200 and BIOL 3410.

BIOL 3403  Molecular Biology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Principles of molecular biology including advanced concepts of gene structure, expression and regulation, chromatin structure, recombination, and current molecular biology techniques. Laboratory emphasis is on basic skills for nucleic acid analyses, including extraction, PCR amplification, quantification, restriction, and electrophoresis. DNA sequencing-based approaches are covered including bioinformatics for sequence comparisons, polymorphisms, and molecular identification. Cross listed with BIMS 3403.
Prerequisite: BIOL 2416 and 2421.
Co-requisite: SMTE 0092.

BIOL 3410  Cell Biology
4 Semester Credit Hours (4 Lecture Hours)
Study of cellular architecture and function. Topics include membranes, transport, organelles, cytoskeleton, and signaling mechanisms. Interrelationships of structure, function, energy and metabolism are explored. Laboratory will emphasize basic techniques of cell biology.
Prerequisite: BIOL 2416 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 3413  Invertebrate Zoology
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
Structure, life history, and evolution of the invertebrates with special emphasis on the phylogeny and ecological relationships of the major phyla. Laboratory will involve field trips and survey collections. Offered fall semester every year.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3414  Vertebrate Zoology
4 Semester Credit Hours (4 Lecture Hours)
Structure, life history, and evolution of the vertebrates with special emphasis on the phylogeny and ecological relationships of the classes. Laboratory will involve field trips and survey collections. Offered only in Spring semester.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3425  Functional Anatomy
4 Semester Credit Hours (4 Lecture Hours)
General trends in morphological development and adaptation as demonstrated by the anatomy and embryology of living and extinct chordates. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3428  Principles of Ecology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the interrelationships of organisms and their environment. Population structure, community classification and regulation, and energy flow in ecosystems will also be covered. Laboratory sections will focus on experimental design and field techniques in ecology.
Prerequisite: BIOL 1407 and (BIOL 2200, 2300, BIMS 2200 or UNIV 1101 and UNIV 1102) and CHEM 1411 and (MATH 2413 or 2413*).
* May be taken concurrently.

BIOL 3430  Physiology
4 Semester Credit Hours (4 Lecture Hours)
The study of physiological processes that are the product of complex interactions between tissues, organs and organ systems, with emphasis on the circulatory, respiratory, endocrine, muscular, digestive, and urogenital systems. Particular focus on homeostasis, and the role of the environment and evolution on organ systems. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I, or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.
BIOL 3455  Plant form and Function
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Anatomy of vegetative and reproductive organs of plants, unique cellular features, development and differentiation of cell and tissue types. Emphasis on physiological mechanisms of response and adaptation to the environment.
Prerequisite: BIOL 1407.

BIOL 3479  Plant Ecology
4 Semester Credit Hours (4 Lecture Hours)
Structure, physiology, life cycles, and economic impact of plants. Factors influencing diversity, succession and ecological distribution of plants.
Prerequisite: BIOL 1407.

BIOL 4100  Research Ethics and Professionalism
1 Semester Credit Hour (1 Lecture Hour)
A course designed to enhance the professionalism of undergraduate researchers. This course discusses the codified aspects of research ethics, including fabrication, falsification and plagiarism of data; assigning authorship, submitting manuscripts to more than one journal and management of lab teams. It also addresses careers in science, resume writing, producing the successful application and interviewing skills.

BIOL 4301  Embryology
3 Semester Credit Hours (3 Lecture Hours)
Studies the events that occur just prior to and during gestation. Includes gametogenesis, chromosomal and single gene aberrations, teratology, and the development of the body systems.
Prerequisite: BIOL 2416.

BIOL 4302  Coral Reef Conservation
3 Semester Credit Hours (3 Lecture Hours)
Survey of challenges and threats facing coral reef ecosystems in the 21st century and discussion of conservation and management strategies. Topics include biology and ecology of reef ecosystems, climate change impacts, coral bleaching, over-fishing and the effectiveness and design of marine protected areas.

BIOL 4304  Biology of Viruses
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the study of viruses, including viral life cycles, replication schemes and Baltimore classification of representative bacteriophages, plant and animal viruses. Emphasis on analysis and review of primary literature on viruses.
Prerequisite: BIOL 2416, 2421 and CHEM 1411.

BIOL 4308  Biogeography
3 Semester Credit Hours (3 Lecture Hours)
This course offers an overview of the theories, methods, and current directions in modern biogeography, emphasizing marine and terrestrial plant and animal species and communities.

BIOL 4311  Biological Bases of Behavior
3 Semester Credit Hours (3 Lecture Hours)
This lecture-based course examines the processes by which neuronal circuits generate behaviors and the mechanisms by which experience modulates the activity of these circuits.
Prerequisite: BIMS 4323.

BIOL 4312  Mariculture Techniques
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
The study and hands-on application of biological, mechanical, and other concepts required to develop the skills and techniques necessary for efficient operation and management of public and private aquaculture facilities. Offered in Fall of odd-numbered years.
Prerequisite: BIOL 4370.

BIOL 4319  Biology of Marine Mammals
3 Semester Credit Hours (3 Lecture Hours)
Introduction to marine mammals, with a focus on their interactions with their biotic and abiotic environment
Prerequisite: BIOL 1407.

BIOL 4323  Global Change Ecology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the effects of climatic and anthropogenic change on terrestrial and aquatic structure and function. Includes readings from the current literature and discussion of controversial articles.
Prerequisite: BIOL 3428.

BIOL 4328  Fisheries
3 Semester Credit Hours (3 Lecture Hours)
A study of theory and techniques in fisheries science, including practical fisheries sampling designs and techniques, behavior of fisheries populations and application to resource management with emphasis in tide-influenced waters. Includes readings in the current literature.
Prerequisite: BIOL 1407.

BIOL 4329  Fisheries Techniques
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
This class is designed to provide practical experience in the theory and application of traditional and modern fisheries sampling and analytical techniques used in Fisheries Science and Management. This is a hands-on field- and laboratory-based course that will develop skills that are most commonly used by fisheries biologists and technicians. Offered in Fall of even-numbered years.
Prerequisite: BIOL 4328.

BIOL 4334  Biology and Ecology of Coral Reefs
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the biology of corals, describe the abiotic and biotic interactions among coral reef ecosystem inhabitants, identify the threats of climate change, and discuss the conservation and management of reefs for the future. Offered every spring.
Prerequisite: BIOL 3428.

BIOL 4335  Conservation Biology
3 Semester Credit Hours (3 Lecture Hours)
Principles and theories relating to the conservation of biological diversity, including patterns and processes creating biological diversity, estimates of extinction rates, consequences of losses of biodiversity and causes of diversity loss.
Prerequisite: BIOL 3428.

BIOL 4336  Marine Ecology
3 Semester Credit Hours (3 Lecture Hours)
Habitats and community structure in marine environments; biotic and abiotic factors governing the distribution of marine organisms.
BIOL 4340  Genomics, Proteomics and Bioinformatics  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to integrative biological study using genome-wide approaches and bioinformatics. The "-omics" technologies (Genomics, Proteomics, Metabolomics, etc.) will be surveyed for current and potential contributions to understanding biological function at molecular, cellular, organismal and ecosystem levels.  
Prerequisite: BIOL 2416 and 3410 or CHEM 4401.

BIOL 4343  Oceans and Human Health  
3 Semester Credit Hours (3 Lecture Hours)  
Healthy oceans are essential to the habitability of our planet — for humans and all other forms of life. Students will explore links between oceans, pollution, human well-being, ecosystem services, resource management, and the science and legislation governing the enforcement of water quality standards.

BIOL 4350  Research and Design  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Course will include experimental design, literature review of a research topic and laboratory work on the research topic.

BIOL 4353  Down the River: Biology of Gulf Coast Fishes  
3 Semester Credit Hours (3 Lecture Hours)  
This course covers aspects of ecology and biogeography of riverine and estuarine fishes while exposing students to field sampling techniques and museum preparation of specimens. This will be a unique opportunity for students to gain an in-depth understanding of the biological complexity of Texas Gulf Coast river systems while gaining hands-on experience in field and museum ichthyological techniques that are employed by state, federal and academic researchers alike.  
Co-requisite: SMTE 0091.

BIOL 4355  Public Aquarium and Animal Care Operations  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines the unique requirements needed for public aquariums and zoos to balance animal care and health with public display for general education and conservation research.  
Co-requisite: SMTE 0091.

BIOL 4370  Mariculture  
3 Semester Credit Hours (3 Lecture Hours)  
Survey of the physiological, behavioral, environmental, and economic parameters governing the culture of selected aquatic species. Included are techniques employed worldwide to produce aquatic products.  
Prerequisite: BIOL 1407.

BIOL 4371  Population Genetics  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to evolutionary processes and their genetic basis, this course focuses on theoretical and experimental approaches to the study of population genetics, quantitative genetics, evolutionary ecology, and molecular evolution.  
Prerequisite: BIOL 2416 and MATH 2413.

BIOL 4396  Directed Independent Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Research in areas of current interest. Written report required. May be repeated for a maximum of 6 semester hours.  
Prerequisite: BIOL 1407 and CHEM 1412.

BIOL 4399  Directed Independent Research  
3-6 Semester Credit Hours (3-6 Lecture Hours)  
Independent laboratory- or field-based research project on topic of current interest. Project developed in conjunction with a faculty advisor. Written report required. May be repeated once for a total of 6 semester credit hours

BIOL 4405  Limnology  
4 Semester Credit Hours (4 Lecture Hours)  
The study of the functional relationships and productivity of aquatic communities as they are affected by their physical, chemical, and biotic environment. The influence of man's activities on these systems will be the focus of the course.  
Prerequisite: BIOL 3428.  
Co-requisite: SMTE 0091.

BIOL 4406  Immunology  
4 Semester Credit Hours (4 Lecture Hours)  
An overview of immunology with emphasis on current knowledge of the immune system. Detailed examination of the specific cells, cytokines, antibodies, and molecules that comprise the immune system. Laboratory exercises demonstrate the basic principles and techniques used in immunologic studies. Cross listed with BIMS 4406.  
Prerequisite: BIOL 2421.  
Co-requisite: SMTE 0092.

BIOL 4408  Microbial Diversity and Ecology  
4 Semester Credit Hours (4 Lecture Hours)  
Biodiversity and roles of microorganisms in natural environments. Interactions with other micro- and macro-organisms (humans, animals and plants) and with abiotic factors. Unique abilities of microorganisms such as nitrogen fixation and adaptation to extreme environments.  
Prerequisite: (BIOL 2421 or 4328).  
Co-requisite: SMTE 0092.

BIOL 4410  Mammalogy  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Systematics and ecology of mammals. Offered in even Fall semesters.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.

BIOL 4411  Animal Behavior  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
An understanding of why animals behave in the manner they do, through examination of both invertebrate and vertebrate species.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.

BIOL 4413  Entomology  
4 Semester Credit Hours (4 Lecture Hours)  
A broad overview of the natural history, classification, phylogeny, ecology, behavior, development and physiology of insects and their kin. The lab will involve field work, collection and curation.  
Prerequisite: BIOL 3413.  
Co-requisite: SMTE 0091.

BIOL 4417  Field Biology  
4 Semester Credit Hours (1 Lecture Hour, 6 Lab Hours)  
is a hands-on course designed to teach students key concepts by immersing them in nature. Topics include adaptations of plants and animals in different habitats, food web interactions, and how biotic and abiotic forces interact to structure natural communities including spatial and temporal variation in communities.  
Prerequisite: BIOL 3428.  
Co-requisite: SMTE 0091.
BIOL 4422 Plant Taxonomy
4 Semester Credit Hours (4 Lecture Hours)
Principles and practice in the classification of flowering plants. Field trips are required.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4425 Ornithology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics, anatomy, physiology, ecology, behavior, and field identification of birds. Offered in odd Fall semester.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4429 Marine Botany
4 Semester Credit Hours (4 Lecture Hours)
The ecology of marine plants with emphasis on identification, life histories, and environmental factors of distribution.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4430 Marine Plankton
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
In this class we will investigate the systematics, distribution, and ecology of major marine plankton groups and introduce major concepts in biological oceanography. Offered in Spring of odd-numbered years.

BIOL 4432 Ichthyology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics, evolution, biology, and ecology of fishes. Laboratory identification of marine and freshwater fishes collected during field excursions.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4433 Parasitology
4 Semester Credit Hours (4 Lecture Hours)
An introduction to parasitology with emphasis on internal parasites and appropriate references to human endoparasites and parasites of veterinary importance.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

BIOL 4435 Biological Microtechniques
4 Semester Credit Hours (4 Lecture Hours)
Theory and techniques of processing specimens for histochemistry and microscopic examination. Laboratory includes preparation of tissues and small specimens for analysis and display.
Prerequisite: BIOL 1407 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 4442 Herpetology
4 Semester Credit Hours (4 Lecture Hours)
Systematics, ecology, and behavior of amphibians and reptiles.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4444 Estuarine Organisms
4 Semester Credit Hours (4 Lecture Hours)
Systematics, distribution, and ecology of estuarine macrofauna and macroflora. Weekend field trips and individual study required.
Prerequisite: BIOL 3413.
Co-requisite: SMTE 0091.

BIOL 4446 Tropical Ecosystems & Conservation
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Survey of the ecology and conservation issues of the major ecosystems in the tropics and field techniques used to study tropical forest ecology.
Prerequisite: BIOL 3428.
Co-requisite: SMTE 0091.

BIOL 4452 Ecology and Evolution of Fishes
4 Semester Credit Hours (3 Lecture Hours, 4 Lab Hours)
This course covers aspects of fish ecology from individual, population, community, and ecosystem levels. We discuss the role of the environment on fish physiology and behavior, food-web dynamics, community assembly and diversity, ecosystem interactions, and anthropogenic impacts on fishes with a focus on conservation.
Prerequisite: BIOL 4432.
Co-requisite: SMTE 0091.

BIOL 4547 Marine Science Field Camp
5 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
Students learn techniques required to properly conduct marine science field research. Practical, hands-on experience is gained in a variety of topics including biotic and abiotic sample collection and processing, quantitative analysis of field data, evaluation of environmental factors, survival and distribution of living organisms, and the structure of biotic communities.

BIOL 4590 Selected Topics
5 Semester Credit Hours (5 Lecture Hours)
Variable content. May be repeated for credit.

BIOL 4598 Biology Internship
2-6 Semester Credit Hours
Two to six semester credit hours may be earned by working in an internship position in a governmental agency, private industry, or other appropriate venue.

BIOL 4609 Field and Sampling Techniques
3,9 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
The study of techniques required for proper field work in the biological sciences. The course includes ecological sampling methods, safety, logistics, equipment operation and maintenance and travel concerns.
Co-requisite: SMTE 0091.

Biomedical Sciences, BS
Program Description
Purpose of the Biomedical Sciences Program
The Biomedical Sciences Program serves the Coastal Bend region, the state of Texas, and the nation by preparing students for biomedical career opportunities including health services, research, forensic science, genetic engineering, biotechnology, bioinformatics, product sales, and services dealing with analysis, assessment and inspection. A few biomedical careers are available to a student with a baccalaureate degree, but most will require the student to complete post-baccalaureate course work or to earn a graduate degree. Core courses in biology and chemistry provide students with critical thinking skills in the pure sciences; specific courses allow students to further develop these skills and utilize them in solving problems. This unique combination provides students with a strong conceptual framework and also allows students to focus upon applied biomedical sciences. The two options in the Biomedical Sciences Program prepare students...
Student Learning Outcomes

Students will:

- Possess a broad understanding of science and its in-depth application to their specific option within the biomedical sciences major.
- Demonstrate critical thinking skills
- Practice the oral and written communication skills necessary to share biomedical information with a range of audiences and in a variety of venues.

The Honors Program

The Honors Program (admission by application only) offers highly motivated students from any academic discipline an enriched program of study in which to develop global perspectives. Appropriate courses approved by both a student’s BIMS faculty mentor and Honors advisor may count toward the BIMS degree. BIMS students wishing to participate in the Honors track may require some additional course work. For more information, consult the section entitled “Honors Program (p. 556)”.

Related Programs

Numerous undergraduate programs complement a major in Biomedical Sciences. In addition to the “traditional” partners (Biology, Chemistry, Physics), students should also examine courses in the Department of Computing Sciences, the Department of Mathematics and Statistics and the College of Nursing and Health Sciences. Students should also consider courses in the College of Liberal Arts (social sciences, languages, criminal justice), in the College of Business, and in the College of Education and Human Development (kinesiology). Details of these programs are available in their respective sections of this catalog.

Minor

Although Biomedical Sciences does not offer a minor, many upper-division BIMS courses may count toward the Biology Minor (see the Biology (p. 528) section of this catalog). Students majoring in Biomedical Sciences may not minor in Biology.

General Requirements

The Bachelor of Science in Biomedical Sciences degree requires a minimum of 120 semester hours: 42 are from designated Core Curriculum Program courses, 17 are from biomedical sciences core courses, and 61 are from biomedical sciences option courses. Students select one of two biomedical sciences options: (A) Pre-Professional Option or (B) Forensic Science Option. A student should select an option after completion of a minimum of 35 semester hours of university course work, but before the completion of 50 semester hours. After their sophomore year (60 semester hours), students must have (and maintain) a cumulative GPA of 2.50 or above in their course work, with no course work older than 5 years. No “D” or “F” grades will be accepted as credit within the biomedical sciences core or option courses.

Grade-Point Average

A minimum cumulative grade-point average of 2.0 (“C”) on a 4 point scale (4.0 = A) in all work taken and a minimum grade-point average of 2.25 in all courses in the major field of study taken at this University are required. The courses in the major field of study are defined for each major, and can be found on the pages for that major. For teacher certification, grade point average requirements are higher. Refer to “Teacher Certification Programs” in the College of Science and Engineering.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>BIMS 2200</td>
<td>Professional Skills</td>
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</tbody>
</table>

Students entering with some college credit may not be required to take one or both of the First-Year Seminar courses (see The First Year Learning Communities Program for rules and exceptions concerning these courses). Students in the Pre-Professional or Forensic Science options who are not required to take these First-Year Seminar courses must take BIMS 2200 Professional Skills (2 sch) Professional Skills (see below).

Biomedical Sciences majors must take: 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>BIOL 1406</td>
<td>Biology I</td>
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<tr>
<td>BIOL 1407</td>
<td>Biology II</td>
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<tr>
<td>MATH 1442</td>
<td>Statistics for Life</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
</tr>
</tbody>
</table>

Biomedical Sciences Core Courses
Biomedical Sciences Options

Select one of the following Options: 59-61

Pre-Professional Option (p. 383)

Forensic Science Option (p. 384)

Total Hours 120-122

1 Only the 3 lecture hours of each will apply to the Core Curriculum Program. Each one-hour laboratory component will be counted in the Component Area Option of the University Core Curriculum. The 3 lecture hours of General Chemistry I (CHEM 1411 General Chemistry I (4 sch)) will also be counted in the Component Area Option of the University Core Curriculum, but the 1 laboratory hour will be counted as part of the Biomedical Science core.

2 Unless student has credit for MATH 1442 Statistics for Life (4 sch)

* Online offering

^ Blended offering

+ Select at least one Forensic Science Option—Elective

Biomedical Sciences Options

Each multi-disciplinary option provides specific background in an area of biomedical sciences that corresponds to the student's career choice. For the baccalaureate degree, an option consists of requirements and electives totaling 59-61 semester hours of course work.

Pre-Professional Option

This option is designed for students who plan to continue their education in a professional school (e.g., medicine, dentistry, veterinary medicine, pharmacy, physical therapy, occupational therapy, physician assistant, etc.) or graduate school. Students in this option must choose either this option or graduate school. Students in this option must choose either this option or graduate school. Students in this option must choose either this option or graduate school. Students in this option must choose either this option or graduate school.

Additional Information

This option has flexible degree requirements with many electives to accommodate the different professional schools' diverse entrance requirements. In the list of electives above, however, not every course is appropriate for every student and some courses are best taken at a particular time. For example:

Students should take basic science courses such as BIMS 3403 Molecular Biology (4 sch), BIMS 4406 Immunology (4 sch), BIMS 4407 Medical Microbiology (4 sch), CHEM 4401 Biochemistry I (4 sch), CHEM 4402 Biochemistry II (4 sch), PHYS 1401 General Physics I (4 sch), and PHYS 1402 General Physics II (4 sch).

This option has flexible degree requirements with many electives to accommodate the different professional schools' diverse entrance requirements. In the list of electives above, however, not every course is appropriate for every student and some courses are best taken at a particular time. For example:

Students should take basic science courses such as BIMS 3403 Molecular Biology (4 sch), BIMS 4406 Immunology (4 sch), BIMS 4407 Medical Microbiology (4 sch), CHEM 4401 Biochemistry I (4 sch), CHEM 4402 Biochemistry II (4 sch), PHYS 1401 General Physics I (4 sch), and PHYS 1402 General Physics II (4 sch).

This option has flexible degree requirements with many electives to accommodate the different professional schools' diverse entrance requirements. In the list of electives above, however, not every course is appropriate for every student and some courses are best taken at a particular time. For example:

Students should take basic science courses such as BIMS 3403 Molecular Biology (4 sch), BIMS 4406 Immunology (4 sch), BIMS 4407 Medical Microbiology (4 sch), CHEM 4401 Biochemistry I (4 sch), CHEM 4402 Biochemistry II (4 sch), PHYS 1401 General Physics I (4 sch), and PHYS 1402 General Physics II (4 sch).
General Physics I (4 sch), PHYS 1402 General Physics II (4 sch) before they attempt standardized admissions tests (usually at the end of their junior year). Most professional schools encourage applicants to have a broad background in the basic sciences, and these courses are helpful even if they are not specifically required for admission to a particular career area.

To decide which electives to choose, students should:

- consult their faculty mentor and academic advisor who can also provide information about the "other mentor approved electives" which may include nonlisted courses in natural sciences (biology, biomedical sciences, chemistry, physics), social sciences (psychology, sociology), computer science, health sciences, criminal justice, kinesiology, or business.
- contact the appropriate school(s) to determine their specific entrance requirements.
- obtain a sample degree plan for a particular career field. These are available on the BIMS web site, from the student’s faculty mentor or academic advisor, or through the Pre-professional website (http://prepro.tamucc.edu).

**Forensic Science Option**

This interdisciplinary option allows students to prepare for careers in forensic science (including entrance into graduate programs in forensic science and related areas). Prospective students should be aware that employers in forensic science typically require employees to meet personal suitability requirements (e.g., honesty, integrity, and scientific objectivity). Background checks and drug tests similar to those required for law enforcement officers are likely to be a condition of employment. Students in this option must choose MATH 2413 Calculus I (4 sch) to satisfy the University Core requirement in mathematics. Elective courses allow the student to begin to specialize in an emphasis area such as forensic biology (mainly biology and biomedical sciences courses), forensic chemistry (mainly chemistry courses), or general forensic science. A student's degree plan may include a maximum of six hours of forensic chemistry (mainly chemistry courses), or general forensic science and Design (1-3 sch), or BIOL 4356 Directed Independent Study (1-3 sch). Students in this option must take a standardized assessment test during their senior year, prior to graduation.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CLSC 3200</td>
<td>Essentials for Applied Laboratory Sciences</td>
<td>2</td>
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<tr>
<td>BIMS 3103</td>
<td>Essentials for Forensic Science</td>
<td>1</td>
</tr>
<tr>
<td>BIMS 3320</td>
<td>Survey of Forensic Science</td>
<td>3</td>
</tr>
<tr>
<td>BIMS 3325</td>
<td>Professional Practice in Forensic Science</td>
<td>3</td>
</tr>
<tr>
<td>BIMS 4340</td>
<td>Forensic Science in Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3412</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3418</td>
<td>Instrumental Analysis</td>
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<tr>
<td>CRJ 4340</td>
<td>Criminal Investigation</td>
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</table>

Select one of the following:

- MATH 1442 Statistics for Life
- MATH 3342 Applied Probability and Statistics
- MATH 2413 Calculus I (3 hours included in University Core)

Select one of the following:

- PHYS 2425 University Physics I (preferred)
- PHYS 1401 General Physics I

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>PHYS 2426</td>
<td>University Physics II (preferred)</td>
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<tr>
<td>PHYS 1402</td>
<td>General Physics II</td>
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</table>

**Forensic Science Option Electives**

Select 18-19 hours of the following:

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>BIMS 3401</td>
<td>Pathophysiology</td>
</tr>
<tr>
<td>BIMS 3403</td>
<td>Molecular Biology 1</td>
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<tr>
<td>BIMS 4295</td>
<td>Biomedical Practicum</td>
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<tr>
<td>BIMS 4299</td>
<td>Directed Independent Research</td>
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<tr>
<td>BIMS 4395</td>
<td>Forensic Science Internship</td>
</tr>
<tr>
<td>CLSC 4325</td>
<td>Clinical Chemistry I</td>
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<tr>
<td>CLSC 4326</td>
<td>Clinical Chemistry II</td>
</tr>
<tr>
<td>BIMS 4327</td>
<td>Introduction to Toxicology</td>
</tr>
<tr>
<td>BIMS 4333</td>
<td>Medical Entomology</td>
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<tr>
<td>BIMS 4396</td>
<td>Directed Independent Study</td>
</tr>
<tr>
<td>BIMS 4406</td>
<td>Immunology</td>
</tr>
<tr>
<td>BIMS 4410</td>
<td>Histology</td>
</tr>
<tr>
<td>BIMS 4590</td>
<td>Selected Topics (with approval of faculty mentor) ^</td>
</tr>
<tr>
<td>BIOL 2472</td>
<td>Principles of Botany</td>
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<tr>
<td>BIOL 3410</td>
<td>Cell Biology 1</td>
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<tr>
<td>BIOL 3425</td>
<td>Functional Anatomy</td>
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<tr>
<td>BIOL 3430</td>
<td>Physiology</td>
</tr>
<tr>
<td>BIOL 4340</td>
<td>Genomics, Proteomics and Bioinformatics</td>
</tr>
<tr>
<td>BIOL 4350</td>
<td>Research and Design</td>
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<tr>
<td>BIOL 4371</td>
<td>Population Genetics</td>
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<tr>
<td>BIOL 4433</td>
<td>Parasitology</td>
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<td>BIOL 4435</td>
<td>Biological Microtechniques</td>
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<tr>
<td>CHEM 3417</td>
<td>Quantitative Analysis 1</td>
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<td>CHEM 4320</td>
<td>Drugs, Toxins and Natural Products Chemistry</td>
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<td>CHEM 4401</td>
<td>Biochemistry I 1</td>
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<td>CHEM 4402</td>
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<td>CHEM 4407</td>
<td>Advanced Inorganic Chemistry 1</td>
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<td>CHEM 4420</td>
<td>Physical Biochemistry</td>
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<td>CHEM 4423</td>
<td>Physical Chemistry I</td>
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<td>CHEM 4424</td>
<td>Physical Chemistry II</td>
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<td>ENGL 3301</td>
<td>Technical and Professional Writing</td>
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**Total Hours** 50-51

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<tr>
<td>BIOL 1406</td>
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<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
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**Course Sequencing**

**Pre-Professional**

**First Year**

**Fall**

- BIOL 1406 Biology I 4
- CHEM 1411 General Chemistry I 4
### Fourth Year

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>BIOL 3430</td>
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<tr>
<td>or BIMS 3401</td>
<td>Pathophysiology</td>
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<tr>
<td>BIMS 4311</td>
<td>Biology of Cancer</td>
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<tr>
<td>or BIMS 4374</td>
<td>Medical Microbiology</td>
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<tr>
<td>BIMS 4340</td>
<td>Genomics, Proteomics and Bioinformatics (or other BIMS/BIOL/CHEM elective)</td>
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<tr>
<td>BIMS 4335</td>
<td>Endocrinology</td>
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<tr>
<td>or BIMS 4408</td>
<td>or Microbial Diversity and Ecology</td>
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<tr>
<td>or BIMS 4410</td>
<td>or Histology</td>
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<tr>
<td>or BIMS 4375</td>
<td>or Mechanisms of Microbial Pathogenesis</td>
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**Spring**

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<tr>
<td>BIMS 4323</td>
<td>Neurobiology (OR BIOL)</td>
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<tr>
<td>BIMS 4406</td>
<td>Immunology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL or BIMS OR CHEM elective</td>
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<td>BIMS 4085</td>
<td>Major Field Test in Biology</td>
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### Total Hours

| Total Hours | 126 |

### Courses

#### Biology Courses

**BIOL 1308 Science for Life I (Non-Majors Biology)**

3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)

A non-majors science course in which students will learn basic biological principles, identify the relevance of science in everyday life, and will understand the scientific method. Hands-on lab activities will reinforce course concepts. This course does not substitute for BIOL 1406 - Biology I or BIOL 1407 - Biology II for science majors.

**Co-requisite:** SMTE 0091.

**TCCNS:** BIOL 1308

**BIOL 1406 Biology I**

4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)

Presentation of basic biological concepts including scientific method, cytology, energetics, nucleic acids and genetics. This course is suitable for all majors.

**Prerequisite:** (MATH 1314, 1316, 2305, 2413, minimum score of 21 in 'ACT Math' or minimum score of 550 in 'SAT Math').

**Co-requisite:** SMTE 0091.

**TCCNS:** BIOL 1406

**BIOL 1407 Biology II**

4 Semester Credit Hours (4 Lecture Hours)

This course is an overview of the major concepts in biological diversity and plant and animal biology. Laboratory work will include individual/team activities as well as technology-related assignments.

**Prerequisite:** BIOL 1406.

**Co-requisite:** SMTE 0091.

**TCCNS:** BIOL 1407
BIOL 2300 Science Communication
3 Semester Credit Hours (3 Lecture Hours)
This course involves presentation and discussion of selected topics relating to the professional skills of practicing biological scientists, including basic software instruction, a review of library services pertinent to science, the application of scientific literature research skills, hypothesis generation and statistical tests, critical reviews of scientific articles, and an introduction to ethical issues in science.

BIOL 2371 Principles of Evolution
3 Semester Credit Hours (3 Lecture Hours)
An overview of the mechanisms by which heritable information changes, adaptations develop, and species diversify. Provides a foundation for molecular, cellular, and organismal studies in the biological sciences.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 2401 Anatomy and Physiology I
4 Semester Credit Hours (4 Lecture Hours)
Structure and function of the human body emphasizing biological chemistry, cell biology, tissues, and the integumentary, skeletal, muscular, and nervous systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his or her career track and obtain approval for a substitution from his or her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.
Co-requisite: SMTE 0091.
TCCNS: BIOL 2401

BIOL 2402 Anatomy and Physiology II
4 Semester Credit Hours (4 Lecture Hours)
Structure and function of the human body emphasizing blood, growth, development, genetics, and the endocrine, digestive, respiratory, cardiovascular, lymphatic, immune and urogenital systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that is is required by professional schools in his or her career track and obtain approval for a substitution from his or her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.
Prerequisite: BIOL 2401.
Co-requisite: SMTE 0091.
TCCNS: BIOL 2402

BIOL 2416 Genetics
4 Semester Credit Hours (3 Lecture Hours)
Principles of genetic transmissions and molecular basis of heredity and variation. Weekly recitation periods will involve team assignments, problem solving activities, and seminars.
Prerequisite: BIOL 1406 and 1407.
TCCNS: BIOL 2416

BIOL 2420 Principles of Microbiology
4 Semester Credit Hours (4 Lecture Hours)
Introduction to microorganisms with emphasis on those of importance in patient care. Principles of disinfection, sterilization, immunity. This class is intended for nursing majors; it cannot substitute for BIOL 2421 - Microbiology.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2420

BIOL 2421 Microbiology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An introduction to microorganisms including the bacteria, fungi, and viruses. Laboratory involves microbiological techniques and development of basic laboratory skills.
Prerequisite: BIOL 1406, 1407, CHEM 1411 and 1412.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2421

BIOL 2472 Principles of Botany
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the structure, function, diversity and application of plants. Laboratory focus on anatomical features, physiological adaptations, classification, and life cycles.
Prerequisite: BIOL 1407 and CHEM 1411.
Co-requisite: SMTE 0091.

BIOL 3300 Animal Nutrition
3 Semester Credit Hours (3 Lecture Hours)
Examines the dietary requirements of both companion animals and livestock. Includes the anatomy, physiology and biochemistry of the gastrointestinal system, nutrient procurement and use, feed additives, growth stimulants, metabolic diseases, and diet therapy. Cross listed with BIMS 3300.
Prerequisite: BIOL 1407 and CHEM 3411 and (CHEM 3412 or 3412*).
* May be taken concurrently.

BIOL 3325 Biostatistics
3 Semester Credit Hours (3 Lecture Hours)
The application of statistical analyses to biological data. Students will gain an understanding of how to apply statistical analyses to biological data through study of the principles of experimental design including how to frame informative research questions. At a fundamental level, these concepts are linked to the philosophy of science and our understanding of the way the world works.

BIOL 3345 Cell Physiology
3 Semester Credit Hours (3 Lecture Hours)
Emphasis on cellular functions that underlie physiological processes, transport across membranes, membrane potential and excitability, the cell nucleus, and organelles and their relationship to energy, metabolism, and transport mechanisms within the cell. Offered during Spring semester of odd-numbered years
Prerequisite: BIOL 2200 or BIMS 2200 and BIOL 3410.

BIOL 3403 Molecular Biology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Principles of molecular biology including advanced concepts of gene structure, expression and regulation, chromatin structure, recombination, and current molecular biology techniques. Laboratory emphasis is on basic skills for nucleic acid analyses, including extraction, PCR amplification, quantification, restriction, and electrophoresis. DNA sequencing-based approaches are covered including bioinformatics for sequence comparisons, polymorphisms, and molecular identification. Cross listed with BIMS 3403.
Prerequisite: BIOL 2416 and 2421.
Co-requisite: SMTE 0092.
BIOL 3410 Cell Biology
4 Semester Credit Hours (4 Lecture Hours)
Study of cellular architecture and function. Topics include membranes, transport, organelles, cytoskeleton, and signaling mechanisms. Interrelationships of structure, function, energy and metabolism are explored. Laboratory will emphasize basic techniques of cell biology.
Prerequisite: BIOL 2416 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 3413 Invertebrate Zoology
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
Structure, life history, and evolution of the invertebrates with special emphasis on the phylogeny and ecological relationships of the major phyla. Laboratory will involve field trips and survey collections. Offered fall semester every year.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3414 Vertebrate Zoology
4 Semester Credit Hours (4 Lecture Hours)
Structure, life history, and evolution of the vertebrates with special emphasis on the phylogeny and ecological relationships of the classes. Laboratory will involve field trips and survey collections. Offered only in Spring semester.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3425 Functional Anatomy
4 Semester Credit Hours (4 Lecture Hours)
General trends in morphological development and adaptation as demonstrated by the anatomy and embryology of living and extinct chordates. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3428 Principles of Ecology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the interrelationships of organisms and their environment. Population structure, community classification and regulation, and energy flow in ecosystems will also be covered. Laboratory sections will focus on experimental design and field techniques in ecology.
Prerequisite: BIOL 1407 and (BIOL 2200, 2300, BIMS 2200 or UNIV 1101 and UNIV 1102) and CHEM 1411 and (MATH 2413 or 2413*). *May be taken concurrently.
Co-requisite: SMTE 0091.

BIOL 3430 Physiology
4 Semester Credit Hours (4 Lecture Hours)
The study of physiological processes that are the product of complex interactions between tissues, organs and organ systems, with emphasis on the circulatory, respiratory, endocrine, muscular, digestive, and urogenital systems. Particular focus on homeostasis, and the role of the environment and evolution on organ systems. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I, or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3435 Plant form and Function
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Anatomy of vegetative and reproductive organs of plants, unique cellular features, development and differentiation of cell and tissue types. Emphasis on physiological mechanisms of response and adaptation to the environment.
Prerequisite: BIOL 1407.

BIOL 3479 Plant Ecology
4 Semester Credit Hours (4 Lecture Hours)
Structure, physiology, life cycles, and economic impact of plants. Factors influencing diversity, succession and ecological distribution of plants.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4100 Research Ethics and Professionalism
1 Semester Credit Hour (1 Lecture Hour)
A course designed to enhance the professionalism of undergraduate researchers. This course discusses the codified aspects of research ethics, including fabrication, falsification and plagiarism of data; assigning authorship, submitting manuscripts to more than one journal and management of lab teams. It also addresses careers in science, resume writing, producing the successful application and interviewing skills.

BIOL 4301 Embryology
3 Semester Credit Hours (3 Lecture Hours)
Studies the events that occur just prior to and during gestation. Includes gametogenesis, chromosomal and single gene aberrations, teratology, and the development of the body systems.
Prerequisite: BIOL 2416.

BIOL 4302 Coral Reef Conservation
3 Semester Credit Hours (3 Lecture Hours)
Survey of challenges and threats facing coral reef ecosystems in the 21st century and discussion of conservation and management strategies. Topics include biology and ecology of reef ecosystems, climate change impacts, coral bleaching, over-fishing and the effectiveness and design of marine protected areas.

BIOL 4304 Biology of Viruses
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the study of viruses, including viral life cycles, replication schemes and Baltimore classification of representative bacteriophages, plant and animal viruses. Emphasis on analysis and review of primary literature on viruses.
Prerequisite: BIOL 2416, 2421 and CHEM 1411.

BIOL 4308 Biogeography
3 Semester Credit Hours (3 Lecture Hours)
This course offers an overview of the theories, methods, and current directions in modern biogeography, emphasizing marine and terrestrial plant and animal species and communities.

BIOL 4311 Biological Bases of Behavior
3 Semester Credit Hours (3 Lecture Hours)
This lecture-based course examines the processes by which neuronal circuits generate behaviors and the mechanisms by which experience modulates the activity of these circuits.
Prerequisite: BIMS 4323.
BIOL 4312 Mariculture Techniques
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
The study and hands-on application of biological, mechanical, and other concepts required to develop the skills and techniques necessary for efficient operation and management of public and private aquaculture facilities. Offered in Fall of odd-numbered years.
Prerequisite: BIOL 4370.

BIOL 4319 Biology of Marine Mammals
3 Semester Credit Hours (3 Lecture Hours)
Introduction to marine mammals, with a focus on their interactions with their biotic and abiotic environment
Prerequisite: BIOL 1407.

BIOL 4323 Global Change Ecology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the effects of climatic and anthropogenic change on terrestrial and aquatic structure and function. Includes readings from the current literature and discussion of controversial articles.
Prerequisite: BIOL 3428.

BIOL 4328 Fisheries
3 Semester Credit Hours (3 Lecture Hours)
A study of theory and techniques in fisheries science, including practical fisheries sampling designs and techniques, behavior of fisheries populations and application to resource management with emphasis in tide-influenced waters. Includes readings in the current literature.
Prerequisite: BIOL 1407.

BIOL 4329 Fisheries Techniques
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
This class is designed to provide practical experience in the theory and application of traditional and modern fisheries sampling and analytical techniques used in Fisheries Science and Management. This is a hands-on field- and laboratory-based course that will develop skills that are most commonly used by fisheries biologists and technicians. Offered in Fall of even-numbered years.
Prerequisite: BIOL 4328.

BIOL 4334 Biology and Ecology of Coral Reefs
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the biology of corals, describe the abiotic and biotic interactions among coral reef ecosystem inhabitants, identify the threats of climate change, and discuss the conservation and management of reefs for the future. Offered every spring.
Prerequisite: BIOL 3428.

BIOL 4335 Conservation Biology
3 Semester Credit Hours (3 Lecture Hours)
Principles and theories relating to the conservation of biological diversity, including patterns and processes creating biological diversity, estimates of extinction rates, consequences of losses of biodiversity and causes of diversity loss.
Prerequisite: BIOL 3428.

BIOL 4336 Marine Ecology
3 Semester Credit Hours (3 Lecture Hours)
Habitats and community structure in marine environments; biotic and abiotic factors governing the distribution of marine organisms.

BIOL 4340 Genomics, Proteomics and Bioinformatics
3 Semester Credit Hours (3 Lecture Hours)
An introduction to integrative biological study using genome-wide approaches and bioinformatics. The “-omics” technologies (Genomics, Proteomics, Metabolomics, etc.) will be surveyed for current and potential contributions to understanding biological function at molecular, cellular, organismal and ecosystem levels.
Prerequisite: BIOL 2416 and 3410 or CHEM 4401.

BIOL 4343 Oceans and Human Health
3 Semester Credit Hours (3 Lecture Hours)
Healthy oceans are essential to the habitability of our planet — for humans and all other forms of life. Students will explore links between oceans, pollution, human well-being, ecosystem services, resource management, and the science and legislation governing the enforcement of water quality standards.

BIOL 4350 Research and Design
1-3 Semester Credit Hours (1-3 Lecture Hours)
Course will include experimental design, literature review of a research topic and laboratory work on the research topic.

BIOL 4353 Down the River: Biology of Gulf Coast Fishes
3 Semester Credit Hours (3 Lecture Hours)
This course covers aspects of ecology and biogeography of riverine and estuarine fishes while exposing students to field sampling techniques and museum preparation of specimens. This will be a unique opportunity for students to gain an in-depth understanding of the biological complexity of Texas Gulf Coast river systems while gaining hands-on experience in field and museum ichthyological techniques that are employed by state, federal and academic researchers alike.
Co-requisite: SMTE 0091.

BIOL 4355 Public Aquarium and Animal Care Operations
3 Semester Credit Hours (3 Lecture Hours)
This course examines the unique requirements needed for public aquariums and zoos to balance animal care and health with public display for general education and conservation research.
Co-requisite: SMTE 0091.

BIOL 4370 Mariculture
3 Semester Credit Hours (3 Lecture Hours)
Survey of the physiological, behavioral, environmental, and economic parameters governing the culture of selected aquatic species. Included are techniques employed worldwide to produce aquatic products.
Prerequisite: BIOL 1407.

BIOL 4371 Population Genetics
3 Semester Credit Hours (3 Lecture Hours)
An introduction to evolutionary processes and their genetic basis, this course focuses on theoretical and experimental approaches to the study of population genetics, quantitative genetics, evolutionary ecology, and molecular evolution.
Prerequisite: BIOL 2416 and MATH 2413.

BIOL 4396 Directed Independent Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
Research in areas of current interest. Written report required. May be repeated for a maximum of 6 semester hours.
Prerequisite: BIOL 1407 and CHEM 1412.
BIOL 4399  Directed Independent Research  
3-6 Semester Credit Hours (3-6 Lecture Hours)  
Independent laboratory- or field-based research project on topic of current interest. Project developed in conjunction with a faculty advisor. Written report required. May be repeated once for a total of 6 semester credit hours.  

BIOL 4405  Limnology  
4 Semester Credit Hours (4 Lecture Hours)  
The study of the functional relationships and productivity of aquatic communities as they are affected by their physical, chemical, and biotic environment. The influence of man's activities on these systems will be the focus of the course.  
Prerequisite: BIOL 3428.  
Co-requisite: SMTE 0091.  

BIOL 4406  Immunology  
4 Semester Credit Hours (4 Lecture Hours)  
An overview of immunology with emphasis on current knowledge of the immune system. Detailed examination of the specific cells, cytokines, antibodies, and molecules that comprise the immune system. Laboratory exercises demonstrate the basic principles and techniques used in immunologic studies. Cross listed with BIMS 4406.  
Prerequisite: BIOL 2421.  
Co-requisite: SMTE 0092.  

BIOL 4408  Microbial Diversity and Ecology  
4 Semester Credit Hours (4 Lecture Hours)  
Biodiversity and roles of microorganisms in natural environments. Interactions with other micro- and macro-organisms (humans, animals and plants) and with abiotic factors. Unique abilities of microorganisms such as nitrogen fixation and adaptation to extreme environments.  
Prerequisite: (BIOL 2421 or 4328).  
Co-requisite: SMTE 0092.  

BIOL 4410  Mammalogy  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Systematics and ecology of mammals. Offered in even Fall semesters.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.  

BIOL 4411  Animal Behavior  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
An understanding of why animals behave in the manner they do, through examination of both invertebrate and vertebrate species.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.  

BIOL 4413  Entomology  
4 Semester Credit Hours (4 Lecture Hours)  
A broad overview of the natural history, classification, phylogeny, ecology, behavior, development and physiology of insects and their kin. The lab will involve field work, collection and curation.  
Prerequisite: BIOL 3413.  
Co-requisite: SMTE 0091.  

BIOL 4417  Field Biology  
4 Semester Credit Hours (1 Lecture Hour, 6 Lab Hours)  
is a hands-on course designed to teach students key concepts by immersing them in nature. Topics include adaptations of plants and animals in different habitats, food web interactions, and how biotic and abiotic forces interact to structure natural communities including spatial and temporal variation in communities.  
Prerequisite: BIOL 3428.  
Co-requisite: SMTE 0091.  

BIOL 4422  Plant Taxonomy  
4 Semester Credit Hours (4 Lecture Hours)  
Principles and practice in the classification of flowering plants. Field trips are required.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.  

BIOL 4425  Ornithology  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Systematics, anatomy, physiology, ecology, behavior, and field identification of birds. Offered in odd Fall semester.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.  

BIOL 4429  Marine Botany  
4 Semester Credit Hours (4 Lecture Hours)  
The ecology of marine plants with emphasis on identification, life histories, and environmental factors of distribution.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.  

BIOL 4430  Marine Plankton  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
In this class we will investigate the systematics, distribution, and ecology of major marine plankton groups and introduce major concepts in biological oceanography. Offered in Spring of odd-numbered years.  

BIOL 4432  Ichthyology  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Systematics, evolution, biology, and ecology of fishes. Laboratory identification of marine and freshwater fishes collected during field excursions.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.  

BIOL 4433  Parasitology  
4 Semester Credit Hours (4 Lecture Hours)  
An introduction to parasitology with emphasis on internal parasites and appropriate references to human endoparasites and parasites of veterinary importance.  
Prerequisite: BIOL 2421.  
Co-requisite: SMTE 0092.  

BIOL 4435  Biological Microtechniques  
4 Semester Credit Hours (4 Lecture Hours)  
Theory and techniques of processing specimens for histochemistry and microscopic examination. Laboratory includes preparation of tissues and small specimens for analysis and display.  
Prerequisite: BIOL 1407 and CHEM 3411.  
Co-requisite: SMTE 0092.  

BIOL 4442  Herpetology  
4 Semester Credit Hours (4 Lecture Hours)  
Systematics, ecology, and behavior of amphibians and reptiles.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.  

BIOL 4444  Estuarine Organisms  
4 Semester Credit Hours (4 Lecture Hours)  
Systematics, distribution, and ecology of estuarine macrofauna and macroflora. Weekend field trips and individual study required.  
Prerequisite: BIOL 3413.  
Co-requisite: SMTE 0091.
BIOL 4446 Tropical Ecosystems & Conservation  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Survey of the ecology and conservation issues of the major ecosystems in the tropics and field techniques used to study tropical forest ecology.  
Prerequisite: BIOL 3428.  
Co-requisite: SMTE 0091.  

BIOL 4452 Ecology and Evolution of Fishes  
4 Semester Credit Hours (3 Lecture Hours, 4 Lab Hours)  
This course covers aspects of fish ecology from individual, population, community, and ecosystem levels. We discuss the role of the environment on fish physiology and behavior, food-web dynamics, community assembly and diversity, ecosystem interactions, and anthropogenic impacts on fishes with a focus on conservation.  
Prerequisite: BIOL 4432.  
Co-requisite: SMTE 0091.  

BIOL 4547 Marine Science Field Camp  
5 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)  
Students learn techniques required to properly conduct marine science field research. Practical, hands-on experience is gained in a variety of topics including biotic and abiotic sample collection and processing, quantitative analysis of field data, evaluation of environmental factors, survival and distribution of living organisms, and the structure of biotic communities.  

BIOL 4590 Selected Topics  
5 Semester Credit Hours (5 Lecture Hours)  
Variable content. May be repeated for credit.  

BIOL 4598 Biology Internship  
2-6 Semester Credit Hours  
Two to six semester credit hours may be earned by working in an internship position in a governmental agency, private industry, or other appropriate venue.  

BIOL 4609 Field and Sampling Techniques  
3,9 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)  
The study of techniques required for proper field work in the biological sciences. The course includes ecological sampling methods, safety, logistics, equipment operation and maintenance and travel concerns.  
Co-requisite: SMTE 0091.  

Biomedical Sciences Courses  

BIMS 2171 Medical Terminology  
1 Semester Credit Hour (2 Lecture Hours)  
This course stresses familiarity with and facility in scientific terminology. Areas of focus include: an introduction to scientific terminology, word analysis, etymologies, spelling and pronunciation. Offered fall and spring semesters every year.  
Prerequisite: (BIOL 1406 and 1407) or (BIOL 2401 and 2402).  

BIMS 2200 Professional Skills  
2 Semester Credit Hours (2 Lecture Hours)  
Presentation and discussion of selected topics relating to the professional skills of practicing scientists including literature searches, reviews, paper presentation, professional opportunities and job requirements. Biomedical Sciences and Biology majors only.  

BIMS 3100 Essentials for Applied Forensics Laboratory Sciences  
1 Semester Credit Hour (1 Lecture Hour)  
Introduction to general laboratory procedures related to the criminal investigation system and regulations (especially related to Texas), lab safety, quality assurance and quality control, professional ethics, specimen acquisition and maintenance and chain of custody.  
Prerequisite: (BIOL 1407 and CHEM 1412).  
Co-requisite: BIMS 3103, SMTE 0092.  

BIMS 3103 Essentials Laboratory for Forensic Science  
1 Semester Credit Hour (1 Lab Hour)  
Application of essential practices for forensic science. Offered fall semester every year.  
Prerequisite: BIMS 3200*.  
* May be taken concurrently.  
Co-requisite: SMTE 0092.  

BIMS 3200 Essentials for App Lab Science  
2 Semester Credit Hours (1 Lecture Hour)  
ESSENTIALS FOR LAB SCIENCE Introduction to general laboratory procedures, laboratory safety and regulations, quality assurance, professional ethics, specimen acquisition, sample maintenance and microscopy. Includes an introduction to the health care, public health and criminal investigation system.  
Prerequisite: BIOL 1407 and CHEM 1412.  
Co-requisite: SMTE 0092.  

BIMS 3300 Animal Nutrition  
3 Semester Credit Hours (3 Lecture Hours)  
Examines the dietary requirements of both companion animals and livestock. Includes the anatomy, physiology and biochemistry of the gastrointestinal system, nutrient procurement and use, feed additives, growth stimulants, metabolic diseases, and diet therapy. Cross listed with BIOL 3300. Offered spring semester every year.  
Prerequisite: BIOL 1407, CHEM 3411 and 3412 or CHEM 3412*.  
* May be taken concurrently.  

BIMS 3301 Introduction to Animal Science  
3 Semester Credit Hours (3 Lecture Hours)  
This course is an orientation into animal science as it relates to agriculture and veterinary medicine. Students will also be guided on issues to ensure successful veterinary school matriculation.  

BIMS 3302 Introduction to Forensic Anthropology  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces the student to the osteological examination of the human skeletal system as practiced by professional forensic anthropologists. It is designed to equip the student with introductory understanding of the anatomy and normal appearance of the human skeleton as well as some of its variations, including pathological conditions, traumatic injury, and postmortem damage.  
Prerequisite: BIOL 2401.  
Co-requisite: SMTE 0092.  

BIMS 3320 Survey of Forensic Science  
3 Semester Credit Hours (3 Lecture Hours)  
A survey of the methods and materials used to gather and process evidence at potential crime scenes. Students are introduced to the legal rules of evidence and their practical ramifications during scientific criminal investigations. In laboratory, students use commonly available processing items and tools to investigate a simulated crime scene. Offered fall semester every year.  
Co-requisite: SMTE 0092.
BIMS 3325  Professional Practice in Forensic Science  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to industry standards and ethics for professional forensic scientists. This course analyzes cognitive processes, scientific methods and quality control/quality assurance issues in forensic investigations. It also stresses maintaining credibility in an adversarial legal system through the development of technical/scientific speaking and writing skills. Offered every fall. Offered fall semester every year.  
Prerequisite: BIMS 3320.

BIMS 3401  Pathophysiology  
4 Semester Credit Hours (4 Lecture Hours)  
This course is a study of the biological basis of human disease. It includes an investigation of inflammation, immunity, and neoplasia, as well as the more common presenting dysfunctions of body systems. Offered every fall. Offered fall semester every year.  
Prerequisite: CHEM 1411 and BIOL 1407 or BIOL 2401.

BIMS 3403  Molecular Biology  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Principles of molecular biology including advanced concepts of gene structure, expression and regulation, chromatin remodeling, recombination, and current molecular biology techniques. Laboratory emphasis is on basic skills for nucleic acid analyses, including extraction, PCR amplification, quantification, restriction, and electrophoresis. DNA sequencing-based approaches are covered including bioinformatics for sequence comparisons, polymorphisms, and molecular identification. Cross listed with BIMS 3403. Offered spring semester every year.  
Prerequisite: BIOL 2416, 2421 and SMTE 0092*.  
* May be taken concurrently.  
Co-requisite: SMTE 0092.

BIMS 4085  Major Field Test in Biology  
0 Semester Credit Hours  
The Major Field Test (MFT) in Biology is a national examination given in the Fall and Spring semesters only. It is a graduation requirement for all Biology and some Biomedical Sciences students. Students enroll in this course during the semester that they plan to take the MFT. There is no cost to the student for either this course or for the MFT. Admission is limited to students who have completed 90 or more semester credit hours.

BIMS 4111  Contemporary Scientific Readings  
1 Semester Credit Hour (1 Lecture Hour)  
Students read one non-fiction book per month addressing some aspect of medicine, science or history (four books per semester), then meet once per month to discuss, analyze and defend their perceptions about the book. Only open to students accepted into the Partnership for Primary Care and the Joint Admissions Medical Program (JAMP), those who are seeking admission into JAMP by participating in the pre-JAMP and students in other sponsored programs. This course may be repeated once for full credit in subsequent semesters.

BIMS 4128  Medicolegal Death Investigations Practicum  
1 Semester Credit Hour (3 Lab Hours)  
This practicum course is designed to provide laboratory and practical experience for the investigation of deaths under the jurisdiction of Texas Medical Examiners. This course may involve visits to the office of medical examiners and actual sites of deaths.  
Prerequisite: BIMS 4328.  
Co-requisite: BIMS 4328, SMTE 0092.

BIMS 4170  Biomedical Seminar  
1 Semester Credit Hour (1 Lecture Hour)  
A series of seminars on current topics of biomedical research. This course may be repeated once for full credit in subsequent semesters.  
Prerequisite: BIOL 1407.

BIMS 4295  Biomedical Practicum  
2 Semester Credit Hours  
Supervised learning experience with a community professional in health care (e.g., physician, dentist, veterinarian, chiropractor, pharmacist, physician assistant or physical therapist). On-campus meetings, oral and written reports are required. (Cannot be taken by Clinical Laboratory Science students in lieu of CLSC 4297 - Professional Practicum I.) This course may be repeated once for full credit in subsequent semesters. Requires permission of instructor. Offered fall and spring semesters every year.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0092.

BIMS 4296  Clinical Research  
2 Semester Credit Hours  
Students will actively perform clinical research and learn from and interact with health care professionals such as physicians, nurses, physical therapists, pharmacists, etc. The student will be a functioning member of a research team with specific, measurable responsibilities in clinical studies.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0092.

BIMS 4297  Professional Practicum I  
2 Semester Credit Hours (2 Lecture Hours)  
PROFESSIONAL PRACTICUM I Supervised learning experience in selected departments of the clinical laboratories. Clinical Laboratory Science students only. Requires permission of instructor and application.

BIMS 4299  Directed Independent Research  
1-2 Semester Credit Hours (1-2 Lab Hours)  
Independent laboratory- or field-based research project on topic of current interest. Project developed and funded in conjunction with a faculty advisor. Written report required. May be repeated for a maximum of 4 semester credit hours. Offered any semester upon request by a student and consent of the instructor.  
Prerequisite: BIOL 1407 and CHEM 1412.  
Co-requisite: SMTE 0092.

BIMS 4311  Biology of Cancer  
3 Semester Credit Hours (3 Lecture Hours)  
This course is a study of the profile of a cancer cell, and the various causes of human cancer. Contribution of heredity, environmental factors, and infectious agents to oncogenesis will be studied. Cancer screening, diagnosis, and treatment will be discussed. Various types of cancer will be presented. Offered fall semester of even-numbered years.  
Prerequisite: BIOL 2416.

BIMS 4323  Neurobiology  
3 Semester Credit Hours (3 Lecture Hours)  
Studies the anatomy and physiology of the nervous system. Includes an examination of evolutionary trends in nervous system development, neural function, nerve impulse transmission, sensory and motor systems, behavior, emotional states, learning and memory. Particular emphasis is placed on human functioning. Offered spring semester every year.  
Prerequisite: BIOL 2416.
BIMS 4327 Introduction to Toxicology
3 Semester Credit Hours (3 Lecture Hours)
Principles of toxicology including absorption and excretion, biotransformation, chemical carcinogenesis, developmental toxicology and toxic agents.
Prerequisite: BIOL 1407 and CHEM 1412.

BIMS 4328 Medicolegal Death Investigations Lecture
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide an introduction to the essential procedures of forensic death investigation. Students are instructed in the process of investigating all aspects of a death case falling under the jurisdiction of medical examiners in Texas. The importance of scene management and documentation, case file management, review of physical and psychological evidence, autopsy procedures, and consultation with other forensic science experts leading to the correct classification of cause and manner of death are emphasized.
Prerequisite: BIMS 4128.
Co-requisite: BIMS 4128, SMTE 0092.

BIMS 4330 Biological Basis of Aging
3 Semester Credit Hours (3 Lecture Hours)
Molecular aspects of aging and disease, including biological mechanisms and theories involving cells, tissues, and organ systems.
Prerequisite: BIOL 1407 and CHEM 3411.

BIMS 4333 Medical Entomology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to arthropods of medical and veterinary importance with particular emphasis on the critical roles that they play in their host group's health and well-being.
Prerequisite: BIOL 1407.

BIMS 4334 Human Genetics
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the genetic aspects of health and disease. Classic Mendelian and chromosomal disorders are examined as well as the relationship of genetic predisposition to the healthy state and to diseases/conditions.
Prerequisite: BIOL 2416 and CHEM 3412.

BIMS 4335 Endocrinology
3 Semester Credit Hours (3 Lecture Hours)
Basic biochemical and molecular aspects of hormone physiology, basic endocrine function and hormone action, immune-endocrine interactions, and clinical examples of the outcomes of abnormal function in human disease.
Prerequisite: BIMS 2200 or BIOL 2200 and BIOL 2416 and CHEM 3412.

BIMS 4340 Forensic Science in Criminal Law
3 Semester Credit Hours (3 Lecture Hours)
Students will learn legal procedures, rules of evidence, and applications of forensic science in the area of criminal law. Students will also develop skills in report writing and testifying in court.
Prerequisite: BIMS 3320.

BIMS 4374 Medical Microbiology
3 Semester Credit Hours (3 Lecture Hours)
Study of common human pathogenic organisms. Includes bacterial, parasitic, viral and fungal infections with emphasis on pathogenesis and treatment.
Prerequisite: BIOL 2421.

BIMS 4375 Mechanisms of Microbial Pathogenesis
3 Semester Credit Hours (3 Lecture Hours)
Studies of how microorganisms invade the host and produce pathological symptoms associated with diseases. Emphasis is on the interaction between various host cells and pathogens, especially molecular mechanisms of pathogenesis and host immune responses.
Prerequisite: BIOL 2421.

BIMS 4395 Forensic Science Internship
3 Semester Credit Hours (3 Lecture Hours, 5 Lab Hours)
This course is designed to bridge the gap between academic instructions and the forensic science industry by providing real world experience in forensic investigations. Students attend lectures on campus, plus spend five hours/week at a crime laboratory. Students will accompany crime scene investigators to actual crime scenes and participate in several hands on forensic exercises involving mock as well as real investigations. Some activities may result in students spending more that five hours of laboratory or practicum time.
Prerequisite: BIMS 3320.
Co-requisite: SMTE 0092.

BIMS 4396 Directed Independent Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
Research in areas of current interest. Written report required.
Prerequisite: BIOL 1407 and CHEM 1312.
Co-requisite: SMTE 0092.

BIMS 4406 Immunology
4 Semester Credit Hours (4 Lecture Hours)
An overview of immunology with emphasis on current knowledge of the immune system. Detailed examination of the specific cells, cytokines, antibodies, and molecules that comprise the immune system. Laboratory exercises demonstrate the basic principles and techniques used in immunologic studies. Cross listed with BIOL 4406.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

BIMS 4410 Histology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The study of cells and tissues, especially the manner in which they are organized to form organs and systems. Laboratories involve intensive use of the microscope to identify cells, tissues and organs.
Prerequisite: BIOL 2402 or 3425.
Co-requisite: SMTE 0092.

BIMS 4590 Selected Topics
1-5 Semester Credit Hours (1-5 Lecture Hours)
Variable content. May be repeated for credit.

Chemistry Courses
CHEM 1305 Introductory Chemistry
3 Semester Credit Hours (3 Lecture Hours)
A one-semester principles course for students in non-science related majors covering the major concepts of chemistry (atomic structure, bonding, stoichiometry, elementary thermodynamics) and the role of chemistry in contemporary society (polymers, energy, pollution, etc.). Will not substitute for CHEM 1411.
TCCNS: CHEM 1305
CHEM 1411 General Chemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The foundation course in chemistry. Stoichiometry, chemical equilibria, atomic structure, chemical bonding, periodic properties, thermodynamics, chemical kinetics, and descriptive chemistry of the elements. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum. Either CHEM 1305 - Introductory Chemistry or CHEM 1411, but not both, may be applied towards the core requirement. This course is offered in Fall, Spring and typically during both Summer sessions.
Co-requisite: SMTE 0093.
TCCNS: CHEM 1411

CHEM 1412 General Chemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The continuation of CHEM 1411 - General Chemistry I, the foundation course in chemistry with emphasis on quantitative aspects. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum.
Prerequisite: CHEM 1411 and MATH 1314.
Co-requisite: SMTE 0093.
TCCNS: CHEM 1412

CHEM 2490 Special Topics
4 Semester Credit Hours (1-4 Lecture Hours, 3 Lab Hours)
May be repeated for credit. Subject materials variable. Offered on sufficient demand.

CHEM 3411 Organic Chemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The structure, nomenclature, synthesis, reactions, and reaction mechanisms of the principal classes of organic compounds. Stereochemistry and spectroscopy of organic compounds. Laboratory involves separation and synthetic techniques and development of basic skills. This course is offered in Fall, Spring and typically during the Summer I session.
Prerequisite: CHEM 1411.
Co-requisite: SMTE 0093.

CHEM 3412 Organic Chemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 3411. The course concludes with a survey of the structures of biomolecules. Laboratory involves spectroscopy and qualitative analysis techniques. This course is offered in Fall, Spring and typically during the Summer II session.
Prerequisite: CHEM 3411.
Co-requisite: SMTE 0093.

CHEM 3417 Quantitative Analysis
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A course in quantitative analysis, which includes chemical statistics and the use of acid-base, complexation, precipitation, and redox reactions to perform analyses and separations. Laboratory includes standard volumetric and gravimetric methods and development of basic quantitative techniques. This course is typically offered in Spring.
Prerequisite: CHEM 1412.
Co-requisite: SMTE 0093.

CHEM 3418 Instrumental Analysis
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An introduction to instrumental methods of analysis: spectroscopy, chromatography, and electrochemical methods. Laboratory involves use of instrumentation in chemical analysis. This course is typically offered in Fall and Spring.
Prerequisite: CHEM 1412.
Co-requisite: SMTE 0093.

CHEM 4085 Major Field Test in Chemistry
0 Semester Credit Hours
The Major Field Test (MFT) in Chemistry is a national examination given in the Fall and Spring semesters only. It is a graduation requirement for all Chemistry students. Students enroll in this course during the semester that they plan to take the MFT. There is no cost to the student for either this course or for the MFT.

CHEM 4292 Senior Chemistry Seminar
2 Semester Credit Hours (2 Lecture Hours)
Presentation and discussion of selected topics in chemistry. Includes literature searches and reviews, paper presentations, survey of professional opportunities and requirements, career guidance and job searching skills.

CHEM 4320 Drugs, Toxins and Natural Products Chemistry
3 Semester Credit Hours (3 Lecture Hours)
The chemistry and biological activity of pharmaceuticals, toxins and selected natural products. Examines how chemical structure relates to biological activity. Also examines action of antibiotics, chemotherapy agents, analgesics, steroids, and compounds targeting the central and peripheral nervous system. This course is typically offered in Fall and Spring.
Prerequisite: CHEM 4401.

CHEM 4344 Chemical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
The study of the oceans and seas as a chemical system, including interactions with both the biota and the solid earth. This course is typically offered in Spring.
Prerequisite: CHEM 1412.

CHEM 4350 Polymer Chemistry
3 Semester Credit Hours (3 Lecture Hours)
An advanced lecture course in organic chemistry. Characterization of polymers. Polymerization mechanisms. Current research directions such as biomedical applications and electroactive polymers. This course is offered on an irregular basis.
Prerequisite: CHEM 3412.

CHEM 4401 Biochemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The structure and function of carbohydrates, lipids, proteins, and nucleic acids. An introduction to enzyme kinetics, cell membrane structure and biochemical signaling. Laboratory exercises demonstrate the basic principles and techniques used in Biochemistry. This course is typically offered in Fall, Spring and Summer.
Prerequisite: CHEM 3412 and (BIOL 1406 and 1407).
Co-requisite: SMTE 0093.
CHEM 4402 Biochemistry II  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
A continuation of CHEM 4401. Biochemical energetics, including glycolysis, fatty acid oxidation, amino acid oxidation, citric acid cycle, oxidative phosphorylation, photophosphorylation and photosynthesis. Carbohydrate, fatty acid and amino acid biosynthesis. Laboratory is a continuation of biochemical techniques. This course is typically offered in Fall and Spring.  
Prerequisite: CHEM 4401.  
Co-requisite: SMTE 0093.  

CHEM 4407 Advanced Inorganic Chemistry  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
A survey of inorganic chemistry. Theories of atomic structure, covalent bonding, ionic solids, metallic solids, and coordination compounds. Modern acid?base concepts. Laboratory involves the synthesis of inorganic compounds.  
Prerequisite: CHEM 3412.  
Co-requisite: SMTE 0093.  

CHEM 4420 Physical Biochemistry  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
A fundamental approach to the study of physical and chemical phenomena, including the study of thermodynamics, gases and phase equilibria. This course is typically offered on an irregular basis.  
Prerequisite: CHEM 1412 and (PHYS 1402 or 2426) and MATH 2414.  
Co-requisite: SMTE 0093.  

CHEM 4423 Physical Chemistry I  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
A fundamental approach to the study of physical and chemical phenomena, including the study of thermodynamics, gases and phase equilibria. This course is typically offered in Fall.  
Prerequisite: CHEM 1412 and (PHYS 1402 or 2426) and MATH 2414.  
Co-requisite: SMTE 0093.  

CHEM 4424 Physical Chemistry II  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
A continuation of CHEM 4423, including the study of chemical kinetics, electrochemistry, molecular structure, and quantum mechanics. This course is typically offered in Spring.  
Prerequisite: CHEM 4423.  
Co-requisite: SMTE 0093.  

CHEM 4443 Environmental Chemistry  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
A study of the impact of chemistry on the environment, including topics of air pollution, water pollution, and beneficial chemical modifications of the environment. Laboratory devoted to field techniques of sampling, sample preservation, and analytical techniques applied to the environment. This course is typically offered in Spring.  
Prerequisite: CHEM 1412 and 3411.  
Co-requisite: SMTE 0093.  

CHEM 4490 Special Topics  
4 Semester Credit Hours (1 Lecture Hour, 1 Lab Hour)  
May be repeated for credit. Subject materials variable.  

CHEM 4696 Directed Independent Study  
1-6 Semester Credit Hours  
Requires a formal proposal of study to be completed in advance of registration, to be approved by the supervising faculty, the chairperson and the dean of the College.  

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**Chemistry, BS**  
**Program Description**  
The chemistry faculty seeks to provide a high quality educational experience for students majoring in chemistry in preparation for industrial or government positions, for graduate study, and for entry to medical or dental schools. The program is also designed for those planning to teach chemistry or physics at the 7-12 level, or who need chemical knowledge and skills relevant to future studies in the sciences.  

**Student Learning Outcomes**  
Students will:  
- Demonstrate a broad understanding of chemical concepts  
- Analyze and interpret a variety of chemical data  
- Communicate chemical information effectively at the undergraduate level, in oral and written form, with appropriate use of technology  

The student who wishes to obtain a Bachelor of Science Degree in Chemistry may do so by following one of the four curriculum plans referred to as Concentrations. The options include general, environmental, biochemistry, and physical science education concentrations. Students who are pre-medical, pre-dental, pre-optometry, pre-pharmacy, or pre-veterinary medicine may follow the biochemistry concentration. In addition, the biochemistry concentration offers an option which would allow students to pursue certification in clinical chemistry while obtaining their Bachelors in Chemistry.  

A prospective 7-12 physical science (chemistry or physics) teacher could obtain a BS in Chemistry while following the physical science education concentration. Details on the requirements for the physical science education concentration and for obtaining a teaching certificate are in the College of Science and Engineering: Science, Mathematics and Technology Education section of this catalog.  

The BS in Chemistry requires at least 120 semester hours with a university required minimum number of 45 upper-division hours. Students may have to take additional hours to meet university general education requirements such as First-Year Seminar courses. The major consists of at least 52 semester hours (24 upper-division), some of which may be designated courses outside of chemistry. Every candidate for the BS in Chemistry following the general, environmental, or biochemistry concentration must complete the CHEM 4085 Major Field Test in Chemistry (0 sch) during their senior year, prior to graduation. The details of the general, environmental, and biochemistry concentrations follow.  

**General Requirements**  

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>First-Year Seminars (when applicable)(^1)</td>
<td>0-2</td>
</tr>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>Special Foundations</td>
<td>21</td>
</tr>
<tr>
<td>Chemistry Major (depends on area of concentration)</td>
<td>45-46</td>
</tr>
<tr>
<td>Electives (depends on area of concentration)</td>
<td>12</td>
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<tr>
<td>Total Credit Hours</td>
<td>120-123</td>
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Program Requirements

Full-time, First-year Students

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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Core Curriculum Program

<table>
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<tr>
<th>Course Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I (Life and Physical Sciences component)</td>
<td></td>
</tr>
<tr>
<td>CHEM 1412</td>
<td>General Chemistry II (Life and Physical Sciences component)</td>
<td></td>
</tr>
<tr>
<td>MATH 2413</td>
<td>Calculus I (Mathematics requirement)</td>
<td></td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II (Component Area Option)</td>
<td></td>
</tr>
</tbody>
</table>

Special Foundations

Select one of the following Concentrations:

- General Concentration (p. 395)
- Environmental Concentration (p. 395)
- Biochemistry/Preprofessional Concentration (p. 396)

Chemistry Major

Select one of the following Concentrations:

- General Concentration (p. 395)
- Environmental Concentration (p. 395)
- Biochemistry/Preprofessional Concentration (p. 396)
- Physical Science Education Concentration (p. 396)

Electives

Courses may be selected from any area to accumulate a total of 120 semester hours with the required number of upper-division hours. In some cases, these hours may be used to obtain a minor in another subject.

Total Hours: 120-123

Concentrations

Chemistry General Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>PHYS 2425</td>
<td>University Physics I</td>
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<tr>
<td>PHYS 2426</td>
<td>University Physics II</td>
<td>4</td>
</tr>
<tr>
<td>BIOS 2426</td>
<td>Biology, Geology, or Environmental Science</td>
<td>8</td>
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<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
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<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
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Special Foundations

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<tr>
<td>MATH 2415</td>
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<td>CHEM 1411</td>
<td>General Chemistry I (included in Core)</td>
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<tr>
<td>CHEM 1412</td>
<td>General Chemistry II (included in Core)</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3411</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3412</td>
<td>Organic Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3417</td>
<td>Quantitative Analysis</td>
<td>4</td>
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<tr>
<td>CHEM 3418</td>
<td>Instrumental Analysis</td>
<td>4</td>
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<tr>
<td>CHEM 4085</td>
<td>Major Field Test in Chemistry</td>
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<tr>
<td>CHEM 4423</td>
<td>Physical Chemistry I</td>
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<td>CHEM 4424</td>
<td>Physical Chemistry II</td>
<td>4</td>
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<tr>
<td>CHEM 4292</td>
<td>Senior Chemistry Seminar</td>
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<tr>
<td>CHEM 4401</td>
<td>Biochemistry I</td>
<td>4</td>
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<tr>
<td>CHEM 4407</td>
<td>Advanced Inorganic Chemistry</td>
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Total Hours: 82

Environmental Chemistry Concentration

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<th>Title</th>
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<tr>
<td>CHEM 4320</td>
<td>Drugs, Toxins and Natural Products Chemistry</td>
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<td>CHEM 4344</td>
<td>Chemical Oceanography</td>
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<td>CHEM 4350</td>
<td>Polymer Chemistry</td>
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<td>CHEM 4309</td>
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<tr>
<td>CHEM 4443</td>
<td>Special Topics</td>
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<tr>
<td>CHEM 4696</td>
<td>Directed Independent Study</td>
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Special Foundations

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<td>BIOS 1411</td>
<td>Biology, Geology, or Environmental Science</td>
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<tr>
<td>MATH 1442</td>
<td>Statistics for Life</td>
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<tr>
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Chemistry Major

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<tbody>
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<td>General Chemistry II (included in Core)</td>
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<tr>
<td>CHEM 3411</td>
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<tr>
<td>CHEM 3417</td>
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<td>CHEM 3418</td>
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<tr>
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</table>
**Biochemistry/Preprofessional Concentration**

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<td>BIOL 2421</td>
<td>Microbiology</td>
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<td>CHEM 3412</td>
<td>Organic Chemistry II</td>
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<tr>
<td>CHEM 3417</td>
<td>Quantitative Analysis</td>
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<td>Instrumental Analysis</td>
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<td>CHEM 4085</td>
<td>Major Field Test in Chemistry</td>
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<td>CHEM 4401</td>
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<td>CHEM 4402</td>
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<tr>
<td>CHEM 4423</td>
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Select at least 7 hours of the following:

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<tr>
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<tbody>
<tr>
<td>MATH 2415</td>
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<tr>
<td>CHEM 4350</td>
<td>Polymer Chemistry</td>
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**Chemistry Major**

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<th>Hours</th>
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<tr>
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<tr>
<td>PHYS 1401</td>
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<tr>
<td>PHYS 2425</td>
<td>University Physics I</td>
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<td>MATH 2414</td>
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<tr>
<td>CHEM 4443</td>
<td>Environmental Chemistry</td>
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Any Upper division Chemistry course not on the elective list and not listed as a specific Chemistry required course can be taken as an elective.

**Total Hours**

1. Nine of the 12 hours from General Chemistry I & II and Calculus I should be used to fulfill the University Core Curriculum Life and Physical Sciences and the Math components of the University Core Curriculum requirements. The other three hours of the lab portion of those courses should be used to fulfill three hours of the Component Area Option of the University Core Curriculum requirements.

2. Calculus II should be used to fulfill the other 3 hours of the Component Area Option. See catalog section on University Core Curriculum Programs.

* Online offering

^ Blended offering

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**Physical Science Education Concentration**

Information on the physical science education concentration and requirements for teaching certification can be found in the College of Science and Engineering: Science, Mathematics and Technology Education section of the catalog.

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**Course Sequencing**

### Chemistry General

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<thead>
<tr>
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<th>Hours</th>
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<td>First-Year Seminar I</td>
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<td>CHEM 1411</td>
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<td>ENGL 1301</td>
<td>Composition I</td>
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<td>HIST 1301</td>
<td>U.S. History to 1865</td>
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<td>ENGL 1302</td>
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<tr>
<td>HIST 1302</td>
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**Second Year**

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**Spring**

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<tr>
<td>PHYS 1402</td>
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<tr>
<td>or PHYS 2426</td>
<td>or University Physics II</td>
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**Third Year**

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<td>POLS 2306</td>
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<td>Instrumental Analysis</td>
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**Spring**

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<td>CHEM 3417</td>
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**Fourth Year**

**Fall**

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**Spring**

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<tr>
<td>CHEM 4424</td>
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<td>CHEM 4085</td>
<td>Major Field Test in Chemistry</td>
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<tr>
<td></td>
<td><strong>Hours</strong></td>
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| Total Hours | 122 |

### Courses

**CHEM 1305 Introductory Chemistry**

*3 Semester Credit Hours (3 Lecture Hours)*

A one-semester principles course for students in non-science related majors covering the major concepts of chemistry (atomic structure, bonding, stoichiometry, elementary thermodynamics) and the role of chemistry in contemporary society (polymers, energy, pollution, etc.). Will not substitute for CHEM 1411.

**TCCNS:** CHEM 1305

**CHEM 1411 General Chemistry I**

*4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)*

The foundation course in chemistry. Stoichiometry, chemical equilibria, atomic structure, chemical bonding, periodic properties, thermodynamics, chemical kinetics, and descriptive chemistry of the elements. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum. Either CHEM 1305 - Introductory Chemistry or CHEM 1411, but not both, may be applied towards the core requirement. This course is offered in Fall, Spring and typically during both Summer sessions.

**Co-requisite:** SMTE 0093.

**TCCNS:** CHEM 1411

**CHEM 1412 General Chemistry II**

*4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)*

The continuation of CHEM 1411 - General Chemistry I*, the foundation course in chemistry with emphasis on quantitative aspects. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum.

**Prerequisite:** CHEM 1411 and MATH 1314.

**Co-requisite:** SMTE 0093.

**TCCNS:** CHEM 1412

**CHEM 2490 Special Topics**

*4 Semester Credit Hours (1-4 Lecture Hours, 3 Lab Hours)*

May be repeated for credit. Subject materials variable. Offered on sufficient demand.

**CHEM 3411 Organic Chemistry I**

*4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)*

The structure, nomenclature, synthesis, reactions, and reaction mechanisms of the principal classes of organic compounds. Stereochemistry and spectroscopy of organic compounds. Laboratory involves separation and synthetic techniques and development of basic skills. This course is offered in Fall, Spring and typically during the Summer I session.

**Prerequisite:** CHEM 1411.

**Co-requisite:** SMTE 0093.

**CHEM 3412 Organic Chemistry II**

*4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)*

A continuation of CHEM 3411. The course concludes with a survey of the structures of biomolecules. Laboratory involves spectroscopy and qualitative analysis techniques. This course is offered in Fall, Spring and typically during the Summer II session.

**Prerequisite:** CHEM 3411.

**Co-requisite:** SMTE 0093.

**CHEM 3417 Quantitative Analysis**

*4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)*

A course in quantitative analysis, which includes chemical statistics and the use of acid-base, complexation, precipitation, and redox reactions to perform analyses and separations. Laboratory includes standard volumetric and gravimetric methods and development of basic quantitative techniques. This course is typically offered in Spring.

**Prerequisite:** CHEM 1412.

**Co-requisite:** SMTE 0093.
CHEM 3418 Instrumental Analysis
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An introduction to instrumental methods of analysis: spectroscopy, chromatography, and electrochemical methods. Laboratory involves use of instrumentation in chemical analysis. This course is typically offered in Fall and Spring.
Prerequisite: CHEM 1412.
Co-requisite: SMTE 0093.

CHEM 4085 Major Field Test in Chemistry
0 Semester Credit Hours
The Major Field Test (MFT) in Chemistry is a national examination given in the Fall and Spring semesters only. It is a graduation requirement for all Chemistry students. Students enroll in this course during the semester that they plan to take the MFT. There is no cost to the student for either this course or for the MFT.

CHEM 4292 Senior Chemistry Seminar
2 Semester Credit Hours (2 Lecture Hours)
Presentation and discussion of selected topics in chemistry. Includes literature searches and reviews, paper presentations, survey of professional opportunities and requirements, career guidance and job searching skills.

CHEM 4320 Drugs, Toxins and Natural Products Chemistry
3 Semester Credit Hours (3 Lecture Hours)
The chemistry and biological activity of pharmaceuticals, toxins and selected natural products. Examines how chemical structure relates to biological activity. Also examines action of antibiotics, chemotherapy agents, analgesics, steroids, and compounds targeting the central and peripheral nervous system. This course is typically offered in Fall and Spring.
Prerequisite: CHEM 4401.

CHEM 4344 Chemical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
The study of the oceans and seas as a chemical system, including interactions with both the biota and the solid earth. This course is typically offered in Spring.
Prerequisite: CHEM 1412.

CHEM 4350 Polymer Chemistry
3 Semester Credit Hours (3 Lecture Hours)
An advanced lecture course in organic chemistry. Characterization of polymers. Polymerization mechanisms. Current research directions such as biomedical applications and electroactive polymers. This course is offered on an irregular basis.
Prerequisite: CHEM 3412.

CHEM 4401 Biochemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The structure and function of carbohydrates, lipids, proteins, and nucleic acids. An introduction to enzyme kinetics, cell membrane structure and biochemical signaling. Laboratory exercises demonstrate the basic principles and techniques used in Biochemistry. This course is typically offered in Fall, Spring and Summer.
Prerequisite: CHEM 3412 and (BIOL 1406 and 1407).
Co-requisite: SMTE 0093.

CHEM 4402 Biochemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 4401. Biochemical energetics, including glycolysis, fatty acid oxidation, amino acid oxidation, citric acid cycle, oxidative phosphorylation, photophosphorylation and photosynthesis. Carbohydrate, fatty acid and amino acid biosynthesis. Laboratory is a continuation of biochemical techniques. This course is typically offered in Fall and Spring.
Prerequisite: CHEM 4401.
Co-requisite: SMTE 0093.

CHEM 4407 Advanced Inorganic Chemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A survey of inorganic chemistry. Theories of atomic structure, covalent bonding, ionic solids, metallic solids, and coordination compounds. Modern acid?base concepts. Laboratory involves the synthesis of inorganic compounds.
Prerequisite: CHEM 3412.
Co-requisite: SMTE 0093.

CHEM 4420 Physical Biochemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A fundamental approach to the study of physical and chemical phenomena, including the study of thermodynamics, gases and phase equilibria. This course is typically offered on an irregular basis.
Prerequisite: CHEM 1412 and (PHYS 1402 or 2426) and MATH 2414.
Co-requisite: SMTE 0093.

CHEM 4423 Physical Chemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A fundamental approach to the study of physical and chemical phenomena, including the study of thermodynamics, gases and phase equilibria. This course is typically offered in Fall.
Prerequisite: CHEM 1412 and (PHYS 1402 or 2426) and MATH 2414.
Co-requisite: SMTE 0093.

CHEM 4424 Physical Chemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 4423, including the study of chemical kinetics, electrochemistry, molecular structure, and quantum mechanics. This course is typically offered in Spring.
Prerequisite: CHEM 4423.
Co-requisite: SMTE 0093.

CHEM 4443 Environmental Chemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A study of the impact of chemistry on the environment, including topics of air pollution, water pollution, and beneficial chemical modifications of the environment. Laboratory devoted to field techniques of sampling, sample preservation, and analytical techniques applied to the environment. This course is typically offered in Spring.
Prerequisite: CHEM 1412 and 3411.
Co-requisite: SMTE 0093.

CHEM 4490 Special Topics
4 Semester Credit Hours (1 Lecture Hour, 1 Lab Hour)
May be repeated for credit. Subject materials variable.

CHEM 4696 Directed Independent Study
1-6 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration, to be approved by the supervising faculty, the chairperson and the dean of the College.
Clinical Laboratory Science, BS

Program Description

The Bachelor of Science in CLS degree prepares students to function as clinical laboratory scientists in a variety of settings including hospital laboratories, clinics, research labs, physician office laboratories, public health laboratories and reference labs. The requirements for completion of the first three years include courses in biology, chemistry, math, social sciences, and humanities. The senior year includes advanced study in the CLS disciplines along with clinical practice in the clinical facilities.

Student Learning Outcomes

Students will:

- Possess a broad understanding of science and its in-depth applications, techniques, principles, and instruments used to their specific option within the clinical laboratory sciences major.
- Demonstrate critical thinking skills
- Practice the skills necessary to analyze and interpret test results through knowledge of physiological and pathological conditions that affect testing.

Admission to the CLS program is one time per year. Students must complete an application to the CLS program and submit to the Program Director before June 30. An interview may be requested. Students should consult their Academic Advisor for additional information.

Clinical Laboratory Science Certification

The clinical laboratory scientist holds a key position in life-and-death matters involving the diagnosis and treatment of patients. Therefore, the practice of clinical laboratory science is regulated both from within the profession and, in some states, by law. In addition to the coursework for the baccalaureate degree, employment as a clinical laboratory scientist requires professional certification. A student may obtain one of three certifications in clinical laboratory science: generalist, clinical chemist, or medical microbiologist. Complete information (and an application for the certification examination in any area) may be obtained from the clinical laboratory science director. To apply for certification, a student must earn a "C" or better in all CLSC courses; and an interview and reference letters also may be required.

Clinical Laboratory Science at Texas A&M University-Corpus Christi is approved through the National Accrediting Agency for Clinical Laboratory Science (NAACLS).

General Requirements

The Bachelor of Science in Clinical Laboratory Science degree requires a minimum of 120 semester hours: 42 are from designated Core Curriculum Program courses, 20 are from required Foundation courses, 12-14 are required Foundation courses and 44 are Clinical courses. After their sophomore year (60 semester hours), students must have (and maintain) a cumulative GPA of 2.70 or above in their course work, with no course work older than 6 years. No “D” or “F” grades will be accepted as credit within the clinical laboratory core or clinical courses (see Notes).

Program Requirements

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<tr>
<td>UNIV 1102</td>
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Clinical Laboratory Core Courses

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<td>BIOL 2421</td>
<td>Microbiology</td>
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<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1412</td>
<td>General Chemistry II</td>
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</tr>
<tr>
<td>CHEM 3411</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
</tbody>
</table>

Required Foundation Courses

Although no specific courses are required, students will find familiarity with anatomy and/or physiology to be extremely beneficial.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1442</td>
<td>Statistics for Life (included in University Core)</td>
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<tr>
<td>BIMS 4406</td>
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<tr>
<td>CHEM 4401</td>
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ELECTIVES - to reach 120

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<td>CLSC 3200</td>
<td>Essentials for Applied Laboratory Sciences</td>
<td>2</td>
</tr>
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<td>CLSC 4120</td>
<td>Hemostasis</td>
<td>1</td>
</tr>
<tr>
<td>CLSC 4182</td>
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<tr>
<td>CLSC 4200</td>
<td>Professional Skills for Clinical Laboratory Scientists</td>
<td>2</td>
</tr>
<tr>
<td>CLSC 4280</td>
<td>Introduction to the Clinical Laboratory Profession</td>
<td>2</td>
</tr>
<tr>
<td>CLSC 4297</td>
<td>Professional Practicum I</td>
<td>3</td>
</tr>
<tr>
<td>CLSC 4325</td>
<td>Clinical Chemistry I</td>
<td>3</td>
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<tr>
<td>CLSC 4326</td>
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<td>CLSC 4382</td>
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<td>CLSC 4598</td>
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<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
<td>1</td>
</tr>
</tbody>
</table>
Clinical Laboratory Science, BS

CLSC 4599 Professional Practicum III  
Total Hours 129-131

1 Students entering with some college credit may not be required to take one or both of the First-Year Seminar courses (see The First Year Learning Communities Program (p. 556) for rules and exceptions concerning these courses. Clinical Laboratory Science students must take CLSC 4200 Professional Skills for Clinical Laboratory Scientists (2 sch) whether or not they have taken none, one or both First Year Seminars.

2 The 3 hours of lecture is included in the University Core of the Math Foundations area, and the 1 hour of lab is included in the Component Area Option.

3 Admission to these courses is limited to students who have a minimum GPA of 2.7, and who have a "C" or better in all prerequisite Biology, Chemistry, and Biomedical Sciences courses. Full-time students will be given preference for admission to these courses.

* Online offering
^ Blended offering

Notes:
1. If a student earns a grade of D, F or W in a CLSC course, that course must be repeated. A course in which a grade of less than C (i.e., D, F or W-withdrawal) was earned may be repeated only once.
2. A student who has earned a grade of less than C (i.e., D, F or W-withdrawal) in two CLSC courses or who has earned a grade of less than C (D, F or W-withdrawal) twice in the same CLSC course will be dismissed from the CLSC program.
3. Students receiving a grade of D, F or W (withdrawal) or I (Incomplete) in a CLSC course may not progress to courses for which that course is a pre-requisite.
4. Following dismissal, students may apply for reinstatement to the CLSC program. Reinstatement is competitive and is based upon space availability.
5. In order for students to progress through the program, they must be in compliance with immunizations and hospital orientation regulations.

**Course Sequencing**

<table>
<thead>
<tr>
<th>Course</th>
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<th>Hours</th>
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<td><strong>First Year</strong></td>
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<tr>
<td>ENGL 1301</td>
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<tr>
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<td>ENGL 1302</td>
<td>Writing and Rhetoric (COMM 1311 is alternate choice.)</td>
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<td><strong>Second Year</strong></td>
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<td><strong>Fall</strong></td>
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<tr>
<td>MATH 1442</td>
<td>Statistics for Life</td>
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<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
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<td>CHEM 3411</td>
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<td>POLS 2306</td>
<td>State and Local Government</td>
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<td>HIST 1301</td>
<td>U.S. History to 1865</td>
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<td>BIOL 2416</td>
<td>Genetics</td>
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<td>CHEM 4401</td>
<td>Biochemistry I</td>
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<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
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<td>Social and Behavioral Sciences Core Requirement</td>
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<td>Creative Arts Core Requirement</td>
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<td>BIMS 4406</td>
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<td>Language, Philosophy &amp; Culture Core Requirement</td>
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<td><strong>Fourth Year</strong></td>
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<td>CLSC 3102</td>
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<td>Essentials for Applied Laboratory Sciences</td>
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<td>CLSC 4420</td>
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<td>CLSC 4430</td>
<td>Clinical Immunology</td>
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<td>CLSC 4325</td>
<td>Clinical Chemistry I</td>
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<td>CLSC 4370</td>
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<td>CLSC 4326</td>
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<td>CLSC 4371</td>
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<td>CLSC 4280</td>
<td>Introduction to the Clinical Laboratory Profession</td>
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<td>CLSC 4120</td>
<td>Hemostasis</td>
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<tr>
<td>CLSC 4382</td>
<td>Advanced Medical Laboratory Procedures</td>
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<tr>
<td><strong>Summer</strong></td>
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<td>CLSC 4200</td>
<td>Professional Skills for Clinical Laboratory Scientists</td>
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<td>CLSC 4598</td>
<td>Professional Practicum II</td>
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<tr>
<td>CLSC 4599</td>
<td>Professional Practicum III</td>
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</tr>
<tr>
<td>CLSC 4182</td>
<td>Seminar – Clinical Correlations</td>
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<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>

**Total Hours 117**
Courses

CLSC 3102 Essentials Laboratory for Clinical Laboratory Science
1 Semester Credit Hour (1 Lab Hour)
Application of essential practices for clinical laboratory science. Offered fall semester every year.
Co-requisite: SMTE 0092.

CLSC 3200 Essentials for Applied Laboratory Sciences
2 Semester Credit Hours (1 Lecture Hour)
Introduction to general laboratory procedures, laboratory safety and regulations, quality assurance, professional ethics, specimen acquisition, sample maintenance and microscopy. Includes an introduction to the health care, public health and criminal investigation system. Offered fall, spring and summer semesters every year.
Prerequisite: BIOL 1407 and CHEM 1412.

CLSC 4120 Hemostasis
1 Semester Credit Hour (1 Lecture Hour)
Studies of blood coagulation with an emphasis on the interaction of blood vessels, platelets, and certain plasma proteins. Disorders of hemostasis will be discussed along with diagnostic testing.

CLSC 4182 Seminar – Clinical Correlations
1 Semester Credit Hour (1 Lecture Hour)
Informal lectures covering the newest developments in laboratory medicine. Includes discussion of the patient's clinical laboratory results, selection and interpretation of laboratory tests, and presentation of research. Requires permission of instructor and application. Offered summer semester (summer II only) every year.

CLSC 4200 Professional Skills for Clinical Laboratory Scientists
2 Semester Credit Hours (2 Lecture Hours)
Study of the role of the medical laboratory professional in the health care system. Includes professional ethics, legal responsibility, medical laboratory management, instructional methods, evaluation of clinical laboratory methods, medical laboratory instrument selection, clinical research and current professional topics. Requires permission of instructor and application. Offered summer semester (summer I only) every year.

CLSC 4280 Introduction to the Clinical Laboratory Profession
2 Semester Credit Hours (2 Lecture Hours)
Studies of the latest instrumentation, instrument selection, basic research, quality assurance and statistics used in the clinical laboratory.
Prerequisite: (CLSC 3200, CHEM 4401 and MATH 1442).

CLSC 4297 Professional Practicum I
2 Semester Credit Hours (2 Lecture Hours)
Supervised learning experience in selected departments of the clinical laboratories.

CLSC 4325 Clinical Chemistry I
3 Semester Credit Hours (3 Lecture Hours)
Principles and practice of procedures found in general clinical chemistry. Includes the methodology of diagnostic tests and normal and abnormal human physiology as applied to diagnosis of pathological conditions.
Prerequisite: CHEM 4401.
Co-requisite: SMTE 0092.

CLSC 4326 Clinical Chemistry II
3 Semester Credit Hours (3 Lecture Hours)
Continuation of CLSC 4325 - Clinical Chemistry I. Emphasis on advanced clinical chemistry topics and procedures.
Prerequisite: CLSC 4325.

CLSC 4370 Clinical Microbiology I
3 Semester Credit Hours (3 Lecture Hours)
Lecture and laboratory studies of common pathogenic bacteria. Emphasis is on staining, cultural, and differential biochemical characteristics, methods of isolation from body fluids and susceptibility to therapeutic agents.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

CLSC 4371 Clinical Microbiology II
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Lecture and laboratory studies of parasitic, viral, mycological and unusual bacterial human pathogens. Emphasis on methods of isolation from body fluids, identification methods and correlation with pathology.
Prerequisite: CLSC 4370.

CLSC 4382 Advanced Medical Laboratory Procedures
3 Semester Credit Hours (3 Lecture Hours)
Lecture and laboratory studies of the newest development in laboratory diagnostic medicine. Includes advanced clinical chemistry, immunology and molecular diagnostic procedures.
Prerequisite: CLSC 4325 and BIMS 4406 or BIOL 4406 and CHEM 4401.

CLSC 4420 Hematology
4 Semester Credit Hours (4 Lecture Hours)
Studies of the formation, function and identifying characteristics of the cellular elements of human blood and other body fluids in health and diseased states and laboratory studies on blood coagulation. Lecture and laboratory emphasize the enumeration, morphology and staining characteristics of normal and abnormal cells and hemostasis.
Prerequisite: BIOL 2416 and CHEM 4401.
Co-requisite: SMTE 0092.

CLSC 4430 Clinical Immunology
4 Semester Credit Hours (4 Lecture Hours)
Theoretical aspects of the immune response and its relationship to the diagnosis of disease and clinical immunohematology. Lecture and laboratory stress the detection, identification and characterization of antibodies, blood grouping and typing, compatibility testing, blood component therapy, HLA testing and diagnosis of pathological conditions.
Prerequisite: BIMS 4406 or BIOL 4406.
Co-requisite: SMTE 0092.

CLSC 4598 Professional Practicum II
5 Semester Credit Hours (5 Lecture Hours)
Continuation of CLSC 4297 - Professional Practicum I. Supervised learning experience in selected departments of the clinical laboratories.
Prerequisite: CLSC 4297.

CLSC 4599 Professional Practicum III
5 Semester Credit Hours (5 Lecture Hours)
Continuation of CLSC 4598 - Professional Practicum II. Supervised learning experience in selected departments of the clinical laboratories.
Prerequisite: CLSC 4598.

Environmental Science, BS

Program Description

Introduction
The mission of the Bachelor of Science program in Environmental Science is to educate students to succeed in their chosen careers, to transfer environmental knowledge to the community and to peers, and to provide an environmentally literate workforce and citizenry. The program
is intended to provide the environmental science major with a broad foundation in the sciences and mathematics, as well as specialized knowledge in Marine and Coastal Resources, Earth System Science, Environmental Health and Monitoring, Policy and Regulations, and Science Education concentration areas. The environmental science curriculum prepares students for career positions in environmental science or science education, or for further professional development.

Student Learning Outcomes

Students will:

• Demonstrate a command of environmental science concepts and principles at the undergraduate level.
• Analyze and interpret a variety of environmental science data, and
• Communicate environmental science information effectively at the undergraduate level, in oral and written form, with appropriate use of technology.

Fast Track from Bachelor's to Master's Degree

The university allows the opportunity for high-achieving students to count a select number of graduate credits toward their undergraduate degree and thereby obtain a graduate degree at an accelerated pace. For more information, see Fast Track Environmental Science, BS and Environmental Science, MS (p. 498).

General Requirements

Students who wish to obtain a Bachelor of Science degree in Environmental Science may do so by following one of five curriculum plans referred to as concentrations. The concentration options include Earth Systems Science, Marine and Coastal Resources, Environmental Health and Monitoring, Policy and Regulations, and Science Education. A prospective 4-8 level science teacher could obtain a BS in Environmental Science while following the science education concentration. Information on the BS in Environmental Science - Science Education Concentration is found in the College of Science and Engineering Science, Mathematics and Technology Education section of the catalog. Details of the requirements for obtaining a teaching certificate are provided in the College of Education and Human Development section of this catalog.

The minimum requirement for a Bachelor of Science Degree in Environmental Science with a concentration in Earth Systems Science, Marine and Coastal Resources, Environmental Health and Monitoring, or Policy and Regulations is a total of 120 hours.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
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<tr>
<td>ESCI 3202</td>
<td>Professional Skills</td>
<td>2</td>
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<tr>
<td>ESCI 3351</td>
<td>Oceanography</td>
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<tr>
<td>ESCI 3403</td>
<td>Introduction to Meteorology</td>
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<tr>
<td>ESCI 4335</td>
<td>Climate and Climate Variability</td>
<td>3</td>
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<tr>
<td>ESCI 4498</td>
<td>Internship in Environmental Science **</td>
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<tr>
<td>ESCI 4202</td>
<td>Issues in Environmental Science</td>
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<td>ESCI 3443</td>
<td>Environmental Biology</td>
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<tr>
<td>GEOL 3443</td>
<td>Environmental Geology</td>
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</tr>
<tr>
<td>CHEM 4443</td>
<td>Environmental Chemistry</td>
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</tr>
</tbody>
</table>

Select two of the following with written approval of faculty mentor: 8

- ESCI 3443 Environmental Biology
- GEOL 3443 Environmental Geology
- CHEM 4443 Environmental Chemistry

Concentration Area

Select one of the following Concentrations: 27-31

- Earth System Science Concentration (p. 403)
- Marine and Coastal Resources Concentration (p. 403)
- Environmental Health and Monitoring Concentration (p. 404)
- Policy and Regulations Concentration (p. 404)
- Science Education Concentration (p. 404)

Electives

Select 11 hours of electives as needed 11

Total Hours 120-126

1 Full-time, first time in college students are required to take the first-year seminars.
   • UNIV 1101 First-Year Seminar I (1 sch)
   • UNIV 1102 First-Year Seminar II (1 sch)
See Core Curriculum Program. It is recommended that the Science component area courses be ESCI 1401 Environmental Science I: Intro to Environmental Science (4 sch) and BIOL 1406 Biology I (4 sch) and the component area course be GEOL 1403 Physical Geology (4 sch). It is recommended that the mathematics course be MATH 1442 Statistics for Life (4 sch) or MATH 2413 Calculus I (4 sch), depending on concentration area. Please consult your faculty mentor or academic advisor for specific details. If these courses are not taken in the University Core, they will still need to be completed.

The program requires a minimum of 2 hours of ESCI 4498 Internship in Environmental Science (1-4 sch) to satisfy the Major Requirements; however additional hours of credit may be applied towards the Designated Electives in a Concentration Area, with approval of the student's faculty mentor. Students are strongly encouraged to consult their faculty mentor regularly.

**Concentration Area**

Students must take a total of 27-31 semester hours in prescribed courses and electives to complete a concentration in Earth Systems Science, Marine and Coastal Resources, Environmental Health and Monitoring, or Policy and Regulations. Designated electives must be approved in writing by the student's faculty mentor. Students are strongly encouraged to consult their faculty mentor regularly.

**Earth System Science Concentration**

This concentration is appropriate for students preparing for careers in earth system science, meteorology, or other fields. Students preparing for graduate school are strongly encouraged to take additional hours in consultation with their faculty mentor. Additional courses in Mathematics are strongly recommended.

In addition to the courses listed below, it is recommended that students choosing this concentration take Calculus I (MATH 2413 (https://client-snap.dev8.leepfrog.com/tamucc/catalog.tamucc.edu/preview_program6d17.html?catid=228&pid=2827#tt1739)) as part of the University Core requirements and take either MATH 1442 General Mathematics I (4 sch) or PHYS 2425 University Physics I (4 sch) as part of the Foundations requirements. MATH 2413 Calculus I (4 sch) is strongly recommended for students anticipating graduate school or research careers; also, it is a prerequisite to some of the optional courses listed below under the concentration. If MATH 1442 Statistics for Life (4 sch) is not taken, then MATH 3342 Applied Probability and Statistics (3 sch) is required from the designated elective hours.

<table>
<thead>
<tr>
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<tr>
<td>MATH 3311</td>
<td>Linear Algebra</td>
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</tr>
<tr>
<td>MATH 3342</td>
<td>Applied Probability and Statistics **</td>
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</tr>
<tr>
<td>CHEM 3411</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>or CHEM 4423</td>
<td>Physical Chemistry I</td>
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**Designated Electives**

Select 13 hours with written approval of the faculty mentor (at least 7 hours must be upper-level) from the following:

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<td>Principles of Ecology</td>
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<tr>
<td>ESCI 4360</td>
<td>Physical Oceanography</td>
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<td>MATH 2305</td>
<td>Discrete Mathematics I</td>
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<td>MATH 3315</td>
<td>Differential Equations</td>
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<td>MATH 2415</td>
<td>Calculus III</td>
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<tr>
<td>GEOL 3442</td>
<td>Geomorphology</td>
</tr>
<tr>
<td>GEOL 4316</td>
<td>Marine Geoscience</td>
</tr>
</tbody>
</table>

**Marine and Coastal Resources Concentration**

This concentration is appropriate for students planning careers in marine and coastal resources research or management. Students preparing for graduate school are strongly encouraged to take additional hours in consultation with their faculty mentor.

In addition to the courses listed below, it is recommended that students choosing this concentration take either MATH 1442 Statistics for Life (4 sch) or MATH 2413 Calculus I (4 sch) as part of the University Core requirements and take either PHYS 1401 General Physics I (4 sch) or PHYS 2425 University Physics I (4 sch) as part of the Foundations requirements. MATH 2413 Calculus I (4 sch) is strongly recommended for students anticipating graduate school or research careers; also, it is a prerequisite to some of the optional courses listed below under the concentration. If MATH 1442 Statistics for Life (4 sch) is not taken, then MATH 3342 Applied Probability and Statistics (3 sch) is required from the designated elective hours.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BIOL 1407</td>
<td>Biology II</td>
<td>4</td>
</tr>
<tr>
<td>ESCI 4301</td>
<td>Environmental Regulations</td>
<td>3</td>
</tr>
</tbody>
</table>

**Designated Electives**

Select 24 hours with written approval of the faculty mentor (at least 18 hours must be upper-level) from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>BIOL 2421</td>
<td>Microbiology</td>
</tr>
<tr>
<td>BIOL 3428</td>
<td>Principles of Ecology</td>
</tr>
<tr>
<td>BIOL 4405</td>
<td>Limnology</td>
</tr>
<tr>
<td>BIOL 4336</td>
<td>Marine Ecology</td>
</tr>
<tr>
<td>BIOL 4444</td>
<td>Estuarine Organisms</td>
</tr>
<tr>
<td>CHEM 3411</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHEM 3412</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>ESCI 4230</td>
<td>Oil Spill Prevention and Response Theory</td>
</tr>
<tr>
<td>CHEM 4344</td>
<td>Chemical Oceanography</td>
</tr>
<tr>
<td>CHEM 4443</td>
<td>Environmental Chemistry</td>
</tr>
<tr>
<td>ESCI 4360</td>
<td>Physical Oceanography</td>
</tr>
<tr>
<td>ESCI 4498</td>
<td>Internship in Environmental Science</td>
</tr>
<tr>
<td>GEOL 3442</td>
<td>Geomorphology</td>
</tr>
<tr>
<td>GEOL 4411</td>
<td>Sedimentation and Stratigraphy</td>
</tr>
<tr>
<td>GEOL 4436</td>
<td>Introduction to Petroleum Geology</td>
</tr>
<tr>
<td>GEOL 4444</td>
<td>Hydrogeology</td>
</tr>
<tr>
<td>GISC 2301</td>
<td>Geospatial Systems II</td>
</tr>
<tr>
<td>GISC 3421</td>
<td>Visualization for GIS</td>
</tr>
<tr>
<td>MATH 3342</td>
<td>Applied Probability and Statistics **</td>
</tr>
<tr>
<td>PHYS 1402</td>
<td>General Physics II</td>
</tr>
</tbody>
</table>
This concentration is appropriate for students planning careers in environmental health, environmental assessment and remediation, and environmental management. Students preparing for graduate school are strongly encouraged to take additional hours in consultation with their faculty mentor.

In addition to the courses listed below, it is recommended that students choosing this concentration take either MATH 1442 Statistics for Life (4 sch) or MATH 2413 Calculus I (4 sch) as part of the University Core requirements and take either PHYS 1401 General Physics I (4 sch) or PHYS 2425 University Physics I (4 sch) as part of the Foundations requirements. MATH 2413 Calculus I (4 sch) is strongly recommended for students anticipating graduate school or research careers; also, it is a prerequisite to some of the optional courses listed below under the concentration. If MATH 1442 Statistics for Life (4 sch) is not taken, then MATH 3342 Applied Probability and Statistics (3 sch) is required from the designated-elective hours.

### Designated Electives

Select 13 hours with written approval of the faculty mentor (at least 11 hours must be upper-level) from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BIOL 1407</td>
<td>Biology II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2421</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>ESCI 4301</td>
<td>Environmental Regulations</td>
<td>3</td>
</tr>
<tr>
<td>ESCI 4320</td>
<td>Environmental Health</td>
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</tr>
<tr>
<td>CHEM 3411</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
</tbody>
</table>

### Total Hours

| Total Hours | 31 |

* Online offering

^ Blended offering

### Environmental Health and Monitoring Concentration

**Policy and Regulations Concentration**

This concentration is appropriate for students anticipating careers in environmental or natural resource regulation or environmental law. Students preparing for graduate school are strongly encouraged to take additional hours in consultation with their faculty mentor.

In addition to the courses listed below, it is recommended that students choosing this concentration take either MATH 1442 Statistics for Life (4 sch) or MATH 2413 Calculus I (4 sch) as part of the University Core requirements and take either PHYS 1401 General Physics I (4 sch) or PHYS 2425 University Physics I (4 sch) as part of the Foundations requirements. MATH 2413 Calculus I (4 sch) is strongly recommended for students anticipating graduate school or research careers; also, it is a prerequisite to some of the optional courses listed below under the concentration. If MATH 1442 Statistics for Life (4 sch) is not taken, then MATH 3342 Applied Probability and Statistics (3 sch) is required from the designated-elective hours.

**Designated Electives**

Select 21 hours with written approval of the faculty mentor (at least 15 hours must be upper-level) from the following:

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<thead>
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<tr>
<td>BIOL 4408</td>
<td>Microbial Diversity and Ecology or ESCI 4408Environmental Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 4406</td>
<td>Immunology or BIMS 4406Immunology</td>
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</tr>
<tr>
<td>BIOL 4433</td>
<td>Parasitology</td>
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<tr>
<td>BIOL 4336</td>
<td>Marine Ecology</td>
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<td>BIMS 4327</td>
<td>Introduction to Toxicology</td>
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<td>CHEM 3412</td>
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</tr>
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<td>CHEM 3417</td>
<td>Quantitative Analysis</td>
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<td>CHEM 3418</td>
<td>Instrumental Analysis</td>
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<td>ESCI 4270</td>
<td>Hazardous Waste Operations and Emergency Response Theory</td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td>MATH 3342</td>
<td>Applied Probability and Statistics **</td>
<td>3</td>
</tr>
</tbody>
</table>

### Total Hours

| Total Hours | 27 |

* Online offering

^ Blended offering

### Science Education Concentration

Information on the Bachelor of Science Degree in Environmental Science with a science education concentration is found in the College of Science and Engineering, Science, Mathematics and Technology Education (p. 467) section of the catalog.

### Course Sequencing

#### Marine and Coastal Resources

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ESCI 1401</td>
<td>Environmental Science I: Intro to Environmental Science</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1442</td>
<td>Statistics for Life (MATH 2413 may be substituted.)</td>
<td>4</td>
</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Hours</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
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</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1302</td>
<td>Writing and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1412</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 1403</td>
<td>Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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<tr>
<td>Social and Behavioral Sciences Core Requirement</td>
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<tr>
<td></td>
<td><strong>Spring</strong></td>
<td><strong>16</strong></td>
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<tr>
<td></td>
<td><strong>Second Year</strong></td>
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<tr>
<td></td>
<td><strong>Fall</strong></td>
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</tr>
<tr>
<td>PHYS 1401</td>
<td>General Physics I (PHYS 2425 may be substituted)</td>
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</tr>
<tr>
<td>BIOL 1406</td>
<td>Biology I</td>
<td>4</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture Core Requirement</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HIST 1301</td>
<td>U.S. History to 1865</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Hours</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>ENGL 1302</td>
<td>Writing and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>or COMM 1311</td>
<td>or Foundation of Communication</td>
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</tr>
<tr>
<td>BIOL 1407</td>
<td>Biology II</td>
<td>4</td>
</tr>
<tr>
<td>GISC 1470</td>
<td>Geospatial Systems I</td>
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<tr>
<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
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<td>Elective (to meet 120 hrs)</td>
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<td></td>
<td><strong>Hours</strong></td>
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<tr>
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<td></td>
<td><strong>Fall</strong></td>
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</tr>
<tr>
<td>ESCI 3202</td>
<td>Professional Skills</td>
<td>2</td>
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<tr>
<td>ESCI 3443</td>
<td>Environmental Biology</td>
<td>4</td>
</tr>
<tr>
<td>ESCI 3403</td>
<td>Introduction to Meteorology</td>
<td>4</td>
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<tr>
<td>Designed Elective</td>
<td></td>
<td>3</td>
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<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Hours</strong></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>GEOL 3443</td>
<td>Environmental Geology</td>
<td>4</td>
</tr>
<tr>
<td>POLS 2306</td>
<td>State and Local Government</td>
<td>3</td>
</tr>
<tr>
<td>Designed Elective</td>
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<tr>
<td>Upper Level Designated Elective</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Hours</strong></td>
<td><strong>14</strong></td>
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<tr>
<td></td>
<td><strong>Fourth Year</strong></td>
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<td></td>
<td><strong>Fall</strong></td>
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<tr>
<td>Upper Level Designated Elective</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ESCI 3351</td>
<td>Oceanography</td>
<td>3</td>
</tr>
<tr>
<td>Upper Level Designated Elective</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Creative Arts Core Requirement</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td><strong>Hours</strong></td>
<td><strong>14</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>ESCI 4335</td>
<td>Climate and Climate Variability</td>
<td>3</td>
</tr>
<tr>
<td>ESCI 4202</td>
<td>Issues in Environmental Science</td>
<td>2</td>
</tr>
<tr>
<td>ESCI 4301</td>
<td>Environmental Regulations</td>
<td>3</td>
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<tr>
<td>Upper Level Designated Elective</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Upper Level Designated Elective</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

### Courses

**ESCI 1401 Environmental Science I: Intro to Environmental Science**
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Principles of the scientific method and critical thinking provide a foundation for subsequent consideration of environmental issues through a multidisciplinary approach. Laboratory exercises and local field experiences reinforce concepts introduced in the lectures. Fall, Spring.

**Co-requisite:** SMTE 0096.

**TCCNS:** ENV 1401

**ESCI 1490 Selected Topics**
1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject materials variable. May be repeated for credit when topics are significantly different. Faculty approval required. Offered on sufficient demand.

**ESCI 3202 Professional Skills**
2 Semester Credit Hours (2 Lecture Hours)
Presentation and discussion of selected topics relating to the professional skills of practicing environmental scientists including literature searches, reviews, paper presentation, professional and career opportunities, professional ethics. Fall, Spring.

**ESCI 3351 Oceanography**
3 Semester Credit Hours (3 Lecture Hours)
Methods and principles of oceanography. A survey of oceanography with emphasis placed on the physical processes affecting water and water masses of the world oceans. Fall (on sufficient demand), Spring.

**Prerequisite:** CHEM 1412, ESCI 1401 or GEOL 1403.

**ESCI 3403 Introduction to Meteorology**
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course is an introduction to meteorology and the dynamics of planetary atmospheres. Emphasis on atmospheric accretion, composition, evolution, structure, and dynamics. Lab exercises cover basic measurement techniques, weather maps, and forecasting. Fall, Spring (on sufficient demand).

**Co-requisite:** SMTE 0096.

**ESCI 3443 Environmental Biology**
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Historical, contemporary, and projected concerns of human activities on biological aspects of ecosystem functioning.

**Prerequisite:** BIOL 1407.

**Co-requisite:** SMTE 0096.

**ESCI 4130 Oil Spill Prevention and Response Lab**
1 Semester Credit Hour (2 Lab Hours)
Practical techniques for control, containment, countermeasures, removal, and disposal of oil spills in an environmentally safe manner. Field exercises will include use of boats, booms and skimmers. Fall, Spring, Summer (on sufficient demand).

**Prerequisite:** ESCI 4320.

*May be taken concurrently.

**Co-requisite:** SMTE 0096.
ESCI 4170  Hazardous Waste Operations and Emergency Response Lab
1 Semester Credit Hour (2 Lab Hours)
Practical techniques for handling, reducing, and disposing of hazardous wastes in an environmentally safe manner. Lab exercises in use of personal protective gear and safe handling of hazardous substances. Fall, Spring, Summer (on sufficient demand).
Prerequisite: ESCI 4270.
Co-requisite: ESCI 4270, SMTE 0096.

ESCI 4201  Scientific Diving Techniques
2 Semester Credit Hours (2 Lecture Hours)
Theory, science, and art of underwater diving technology and its application to scientific objectives. Course helps fulfill some training requirements of the Texas A&M University-Corpus Christi Guidelines for scientific diving.

ESCI 4202  Issues in Environmental Science
2 Semester Credit Hours (2 Lecture Hours)
Exploration of major issues in environmental science posing past, present and future challenges. Selected readings, student presentations and papers.
Prerequisite: ESCI 1401.

ESCI 4230  Oil Spill Prevention and Response Theory
2 Semester Credit Hours (2 Lecture Hours)
Historical perspective of laws and regulations governing oil spill prevention and response. Current methods for control, containment, countermeasures, removal, and disposal of oil spills in an environmentally safe manner. Fall, Spring, Summer (on sufficient demand).
Co-requisite: ESCI 4130.

ESCI 4270  Hazardous Waste Operations and Emergency Response Theory
2 Semester Credit Hours (2 Lecture Hours)
Study of the laws and regulations of hazardous waste management from an historical perspective followed by current techniques for handling, reducing, and disposing of hazardous wastes in an environmentally safe manner. Fall, Spring, Summer (on sufficient demand).
Co-requisite: ESCI 4230.

ESCI 4301  Environmental Regulations
3 Semester Credit Hours (3 Lecture Hours)
A survey of state and federal environmental laws and regulations, and their impact on the environment. Case studies of environmental issues and legislated regulations.
Prerequisite: POLS 2305 and 2306.

ESCI 4320  Environmental Health
3 Semester Credit Hours (3 Lecture Hours)
Overview of the toxicology and epidemiology of pollutants in the air, water and soil. Associations of environmental exposure with adverse health effects such as cancer, cardiovascular disease, and reproductive outcomes; also chemical markers and symptoms of disease. Pollutants studied include lead, asbestos, radiation, radon, noise, metals, halogenated hydrocarbons, aromatic hydrocarbons, silica, indoor air quality, formaldehyde, and outdoor air pollutants. Offered on sufficient demand.

ESCI 4321  Introduction to Soil and Groundwater Restoration
3 Semester Credit Hours (3 Lecture Hours)
Introduction to methods for restoring contaminated soil and groundwater by examining the factors and processes influencing the efficacy of remediation systems. An emphasis will be placed on the scientific principles upon which soil and groundwater remediation is based. Cross listed with GEOL 4321.

ESCI 4322  Introduction to Industrial Hygiene
3 Semester Credit Hours (3 Lecture Hours)
Introduction to health protection practices in the industrial environment. Health basis for OSHA laws, regulations. Sampling and testing procedures.

ESCI 4324  Introduction to Industrial Toxicology
3 Semester Credit Hours (3 Lecture Hours)
Review of human physiology, general concepts of toxicology: dose-response relationship, interactions between the host and the agents, risk assessment, to provide an introductory understanding of toxicology related to the chemicals in the workplace.

ESCI 4332  Wetlands and Water Quality
3 Semester Credit Hours (3 Lecture Hours)
Introduction to wetland ecosystems (natural, constructed and restored) with an emphasis on the role of wetlands in water quality. Topics include wetland systems, their history and role in society, relationships between biology, geology, ecology, hydrology and chemistry in wetland environments.
Prerequisite: BIOL 3428 and CHEM 4443 or ESCI 3443.

ESCI 4335  Climate and Climate Variability
3 Semester Credit Hours (3 Lecture Hours)
Course intended to guide environmental science majors in developing a conceptual understanding of Earth's global climate and its variability. Review of past climates, present mean state of the climate system, climate variability from seasonal to multidecadal time scales, and climate change. Special attention given to climates of the Gulf of Mexico, Caribbean Sea and surrounding land regions. Plausible climate-change scenarios, as well as mitigation and adaptation strategies are also discussed. Cross listed with ATSC 4335. Spring.
Prerequisite: (ESCI 3351 or 3403) and (PHYS 1401 or 2425).

ESCI 4340  Severe Weather
3 Semester Credit Hours (3 Lecture Hours)
Introduction to mesoscale weather systems including thunderstorms, squall lines and hurricanes, as well as the mechanisms of tornado and lighting. Methods of observing, analyzing, and predicting these severe weather systems with the interpretation of satellite and radar images will also be introduced in this class.
Prerequisite: ESCI 3403.

ESCI 4344  Air Pollution and the Clean Air Act
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the chemistry and physics of air pollution and regulations. Topics include photochemistry, acid rain, air pollution meteorology and dispersion, global change, and the Clean Air Act.

ESCI 4360  Physical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
Physical description of the sea, physical properties of seawater and sea ice, methods and measurements, wind-driven ocean circulation, thermohaline ocean circulation, boundary processes, waves, tides and mixing. Seasonal and interannual variability such as El Niño/Southern Oscillation phenomena. Implications for marine biology, marine geology, human impacts, other topics. Fall.
Prerequisite: PHYS 1401 or 2425.

ESCI 4365  Occupational Safety and Accident Prevention
3 Semester Credit Hours (3 Lecture Hours)
This course provides students with fundamental knowledge of regulatory requirements on occupational safety and practical techniques on accident prevention in the work environment. Offered on sufficient demand.
ESCI 4408 Environmental Microbiology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Relationships between microorganisms and their biotic and abiotic environment. Current topics such as air quality (i.e., molds), water quality and bioremediation will be discussed. Laboratory will include techniques for sampling from soil, air and water. Offered on sufficient demand.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0096.

ESCI 4480 Environmental Site Assessment
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Interdisciplinary application of environmental regulations, risk assessment to specific examples. Knowledge of United States environmental regulations assumed; ESCI 4301 Environmental Regulations recommended.

ESCI 4490 Selected Topics
4 Semester Credit Hours (4 Lecture Hours, 4 Lab Hours)
Subject materials variable. May be repeated for credit when topics are significantly different. Faculty approval required. Offered on sufficient demand.

ESCI 4496 Directed Independent Study
1-4 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College. Fall, Spring, Summer.

ESCI 4498 Internship in Environmental Science
1-4 Semester Credit Hours (4 Lecture Hours)
Two to four semester hours of credit may be earned by working in an internship position in a governmental agency or industry.

Geology, BS
Program Description
The mission of the Geology Program is to provide integrated and process-oriented curricula, based on fundamental scientific principles and processes that enable graduates to pursue challenging careers and maintain lifelong learning. The Geology Program is designed to serve students majoring in geology and environmental science as well as students in other fields who are interested in adding to their knowledge of the Earth. Members of the geoscience faculty provide majors with a broad overview of geologic processes while offering the opportunity to pursue specialized knowledge in selected areas of geoscience in preparation for graduate study and careers in government, industry, or academia.

Students can earn a Bachelor of Science degree in Geology by following the degree plan for geology majors as described below. Students considering certification for 4-8 level science teaching should consult the Science, Mathematics and Technology Education (SMTE) section of this catalog.

Student Learning Outcomes
Students will:

• show competence in scientific inquiry, writing, and oral presentation;
• demonstrate a broad understanding of major concepts central to the geological sciences;
• demonstrate competency and be able to apply field and laboratory methods, perform data analysis, and utilize computer applications relevant to the geological sciences;
• be employable in geology-related fields, or able to continue their education in graduate programs;
• be able to evaluate and critically discuss issues related to geology that impact society.

Fast Track from Bachelor's to Master's Degree
The university allows the opportunity for high-achieving students to count a select number of graduate credits toward their undergraduate degree and thereby obtain a graduate degree at an accelerated pace. For more information, see Fast Track Geology, BS and Environmental Science, MS (p. 502).

General Requirements
The minimum requirement for a Bachelor of Science Degree in Geology is a total of 120 hours, divided among the following areas:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Supporting Courses</td>
<td>8</td>
</tr>
<tr>
<td>Geology Core</td>
<td>42</td>
</tr>
<tr>
<td>Geology Tracks</td>
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</table>

Total Credit Hours
120-122

Program Requirements

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<th>Hours</th>
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<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
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Core Curriculum Program

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<th>Hours</th>
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<tbody>
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<td>UNIV 1101</td>
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Students majoring in Geology use the following:

<table>
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<tr>
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<th>Title</th>
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<tbody>
<tr>
<td>MATH 2413</td>
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<tr>
<td>CHEM 1411</td>
<td>General Chemistry I (3 hrs Life/Physical Science requirement/1 hr Component Area Option)</td>
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</tr>
<tr>
<td>CHEM 1412</td>
<td>General Chemistry II (3 hrs Life/Physical Science requirement/1 hr Component Area Option)</td>
<td></td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 1401</td>
<td>General Physics I (3 hr Component Area Option/1 hr Supporting courses)</td>
<td></td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I (3 hr Component Area Option/1 hr Supporting courses)</td>
<td></td>
</tr>
</tbody>
</table>

Supporting Courses

Supporting courses may not be taken on a pass/no pass (P/NP) basis.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I (included in University Core)</td>
<td></td>
</tr>
<tr>
<td>CHEM 1412</td>
<td>General Chemistry II (included in University Core)</td>
<td></td>
</tr>
</tbody>
</table>
PHYS 1401 General Physics I 4
Select one of the following: 4
   PHYS 1402 General Physics II (included in University Core)
   PHYS 2425 University Physics I (included in University Core) 1
   PHYS 2426 University Physics II 4
   MATH 2413 Calculus I (included in University Core)
MATH 3342 Applied Probability and Statistics 3

**Geology Core**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 1403</td>
<td>Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 1404</td>
<td>Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 2102</td>
<td>Undergraduate Seminar in Geology-Careers in the Geosciences</td>
<td>1</td>
</tr>
<tr>
<td>or GEOL 2103</td>
<td>Undergraduate Seminar in Geology-Research in the Geosciences</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 3411</td>
<td>Mineralogy</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 3326</td>
<td>Introduction to Geological Field Methods</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 3414</td>
<td>Igneous and Metamorphic Petrology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 4411</td>
<td>Sedimentation and Stratigraphy</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 4421</td>
<td>Structural Geology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 4422</td>
<td>Geophysics</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 4650</td>
<td>Field Geology</td>
<td>6</td>
</tr>
<tr>
<td>GEOL 4444</td>
<td>Hydrogeology</td>
<td>4</td>
</tr>
<tr>
<td>or GEOL 4416</td>
<td>Introduction to Geochemistry</td>
<td></td>
</tr>
</tbody>
</table>

**Tracks**

Select one of the following Tracks: 28

<table>
<thead>
<tr>
<th>Track</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Geology Track (p. 408)</td>
<td></td>
</tr>
<tr>
<td>Geochemistry Track (p. 408)</td>
<td></td>
</tr>
<tr>
<td>Environmental Geology Track (p. 409)</td>
<td></td>
</tr>
<tr>
<td>Energy Resources Track (p. 409)</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours** 129

1. Note that PHYS 2425 University Physics I (4 sch)/PHYS 2426 University Physics II (4 sch) are required for some tracks and PHYS 2426 University Physics II (4 sch) required MATH 2414 Calculus II (4 sch) as a prerequisite.

2. Online offering

3. Blended offering

**General Geology Track**

The General Geology track is designed to serve students majoring in geology and environmental science as well as students in other fields who are interested in a broad overview of geologic processes. In addition, there are opportunities to pursue specialized knowledge in selected areas of geoscience in preparation for graduate study and careers in government, industry, or academia.

Select 15 hours from the following: 15

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 2222</td>
<td>Karst Geology and Paleoclimatology</td>
<td></td>
</tr>
<tr>
<td>GEOL 3329</td>
<td>Geology of National Parks</td>
<td></td>
</tr>
<tr>
<td>GEOL 3441</td>
<td>Invertebrate Paleontology</td>
<td></td>
</tr>
<tr>
<td>GEOL 3442</td>
<td>Geomorphology</td>
<td></td>
</tr>
<tr>
<td>GEOL 3443</td>
<td>Environmental Geology</td>
<td></td>
</tr>
<tr>
<td>GEOL 4316</td>
<td>Marine Geoscience</td>
<td></td>
</tr>
<tr>
<td>GEOL 4321</td>
<td>Introduction to Soil and Groundwater Restoration</td>
<td></td>
</tr>
</tbody>
</table>
The Environmental Geology track is designed to provide students with a broad training for careers in different aspects of the environmental geosciences including: water resources, water quality, and the hydrogeochemistry of natural waters.

Environmental Geology Track
The Environmental Geology track offers courses such as Hydrogeology, Environmental Geology, and Geochemistry.

Energy Resources Track
The Energy Resources track offers courses such as University Physics I and University Physics II, and is designed to provide students with the knowledge, skills, and tools needed to explore and produce hydrocarbons, gas hydrates, and renewable energy resources such as geothermal energy.

Optional Minor in Another Subject
Geology majors may choose to complete a minor in an approved subject. Course requirements for the minor involve at least 18 semester hours, and the content is specified by faculty in the minor field. Minors in biology, chemistry, computer science, environmental science, geographic information science, and mathematics are generally appropriate for geology majors. Minors in other disciplines or combination minors may be arranged in consultation with the academic advisor.
Course Sequencing

General Geology

Course Title Hours

First Year
Fall
GEOL 1403 Physical Geology 4
MATH 2413 Calculus I 4
UNIV 1101 First-Year Seminar I 1
ENGL 1302 Writing and Rhetoric 3
COMM 1311 Foundation of Communication 3

Hours 15

Spring
GEOL 1404 Historical Geology 4
CHEM 1411 General Chemistry I 4
PHYS 1401 General Physics I 4
UNIV 1102 First-Year Seminar II 1
GEOL 2102 Undergraduate Seminar in Geology-Careers in the Geosciences 1

Hours 14

Second Year
Fall
GEOL 3411 Mineralogy 4
CHEM 1412 General Chemistry II 4
PHYS 1402 General Physics II 4
POLS 2305 U.S. Government and Politics 3

Hours 15

Spring
GEOL 2222 Karst Geology and Paleoclimatology 2
MATH 3342 Applied Probability and Statistics 3
GEOL/Science Elective 4
GEOL 2103 Undergraduate Seminar in Geology-Research in the Geosciences 1
HIST 1301 U.S. History to 1865 3

Hours 13

Third Year
Fall
GEOL 4416 Introduction to Geochemistry 4
GEOL Elective 4
POLS 2306 State and Local Government 3
HIST 1302 U.S. History Since 1865 3

Hours 14

Spring
GEOL 3414 Igneous and Metamorphic Petrology 4
ARTS 1301 Art and Society 3
PHIL 1301 Introduction to Philosophy 3
GEOL/Science Elective 4

Hours 14

Fourth Year
Fall
GEOL 4411 Sedimentation and Stratigraphy 4
GEOL 4421 Structural Geology 4
GEOL/Science Elective 4

Hours 15

Total Hours 121

Courses

GEOL 1303 Essentials of Geology
3 Semester Credit Hours (3 Lecture Hours)
One-semester introductory Earth science course for students majoring in a non-science subject area. Covers basic geologic material and concepts, such as minerals, rocks, the rock cycle, and plate tectonics theory. Origin, composition, and evolution of our planet, as well as the importance of geology in everyday life, including geologic resources, global change, earthquakes, and volcanism are examined. This course is not recommended for students majoring in Geology or Environmental Sciences. Course counts toward the natural science component of the Core Curriculum Program.
TCCNS: GEOL 1303

GEOL 1403 Physical Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the origin, classification, and composition of Earth materials. Study of internal and surface processes which shape and modify Earth. Laboratory studies of minerals and rocks, as well as topographic maps, geologic maps and geologic cross-sections.
Co-requisite: SMTE 0094.
TCCNS: GEOL 1403

GEOL 1404 Historical Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the origin and evolution of Earth and other planets. Changes in the form and distribution of Earth’s continents and oceans, and succession of plants and animals through geologic time. Laboratory studies of fossils, geological maps, and the interpretation of ancient environments of rock formation.
Prerequisite: GEOL 1403 or 1303.
Co-requisite: SMTE 0094.
TCCNS: GEOL 1404

GEOL 2102 Undergraduate Seminar in Geology-Careers in the Geosciences
1 Semester Credit Hour (1 Lecture Hour)
Introductory level seminar featuring diverse topics and speakers. Focus on careers in the geosciences as well as on how to successfully plan a college career. In-house as well as external speakers. May not be repeated for credit but attendance in subsequent semesters is encouraged.
GEOL 2103 Undergraduate Seminar in Geology-Research in the Geosciences
1 Semester Credit Hour (1 Lecture Hour)
Introductory level seminar featuring diverse topics and speakers. Focus on current geologic research. In-house as well as external speakers. May not be repeated for credit but attendance in subsequent semesters is highly encouraged. Credit/no credit

GEOL 2222 Karst Geology and Paleoclimatology
2 Semester Credit Hours (1 Lecture Hour)
This course describes the different types of caves and karst rocks, the water rock interactions in carbonate rock systems, and it explains cave formation via hydrological and geochemical processes. It also deals with how speleothem proxies such as oxygen and carbon stable isotope, trace elements, carbonate petrography are used to decipher past changes in climate.

GEOL 2490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours, 6 Lab Hours)
May be repeated for credit if topics are significantly different. Subject material variable. Faculty approval required.

GEOL 3326 Introduction to Geological Field Methods
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to the basic techniques of geological fieldwork. Note taking in the field, proper use of geological field equipment, measurement and description of rock sections by several methods and degrees of detail, plus small area mapping of several types of terrain with topographic maps. Reports, sections, and maps will be produced from the field notes. Field trips required.
Prerequisite: GEOL 1403 and 1404 and (GEOL 3411 or 3411*).
*May be taken concurrently.
Co-requisite: SMTE 0094.

GEOL 3329 Geology of National Parks
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the regional geology of the United States using selected U.S. National Parks representing a wide variety of geologic settings as examples. Application of major geologic principles and basic geologic concepts such as plate tectonics, rock cycle, stratigraphy, and geologic time.
Prerequisite: GEOL 1303, 1403 or 1404.

GEOL 3411 Mineralogy
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of the physical and chemical properties of minerals. Introduction to the crystallography of minerals, optical mineralogy, and the use of the polarized light microscope. Laboratory study of mineral identification in hand specimens and thin sections.
Prerequisite: GEOL 1403 and CHEM 1411 and (CHEM 1412 or 1412*).
*May be taken concurrently.
Co-requisite: SMTE 0094.

GEOL 3414 Igneous and Metamorphic Petrology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Genesis and occurrence of igneous and metamorphic rocks. Mineralogical composition and thermodynamics of geologic systems. Determination of rock types in hand specimens and thin sections.
Prerequisite: GEOL 1403, CHEM 1411, 1412 and GEOL 3411.
Co-requisite: SMTE 0094.
GEOL 4326 Field Seminar in Geology  
3 Semester Credit Hours (4 Lecture Hours, 1 Lab Hour)  
Designed to prepare students for summer field camp. Basic techniques of geologic mapping in the field, data analysis and interpretation, and report writing.  
Prerequisite: GEOL 4411 and 4421.  
Co-requisite: SMTE 0094.

GEOL 4411 Sedimentation and Stratigraphy  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Composition and origin of sediments and sedimentary rocks. Description and classification of rocks in hand specimen. Principles of stratigraphy, including stratigraphic units and correlation. Facies models for major depositional systems. Field trips  
Prerequisite: (GEOL 1403) and (GEOL 1404) and (GEOL 3411*).  
* May be taken concurrently.  
Co-requisite: SMTE 0094.

GEOL 4415 Economic Geology  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Study of geologic and tectonic parameters of mineral and metals formation. Ore geology and geochemistry. Mining, processing, fabrication, and marketing of natural resources. Field trip to mining operations.  
Prerequisite: GEOL 1403 and 3411.  
Co-requisite: SMTE 0094.

GEOL 4416 Introduction to Geochemistry  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Introductory study of the Earth processes using principles of chemical equilibrium, thermodynamics, isotope geochemistry and organic geochemistry. Applications of low-temperature geochemistry to geologic problems.  
Prerequisite: CHEM 1411, 1412, MATH 2413 and GEOL 3411.  
Co-requisite: SMTE 0094.

GEOL 4421 Structural Geology  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
PHYS 1401 Geometric and quantitative description of deformation of the Earth's crust, mechanics of brittle and crystal-plastic deformation processes of Earth materials, introduction to continuum mechanics of geologic systems, crustal deformation from micro-scale to global tectonics. Laboratory introduces principles of three-dimensional data representation and analysis, geologic map interpretation, cross-section techniques, and problems in stress and strain analysis.  
Prerequisite: GEOL 3411 and MATH 2413 and (PHYS 1401 or 2425).  
Co-requisite: SMTE 0094.

GEOL 4422 Geophysics  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Introduction to quantitative techniques to assess physical properties and processes of the Earth. Topics include earthquake seismology, refraction and reflection seismology, gravimetry, magnetism, electrical methods, and radioactivity of Earth materials. Application of geophysical methods to the study of the Earth, in oil and gas exploration, and in economic and environmental geology.  
Prerequisite: (GEOL 4421, PHYS 1401 or 2425) and (PHYS 1402 or 2426) and (MATH 2413).

GEOL 4423 Seismic Methods  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Introduction to the acquisition, processing, and interpretation of 2D and 3D seismic data. Lectures and field exercises are covered. Topics include conceptual and historical foundations of modern reflection seismology; an overview of seismic wave phenomena in acoustic, elastic, and porous media; acquisition principles for land and marine seismic surveys; methods used to create 2D and 3D seismic images from field data; concepts of dip moveout, prestack migration, and depth migration; concepts and limitations of 3D seismic interpretation for structure, stratigraphy, and rock property estimation; and the interpretation role of attributes, impedance estimation, and AVO.  
Prerequisite: GEOL 4322.

GEOL 4424 Environmental and Engineering Geophysics  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Geophysical techniques for exploring the shallow subsurface for environmental and engineering purposes. Topics include seismic, resistivity, ground penetrating radar, electromagnetic, gravity, and magnetic methods. This course includes both lectures and labs (field exercises) components.  
Prerequisite: (PHYS 1401 or 2425) and (PHYS 1402 or 2426) and (MATH 2413).

GEOL 4430 Internship in Geology  
1-4 Semester Credit Hours  
One to four semester hours of credit may be earned by working in an internship position in industry, with local government, a private firm, or an independent geologist.  
Prerequisite: GEOL 1403 and 3411.

GEOL 4436 Introduction to Petroleum Geology  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Basic concepts of petroleum geology and techniques used in the exploration and production of hydrocarbon systems. Lectures and lab exercises will cover principles of stratigraphy, sedimentology, hydrocarbon generation, hydrocarbon-trapping mechanisms, reservoir characterization, seismic interpretation, well-log interpretation, and geologic risk analysis.  
Prerequisite: GEOL 4411 or 4411*.  
* May be taken concurrently.  
Co-requisite: SMTE 0094.

GEOL 4444 Hydrogeology  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Introduction to the fundamentals of groundwater and surface water flow; well hydraulics and evaluation of groundwater as a resource; chemical properties of groundwater and groundwater contamination; groundwater and the environment; and groundwater modeling. This course also examines some of the techniques associated with field hydrogeology and laboratory methods in hydrogeology.  
Prerequisite: GEOL 1403 and MATH 2413 and (PHYS 1401 or 2425).  
Co-requisite: SMTE 0094.

GEOL 4449 Selected Topics  
4 Semester Credit Hours (1-4 Lecture Hours, 1-4 Lab Hours)  
May be repeated for credit if topics are significantly different. Subject materials variable.  
Prerequisite: SMTE 0094.

GEOL 4496 Directed Independent Study  
1-4 Semester Credit Hours  
DIRECTED INDEPENDENT STUDY Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the chairperson, and the Dean of the College.
GEOL 4649 Karst of the Yucatan Peninsula
6 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
This course describes the different types of caves and karst rocks, the water rock interactions in carbonate rock systems, and it explains cave formation via hydrogeological and geochemical processes. It offers field work experience such as sample collection, determining field parameters, karst and cave surveys, measuring spring discharges in the Yucatan Peninsula of Mexico and laboratory experience on the Texas A&M University-Corpus Christi campus.
Prerequisite: (GEOL 1403 and 4411) or GEOL 4444, 4416 or 4311.

GEOL 4650 Field Geology
6 Semester Credit Hours (12 Lab Hours)
Field course involving practical application of geologic principles to field problems. Locations visited and material covered depends on hosting institution. Generally should include: mapping and outcrop data collection; measurement of stratigraphic sections; mapping and preparation of geologic cross-sections; preparation of geologic reports.
Prerequisite: GEOL 3326, 3414, 3441, 4411 and 4421.
Co-requisite: SMTE 0094.

Mathematics, BS
Program Description
The mission of the Mathematics Program at Texas A&M University-Corpus Christi is to increase the knowledge and use of mathematics by persons both at the University and in the surrounding area. We strive to educate students at the University so that they are prepared to use mathematics intelligently in their chosen fields of study and to understand mathematics as it affects their lives and participation in public affairs. In addition, the Mathematics Program provides its majors and graduate students with preparation for careers in education, science, and commerce, as well as providing a solid foundation for further study in mathematics. In support of the graduate program, the mathematics faculty pursues scholarship in mathematics, applications of mathematics, and instruction in mathematics. Finally, the Mathematics Program serves the community by providing its expertise to local schools, industry, and businesses.

Student Learning Outcomes
Students will:

• Demonstrate a command of principles of general mathematics at the undergraduate level.
• Recognize mathematics outside the realm of the classroom, and apply undergraduate level mathematical content as a matter of professional practice.
• Communicate mathematics effectively at the undergraduate level, in oral and written form, with appropriate use of technology.

There are three tracks for the degree: Secondary Mathematics Teaching, leading to teacher certification; Applied/Industrial Mathematics, preparing students for employment; and General Mathematical Studies; preparing students for further studies in mathematics. All options share a common core that consists of 32 hours of mathematics, physics and programming.

Placement and Prerequisites
Each new or transfer student entering Texas A&M University-Corpus Christi who plans to take a mathematics course will be evaluated by the University to determine the appropriate first mathematics course(s) for that student. For students who enter having successfully completed a college mathematics course, evaluation will normally be based on their college transcript. For a student who enters without having completed a college-level mathematics course, evaluation will normally be based on both that student's high-school transcript, and his or her score on standardized tests. For details on use of transcripts and scores for placement see the placement link on the Department webpage, http://math.tamucc.edu. Students may not enroll for their first mathematics course without having been placed into that course.

GPA in the major field of study for the BS in Mathematics is computed using those courses in the Mathematics Core, the Mathematics Track Requirements, and the Upper Level Math Electives.

Teaching Certification in Mathematics
Students who wish to teach mathematics in grades 4-12 should explore the following certification options:

• Elementary Education, BS — Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/)
• Mathematics, BS — Grades 7-12 Mathematics Education Concentration (p. 471)
• Mathematics, Grades 7-12 Teacher Certification Without a Mathematics Major (p. 476)

Fast Track from Bachelor’s to Master’s Degree
The university allows the opportunity for high-achieving students to count a select number of graduate credits toward their undergraduate degree and thereby obtain a graduate degree at an accelerated pace. For more information, see Fast Track Mathematics, BS and Mathematics, MS (p. 507).

General Requirements
The requirements for a Bachelor of Science degree in Mathematics include at least 120 semester hours with a minimum of 45 upper-division hours.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>Mathematics Core Requirements</td>
<td>17</td>
</tr>
<tr>
<td>Mathematics Track Electives</td>
<td>15</td>
</tr>
<tr>
<td>Upper Math Electives</td>
<td>9-18</td>
</tr>
<tr>
<td>Minor or Career Emphasis</td>
<td>18-31</td>
</tr>
<tr>
<td>Electives (as needed to fulfill University graduation requirements)</td>
<td>2-15</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>103-140</td>
</tr>
</tbody>
</table>

1 Full-time, first time in college students are required to take the first-year seminars.
• UNIV 1101 First-Year Seminar I (1 sch)
• UNIV 1102 First-Year Seminar II (1 sch)
### Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Full-time, First-year Students</strong></td>
<td></td>
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<tr>
<td></td>
<td>First year seminars</td>
<td>0-2</td>
</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
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</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
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<table>
<thead>
<tr>
<th>Core Curriculum Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Core Curriculum</td>
</tr>
<tr>
<td>Mathematics major students will use:</td>
</tr>
<tr>
<td>Life and Physical Science Foundational Component Area</td>
</tr>
<tr>
<td>PHYS 2425 University Physics I (lecture hours only. 1 hr laboratory applies to</td>
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<tr>
<td>Component Area Option</td>
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<tr>
<td></td>
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<tr>
<td>PHYS 2426 University Physics II (lecture hours only. 1 hr laboratory applies to</td>
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<tr>
<td>Component Area Option</td>
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</table>

<table>
<thead>
<tr>
<th>Mathematics Core Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2413 Calculus I (lecture hours only. 1 hr laboratory applies to Mathematics Core</td>
</tr>
<tr>
<td>requirement)</td>
</tr>
<tr>
<td>MATH 2414 Calculus II (lecture hours only. 1 hr laboratory applies to Mathematics Core</td>
</tr>
<tr>
<td>requirement)</td>
</tr>
<tr>
<td>MATH 2413 Calculus I (included in University Core)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>MATH 2414 Calculus II (included in University Core)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>MATH 3311 Linear Algebra</td>
</tr>
<tr>
<td></td>
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<tr>
<td>MATH 3313 Foundations of Number Theory</td>
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<tr>
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<tr>
<td>MATH 2415 Calculus III</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>COSC 1330 Programming for Scientists, Engineers, and Mathematicians</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mathematics Track Electives</th>
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</thead>
<tbody>
<tr>
<td>Select one of the following Tracks in consultation with the faculty mentor and with</td>
</tr>
<tr>
<td>department chair approval:</td>
</tr>
<tr>
<td>Secondary Mathematics Teaching Track (p. 414)</td>
</tr>
<tr>
<td>Applied/Industrial Mathematics Track (p. 414)</td>
</tr>
<tr>
<td>General Mathematics Studies Track (p. 414)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Upper Math Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select upper elective courses to provide further depth of study in mathematics from one</td>
</tr>
<tr>
<td>of the following Tracks:</td>
</tr>
<tr>
<td>Secondary Mathematics Teaching (p. 414)</td>
</tr>
<tr>
<td>Applied/Industrial Tracks (p. 414)</td>
</tr>
<tr>
<td>General Mathematics Studies Track (p. 414)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor or Career Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select 18-31 hours of electives in consultation with faculty mentor (p. 415)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select electives as needed to fulfill University graduation requirements including 2 hours of Physics lab</td>
</tr>
</tbody>
</table>

### Total Hours: 102-139

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1. After confirming with an advisor, others may take electives instead.
2. May be waived with suitable placement; see placement section below for more details. Upper-division classes may be required to increase total upper-division hours to the university minimum. See the degree requirements section of the catalog for details.
3. 3 hours of MATH 2413 Calculus I (4 sch) apply to the University Core Curriculum. The 1 hour laboratory component applies to the Mathematics Core requirement.
4. May substitute COSC 1435 Introduction to Problem Solving with Computers I (4 sch) or COSC 1436 INTRODUCTION TO PROBLEM SOLVING WITH COMPUTERS II (4 sch).

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### Secondary Mathematics Teaching Track

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>MATH 3312</td>
<td>College Geometry</td>
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<tr>
<td>MATH 3314</td>
<td>Foundations of Real Numbers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3342</td>
<td>Applied Probability and Statistics *^</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4306</td>
<td>Modern Algebra</td>
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<tr>
<td>SMTE 4370</td>
<td>Mathematics Education Topics I</td>
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<table>
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<tr>
<th>Upper Math Electives</th>
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<tbody>
<tr>
<td>Select 9 hours of upper-division Mathematics</td>
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### Total Hours: 24

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### Applied/Industrial Mathematics Track

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<tr>
<td>MATH 3345</td>
<td>Statistical Modeling and Data Analysis</td>
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<td>COSC 3385</td>
<td>Numerical Methods</td>
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<tr>
<td>MATH 4301</td>
<td>Introduction to Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4185</td>
<td>Senior Mathematics Seminar</td>
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</tr>
<tr>
<td>MATH 4285</td>
<td>Mathematics Major Capstone</td>
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<table>
<thead>
<tr>
<th>Upper Math Electives</th>
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<tr>
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### Total Hours: 24

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### General Mathematics Studies Track

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<td>MATH 3314</td>
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<tr>
<td>COSC 3385</td>
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<td>MATH 4301</td>
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<td>Senior Mathematics Seminar</td>
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<td>MATH 4285</td>
<td>Mathematics Major Capstone</td>
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<tbody>
<tr>
<td>Select 9 hours of upper-division Mathematics</td>
</tr>
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</table>

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Select 18 hours of upper-division Mathematics

Total Hours 33

Minor or Career Emphasis
Students complete a major in mathematics with electives as needed. Mathematics majors must consult with a mathematics faculty mentor in choosing the electives and are advised to choose among two options. The first option is a minor, designed to provide a secondary concentration in an area of particular interest to the student, or of particular importance to his or her career plans. The second option designed for those students seeking secondary teaching certification, is a sequence of courses in Education. Details of each of these options are:

A minor consists of 18-23 specified semester hours in an approved subject. The student should consult the section of the catalog pertaining to the academic area of the minor for a description of the requirements in that discipline. If no description is provided, the minor is subject to the approval of the department containing the minor.

Twenty-seven hours of courses as specified by the College of Education and Human Development to meet SBEC requirements for certification. An additional 4 hours to complete a "Support Field" will be required. Consult the "Professional Development and Reading Sequence" of the BS in Mathematics—Grades 7-12 section of the SMTE portion of the catalog for more details.

Course Sequencing

General Mathematics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tr>
<td>Fall</td>
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<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
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<td>MATH 2305</td>
<td>Discrete Mathematics I</td>
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<td>MATH 2414</td>
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<tr>
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<td>PHYS 2425</td>
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<td>PHYS 2426</td>
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<td>MATH 3315</td>
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<td>MATH 3345</td>
<td>Statistical Modeling and Data Analysis</td>
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Third Year

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<tr>
<td>MATH 3313</td>
<td>Foundations of Number Theory</td>
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<tr>
<td>COSC 3385</td>
<td>Numerical Methods</td>
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<td>University Core Curriculum</td>
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Fourth Year

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<tr>
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<td>MATH 4301</td>
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<td>Spring</td>
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<td>MATH 4315</td>
<td>Partial Differential Equations</td>
<td>3</td>
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<td>MATH 4342</td>
<td>Introduction to Mathematical Statistics</td>
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Total Hours 123

Courses

MATH 0099 Math Non-Course Based Development
0 Semester Credit Hours
Preparation workshop to help students achieve College Readiness in mathematics under the Texas Success Initiative. Topics include five general areas: fundamental mathematics, algebra, geometry, statistics, and problem solving.

MATH 0200 Brief Developmental Mathematics
1-2 Semester Credit Hours (1-2 Lecture Hours)
Topics as in MATH 0300. For students who have completed most topics in MATH 0300. Requires permission of MATH department. (Not counted toward graduation) Fall, Spring, Maymester, Summer.
Co-requisite: MATH 1314, MATH 1442.

MATH 0214 Brief Developmental Mathematics-Algebra
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1314. Support will focus on essential skills required for success in College Algebra (Math 1314). Supporting topics include review of intermediate algebra, polynomial equations, graphing techniques, and applications. Course provides the necessary academic support for TSI liable students concurrently enrolled in MATH 1314 as the co-requisite with MATH 0214. Students who register for MATH 0214 must co-register in MATH 1314. Math 0214 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1314.
MATH 0224  Brief Developmental Mathematics-Business Mathematics  
2 Semester Credit Hours (2 Lecture Hours)  
This course is the co-requisite course supporting for MATH 1324. Support will focus on essential skills required for success in Business Math (Math 1324). Supporting topics include the use of calculators and technology. Topics focus on basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and financial management, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1324 as the co-requisite with MATH 0224. Students who register for MATH 0224 must co-register in MATH 1324. Math 0224 is not counted toward graduation. Fall, Spring, Summer.  
Co-requisite: MATH 1324.  

MATH 0232  Brief Developmental Mathematics-Contemporary Mathematics  
2 Semester Credit Hours (2 Lecture Hours)  
This course is co-requisite course supporting for MATH 1332. Support will focus on essential skills required for success in Contemporary Mathematics (Math 1332). Supporting topics include a basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and descriptive statistics, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1332 as the co-requisite with MATH 0232. Students who register for MATH 0232 must co-register in MATH 1332. Math 0232 is not counted toward graduation. Fall, Spring, Summer.  
Co-requisite: MATH 1332.  

MATH 0242  Brief Developmental Mathematics-Statistics  
2 Semester Credit Hours (2 Lecture Hours)  
This course is co-requisite course supporting for MATH 1442. Support will focus on essential skills required for success in Statistics for Life (Math 1442). Supporting topics include the use of calculators and technology. Topics focus on descriptive and inferential statistics, probabilities including notation, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1442 as the co-requisite with MATH 0242. Students who register for MATH 0242 must co-register in MATH 1442. Math 0242 is not counted toward graduation. Fall, Spring, Summer.  
Co-requisite: MATH 1442.  

MATH 0300  Developmental Mathematics  
3 Semester Credit Hours (3 Lecture Hours)  
Topics include number concepts, computation, elementary algebra, geometry, and mathematical reasoning. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.  

MATH 0310  Developmental Mathematics-Algebra  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
3 sem. hrs. (2:2) Topics include number concepts, computation, elementary algebra, and geometry. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.  

MATH 0398  Introduction to Algebra  
3 Semester Credit Hours (3 Lecture Hours)  
Number concepts, computation, elementary algebra, geometry, and mathematical reasoning.  

MATH 0399  Intermediate Algebra  
3 Semester Credit Hours (3 Lecture Hours)  
Topics include linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems.  
Prerequisite: MATH 0398.  

MATH 1314  College Algebra  
3 Semester Credit Hours (3 Lecture Hours)  
Quadratic equations, inequalities, graphs, logarithms and exponentials, theory of polynomial equations, systems of equations.  
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT1 Math', MATH 0320 or minimum score of 350 in 'TSI Math'.  
Co-requisite: MATH 0214.  
TCCNS: MATH 1314  

MATH 1316  Trigonometry  
3 Semester Credit Hours (3 Lecture Hours)  
Trigonometric functions, identities, equations involving trigonometric functions, solutions of right and oblique triangles.  
Prerequisite: (MATH 1314, minimum score of 550 in 'SAT MATH SECTION' or minimum score of 21 in 'ACT1 Math') or minimum score of 21 in 'ACT Math'.  
TCCNS: MATH 1316  

MATH 1324  Mathematics for Business and Social Sciences  
3 Semester Credit Hours (3 Lecture Hours)  
Students will learn how the properties and language of mathematics can be used in business and real-world problem solving and understand the techniques and applications of finance problems, basic matrix operation, basic counting principles, and probability analysis in modeling real-world scenarios.  
Prerequisite: minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.  
Co-requisite: MATH 0224.  
TCCNS: MATH 1324  

MATH 1325  Calculus for Business & Social Sciences  
3 Semester Credit Hours (3 Lecture Hours)  
Students will develop and combine the concepts in and relationships between Mathematics and Business from the fundamentals of calculus and optimization in all Business fields. Students are expected to learn the materials algebraically with technology. Students will combine the concepts of limits, continuation, differentiation and integration techniques to solve problems in business, economics, and social sciences.  
Prerequisite: MATH 1324, minimum score of 550 in 'SAT Math', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.  
TCCNS: MATH 1325  

MATH 1332  Contemporary Mathematics  
3 Semester Credit Hours (3 Lecture Hours)  
This course serves as a terminal course and supplies a brief overview of several topics in mathematics. Topics may include introductory treatments of sets, logic, number systems, number theory, relations, functions, probability and statistics. Appropriate applications are included. This course emphasizes using critical thinking to make decisions based on information.  
Co-requisite: MATH 0232.  
TCCNS: MATH 1332
MATH 1390 Introduction to Mathematical Topics
1-3 Semester Credit Hours (1-3 Lab Hours)
A course to introduce students to mathematical topics in a formal setting. The course may support problem solving, or systematic investigations of topics outside the current mathematical catalog. May not be substituted for regularly scheduled offerings.

MATH 1442 Statistics for Life
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
An introduction to statistical concepts and methods used in all disciplines to enhance decision making based on data analysis, including: basic experimental design models, measurement and data collection through sampling; display and summary of information, and assessment of relationship through descriptive techniques; probability concepts leading to estimation and hypothesis testing of means, variance and proportions, regression analysis, one-factor ANOVA and chi-square test of independence; and applications through case studies. The laboratory component of the course offers applications of the theory presented during the classroom sessions.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT Math', MATH 0310, 0320, minimum score of 350 in 'TSI Math' or minimum score of 19 in 'ACT Math'.
Co-requisite: MATH 0242.
TCCNS: MATH 1442

MATH 2305 Discrete Mathematics I
3 Semester Credit Hours (3 Lecture Hours)
An introduction to topics in Discrete Mathematics with an emphasis on applications in Mathematics and Computer Science. Topics include formal logic, graphs, trees and related algorithms, and combinatorics and discrete probability.
Prerequisite: MATH 2413, minimum score of 620 in 'SAT Math', minimum score of 620 in 'SAT1 Mathematics', minimum score of 640 in 'SAT MATH SECTION', minimum score of 27 in 'ACT Math' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2305

MATH 2312 Precalculus
3 Semester Credit Hours (3 Lecture Hours)
A more rapid treatment of the material in MATH 1314 and MATH 1316, this course is designed for students who wish a review of the above material, or who are very well prepared. Functions, graphs, trigonometry, and analytic geometry.
Prerequisite: MATH 1314, minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 2312

MATH 2413 Calculus I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Limits, continuity, derivatives, applications of the derivative, and an introduction to integrals. Contains a laboratory component.
Prerequisite: MATH 1316, 2312, minimum score of 640 in 'SAT MATH SECTION' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2413

MATH 2414 Calculus II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Prerequisite: MATH 2413.
TCCNS: MATH 2414

MATH 2415 Calculus III
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component. Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component.
Prerequisite: MATH 2414.
TCCNS: MATH 2415

MATH 3300 Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications. Students may not receive credit for both MATH 3300 and GISC 3300.
Prerequisite: MATH 2413 and 2414.

MATH 3301 Introduction to Complex Analysis
3 Semester Credit Hours (3 Lecture Hours)
This course introduces functions of a complex variable and their applications. Contents include differentiation and integration; zeros, poles and residues; conformal mappings.
Prerequisite: (MATH 2415) or (MATH 2414 and 3314).

MATH 3310 Mathematical Analysis for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming and probability and statistics into mechanical engineering. May not count towards the MATH major. Students may not receive credit for both MATH 3310 and MEEN 3310.
Prerequisite: MATH 3315.

MATH 3311 Linear Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of linear algebra and matrix theory. Topics include vectors, matrix operations, linear transformations, fundamental properties of vector spaces, systems of linear equations, eigenvalues and eigenvectors. Applications.
Prerequisite: MATH 2413.

MATH 3312 College Geometry
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
A careful study of the foundations of Euclidean geometry by synthetic methods with an introduction to non-Euclidean geometries. An introduction to transformational geometry.
Prerequisite: MATH 2413.

MATH 3313 Foundations of Number Theory
3 Semester Credit Hours (3 Lecture Hours)
This course assists a student's transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to topics from elementary number theory.
Prerequisite: MATH 2305 and 2414.

MATH 3314 Foundations of Real Numbers
3 Semester Credit Hours (3 Lecture Hours)
This course assists a student's transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to development of the real number line.
Prerequisite: MATH 2414 and 2305.
MATH 3315 Differential Equations  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to both theoretical and applied aspects of ordinary differential equations. Topics include: first order equations, linear second order equations, elementary numerical methods, and the Laplace transform.  
Prerequisite: MATH 2414.

MATH 3342 Applied Probability and Statistics  
3 Semester Credit Hours (3 Lecture Hours)  
A calculus based introduction to probability and statistics. Emphasis will be on development of statistical thinking and working with data. Topics include probability theory, descriptive statistics, common distributions, and statistical inference.  
Prerequisite: MATH 2413.

MATH 3345 Introduction to Probability  
3 Semester Credit Hours (3 Lecture Hours)  
This is an introduction to probability. In the course, key fundamental concepts of probability, random variables and their distributions, expectations, and conditional probabilities will be covered. Topics include counting rules, combinatorial analysis, sample spaces, axioms of probability, conditional probability and independence, discrete and continuous random variables, jointly distributed random variables, characteristics of random variables, law of large numbers and central limit theorem, random processes, Markov chains, Markov chain-Monte Carlo, Poisson Process and Entropy.  
Prerequisite: MATH 2413 and (COSC 1330 or 1435).

MATH 4185 Mathematics Major Capstone  
2 Semester Credit Hours (2 Lecture Hours)  
Development of projects as proposed in MATH 4185, as well as mathematics communication skills. Students will present their projects, and take a national level assessment.  
Prerequisite: MATH 4185.

MATH 4301 Introduction to Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
An advanced treatment of the foundations of calculus stressing rigorous proofs of theorems. Topics include: elements of propositional and predicate logic, topology of the real numbers, sequences, limits, the derivative, and the Riemann integral.  
Prerequisite: MATH 2415 and 3314.

MATH 4306 Modern Algebra  
3 Semester Credit Hours (3 Lecture Hours)  
Fundamentals of set operations, maps and relations, groups, rings and field theory. Topics include permutation groups, cosets, homomorphisms and isomorphisms, direct product of groups and rings, integral domains field of quotients, fundamental properties of integers, the ring of integers modulo n, and rings of polynomials. Applications.  
Prerequisite: MATH 3311 and 3313.

MATH 4312 Differential Geometry  
3 Semester Credit Hours (3 Lecture Hours)  
Differential forms on R1, R2, R3, and Rn; Integration and differentiation of differential forms; Stokes’ Theorem; manifolds; Gaussian curvature and the Gauss-Bonnet Theorem.  
Prerequisite: MATH 2415.

MATH 4315 Partial Differential Equations  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to partial differential equations emphasizing the wave, diffusion and potential (Laplace) equations. A focus on understanding the physical meaning and mathematical properties of solutions of partial differential equations. Methods include fundamental solutions and transform methods for problems on the line, and separation of variables using orthogonal series for problems in regions with boundary. Additional topics include higher dimensional problems and special topics like Harmonic functions, the maximum principle, Green's functions etc.  
Prerequisite: MATH 3315 and 2415.

MATH 4321 Applied Regression Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to the formulation of linear models and the estimation of the parameters of such models, with primary emphasis on least squares. Application of multiple regression and curve fitting and the design of experiments for fitting regression models.  
Prerequisite: MATH 1342, 2342 or 1470.

MATH 4328 Discrete Mathematics II  
3 Semester Credit Hours (3 Lecture Hours)  
A continued study of topics from Discrete Mathematics I with additional topics from discrete mathematics that have strong application to the field of computer science. Additional topics include: recurrence relations, formal languages, and finite-state machines.  
Prerequisite: MATH 2305 and COSC 2437.
MATH 4342 Introduction to Mathematical Statistics
3 Semester Credit Hours (3 Lecture Hours)
This is a first course in mathematical statistics, topics include: moment-generating functions, functions of random variables, sampling distributions, methods of estimation including Bayesian estimation, characteristics of estimators, interval estimation, hypothesis testing, Neyman-Pearson Lemma, likelihood ratio test, tests involving means and variances, regression and correlation, multiple linear regression, introduction to ANOVA, non-parametric tests.
Prerequisite: MATH 2415.

MATH 4385 Applied Modeling
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for mathematics majors. The construction of mathematical models from areas such as economics, refining, biology and mariculture, etc. Where possible, local phenomena will be modeled with the assistance of outside consultants.
Prerequisite: MATH 3315 and 3342 or MATH 3345.

MATH 4390 Selected Topics
3 Semester Credit Hours (3 Lecture Hours)
Offered on sufficient demand.

MATH 4696 Directed Independent Study
1-6 Semester Credit Hours
See college description.

Physics, BS
Program Description
Introduction
The Joint BS Physics degree is a Bachelor of Science degree with a Physics major, provided through the joint efforts of physics faculty both here at TAMUCC and at other schools in the Texas Physics Consortium (TPC) (https://www.tarleton.edu/tpc/). Interested students are encouraged to visit the TPC website at http://www.tarleton.edu/tpc/. Upper-level physics courses can originate at any of the TPC schools, and students at any of the other TPC schools can take them via distance education.

Physics courses are also offered in support of other major study areas in the sciences, mathematics, computer science, engineering and technology, and 7-12 level physical science teaching certification.

Student Learning Outcomes
Students obtaining the Joint BS in Physics will:

• possess a broad understanding of physics.
• understand scientific methods and be able use them to develop and conduct studies of physical systems.
• communicate physical information effectively at the undergraduate level, whether the communication is in oral or written form, with or without the use of technology.

General Requirements

<table>
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<th>Requirements</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>Required non-TPC Courses</td>
<td>12</td>
</tr>
<tr>
<td>Required TPC Courses</td>
<td>32</td>
</tr>
</tbody>
</table>

Electives 34

Total Credit Hours 120-122

1 Full-time, first time in college students are required to take the first-year seminars.
   • UNIV 1101 First-Year Seminar I (1 sch)
   • UNIV 1102 First-Year Seminar II (1 sch)

Students must complete 45 semester hours of upper division courses (3000 level or above).

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
<td>1</td>
</tr>
</tbody>
</table>

Core Curriculum Program

University Core Curriculum 42

Students majoring in Physics must take:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td></td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td></td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I</td>
<td></td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II</td>
<td></td>
</tr>
</tbody>
</table>

Required Non-TPC Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2413</td>
<td>Calculus I (included in University Core)</td>
<td>2</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II (included in University Core)</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I (included in University Core)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II (included in University Core, 1 hour laboratory component)</td>
<td>2</td>
</tr>
<tr>
<td>MATH 2415</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3315</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1435</td>
<td>Introduction to Problem Solving with Computers I</td>
<td>4</td>
</tr>
</tbody>
</table>

Required TPC Courses

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>PHYS 3331</td>
<td>Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 3334</td>
<td>Modern Physics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 3332</td>
<td>Electromagnetism</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 3333</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 4330</td>
<td>Mathematical Methods for Physicists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 4335</td>
<td>Quantum Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 4337</td>
<td>Nuclear Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 4340</td>
<td>Advanced Physics Lab</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 4161</td>
<td>Physics Research Project</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 4162</td>
<td>Physics Research Seminar</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 3490</td>
<td>Selected Topics (repeat to total 6 hours)</td>
<td>6</td>
</tr>
</tbody>
</table>

Students must choose their electives to make sure that they have 45 semester hours of upper-division courses (3000-level and above), as required by the College of Science & Engineering.

Support Field Electives

Select 18 hours in consultation with physics faculty advisor. Courses that could be used could include (but are not limited to) the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 3490</td>
<td>Selected Topics (if taken beyond the required 6 hours)</td>
<td>18</td>
</tr>
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## Course Sequencing

### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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</tr>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition I</td>
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</tr>
<tr>
<td>HIST 1301</td>
<td>U.S. History to 1865</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1435</td>
<td>Introduction to Problem Solving with Computer I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Hours</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td>SPRING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1302</td>
<td>Writing and Rhetoric</td>
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<tr>
<td></td>
<td><strong>Hours</strong></td>
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<tr>
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<td><strong>Total Hours</strong></td>
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### Second Year

<table>
<thead>
<tr>
<th>COURSE</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>FALL</td>
<td>University Physics I</td>
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<tr>
<td>MATH 2415</td>
<td>Calculus III</td>
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<tr>
<td></td>
<td>Language, Philosophy &amp; Culture Core Requirement</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Creative Arts Core Requirement</td>
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<tr>
<td></td>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
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<td></td>
<td><strong>Hours</strong></td>
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<tr>
<td>SPRING</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Modern Physics I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>INTRODUCTION TO PROBLEM SOLVING WITH COMPUTERS II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Social and Behavioral Sciences Core Requirement</td>
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<tr>
<td></td>
<td>POLS 2306</td>
<td>State and Local Government</td>
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<td></td>
<td><strong>Hours</strong></td>
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### Third Year

<table>
<thead>
<tr>
<th>COURSE</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>FALL</td>
<td>Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 3332</td>
<td>Electromagnetism</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 3490</td>
<td>Selected Topics</td>
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<tr>
<td>MATH 3311</td>
<td>Linear Algebra</td>
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<tr>
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<td><strong>Elective</strong></td>
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<td></td>
<td><strong>Hours</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td>SPRING</td>
<td></td>
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<tr>
<td></td>
<td>Mathematical Methods for Physicists</td>
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<td></td>
<td>Advanced Physics Lab</td>
<td>3</td>
</tr>
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<td></td>
<td>Selected Topics</td>
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</tr>
<tr>
<td></td>
<td><strong>Support Field</strong></td>
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<tr>
<td></td>
<td><strong>Elective</strong></td>
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</tr>
<tr>
<td></td>
<td><strong>Hours</strong></td>
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</table>

### Fourth Year

<table>
<thead>
<tr>
<th>COURSE</th>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>FALL</td>
<td>Quantum Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 4161</td>
<td>Physics Research Project</td>
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</tr>
<tr>
<td>PHYS 3333</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td></td>
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<td><strong>Elective</strong></td>
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<td><strong>Hours</strong></td>
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<td>SPRING</td>
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<td></td>
<td>Nuclear Physics</td>
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<tr>
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<td>Physics Research Seminar</td>
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<tr>
<td></td>
<td><strong>UL Support Field</strong></td>
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</tr>
<tr>
<td></td>
<td><strong>UL Support Field</strong></td>
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</tr>
<tr>
<td></td>
<td><strong>Elective</strong></td>
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</tr>
<tr>
<td></td>
<td><strong>Hours</strong></td>
<td><strong>13</strong></td>
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</tbody>
</table>

**Total Hours: 122**
Courses

PHYS 1303 Introduction to Astronomy: Stars and Galaxies
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
This is one of two courses in the introduction to astronomy sequence which emphasizes the nature of astronomical phenomena over the mathematical analysis of them. This course will focus mostly on the nature of light, the nature and evolution of stars, the material between the stars, the Milky Way Galaxy, external galaxies, and the structure and evolution of the universe as a whole.
Co-requisite: SMTE 0095.
TCCNS: PHYS 1303

PHYS 1304 Introduction to Astronomy: Solar System
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
This is one of two courses in the introduction to astronomy sequence which emphasizes the nature of astronomical phenomena over the mathematical analysis of them. This course introduces astronomical phenomena related to the Solar System such as apparent motion of the Sun, phases of the Moon and apparent and true motion of the planets. Main focus will be on the objects comprising the Solar System: planets, their moons, asteroids, comets and trans-Neptunian bodies. A portion of the course will be dedicated to the formation and development of the Solar System and other, extrasolar planetary systems. The course also will touch the aspects of human exploration of the Solar System and the role of technology in our learning and understanding of the Solar System. This includes the history and the basics of robotic and manned spaceflights. Offered every Spring and Summer.
Co-requisite: SMTE 0095.
TCCNS: PHYS 1304

PHYS 1401 General Physics I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to Newtonian physics. Topics include Aristotelian physics and its overthrow, Newton's laws of motion and gravitation, and the motion of particles, rigid bodies and fluids. The idea of the universe as a law-governed system will be developed. Laboratory activities provide introduction to empirical methods in science.
Prerequisite: (MATH 1314, 1316, 1324, 1325, 2312, 2413, 2414, 2415, minimum score of 21 in 'ACT Math', minimum score of 500 in 'SAT Math', minimum score of 21 in 'ACT Math', minimum score of 500 in 'SAT Mathematics' or minimum score of 615 in 'Local Placement Test').
Co-requisite: SMTE 0095.
TCCNS: PHYS 1401

PHYS 1402 General Physics II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to oscillatory and wave phenomena, electricity and magnetism. The classical theory of fields will be used to study electric and magnetic phenomena, including light, and their role in modern technology. Laboratory activities provide introduction to empirical methods in science.
Prerequisite: (PHYS 1401 or 2425). * May be taken concurrently.
Co-requisite: SMTE 0095.
TCCNS: PHYS 1402

PHYS 2425 University Physics I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A calculus based introduction to Newtonian physics. Topics include Aristotelian physics and its overthrow, Newton's laws of motion and gravitation, and the motion of particles, rigid bodies, and fluids. The idea of the universe as a law-governed system will be developed. Laboratory activities provide introduction to empirical methods in science.
Prerequisite: MATH 2413.
Co-requisite: SMTE 0095.
TCCNS: PHYS 2425

PHYS 2426 University Physics II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Calculus based introduction to oscillatory and wave phenomena, electricity and magnetism. The classical theory of fields will be used to study electric and magnetic phenomena, including light, and their role in modern technology.
Prerequisite: PHYS 2425 and MATH 2414.
Co-requisite: SMTE 0095.
TCCNS: PHYS 2426

PHYS 3331 Mechanics I
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of classical mechanics. Topics include particle dynamics in one, two and three dimensions: conservation laws; dynamics of a system of particles; motion of rigid bodies; central force problems; accelerating coordinate systems; Newton's theory of gravitation; Lagrange's and Hamilton's formulations of classical mechanics. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 3315 or 3315*).
* May be taken concurrently.

PHYS 3332 Electromagnetism
3 Semester Credit Hours (3 Lecture Hours)
Electrostatics; Laplace's equation; the theory of dielectrics; magnetostatic fields; electromagnetic induction; magnetic fields of currents; Maxwell's equations. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 3315* or 2415*).
* May be taken concurrently.

PHYS 3333 Thermodynamics
3 Semester Credit Hours (3 Lecture Hours)
Concept of temperature, equations of state; the first and the second law of thermodynamics; entropy; change of phase; the thermodynamics functions. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 2415 or 2415*).
* May be taken concurrently.

PHYS 3334 Modern Physics I
3 Semester Credit Hours (3 Lecture Hours)
A course in special relativity and elementary quantum mechanics. Topics include relativistic description of space-time, relativistic energy and momentum, the uncertainty principle, Schrödinger's equation, observables and operators, bound states, potential barriers, and the quantum description of the hydrogen atom. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 3315 or 3315*).
* May be taken concurrently.
PHYS 3490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject materials will be chosen from Electromagnetic Field Theory, Thermodynamics, Mathematical Methods of Physics, Waves and Optics, Advanced Modern Physics, Quantum Theory, Computational Physics, Geophysics, Environmental Physics and Medical Physics. May be repeated for credit if topics selected are different. This course will be used for upper-level physics electives offered from other Texas Physics Consortium (TPC) schools. See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 3334.

PHYS 4161 Physics Research Project
1 Semester Credit Hour (1 Lecture Hour)
The first half of a two semester sequence. The student will work with a faculty member to develop and conduct a senior research project including a search of the relevant literature and presentation of the proposed research idea. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 3334.

PHYS 4162 Physics Research Seminar
1 Semester Credit Hour (1 Lecture Hour)
The second half of a two semester sequence. The student will work with a faculty member to conduct a senior research project including giving an oral presentation of the final results and writing up the results in a form suitable for publication. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 4161.

PHYS 4330 Mathematical Methods for Physicists
3 Semester Credit Hours (3 Lecture Hours)
Mathematical techniques from the following areas: infinite series; integral transforming; applications of complex variables; vectors, matrices, and tensors; special functions; partial differential equations; Green’s functions; perturbation theory; integral equations; calculus of variations; and groups and group representatives. This course offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: (MATH 3315 or 3315*).
* May be taken concurrently.

PHYS 4335 Quantum Physics
3 Semester Credit Hours (3 Lecture Hours)
The Schroedinger equation; one dimensional systems; the Heisenberg uncertainty principle; magnetic moments and angular momentum; two and three dimensional systems; approximation methods; spin. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 3334 and (MATH 3315* or 2415*).
* May be taken concurrently.

PHYS 4337 Nuclear Physics
3 Semester Credit Hours (3 Lecture Hours)
The study of nuclear phenomena and properties including mass, stability, magnetic moment, radioactive decay processes and angular momentum. The use of nuclear techniques as applied to other scientific fields including electronics and medicine. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 3334 and (PHYS 4335* or 4335) and (MATH 3315* or 2415*).
* May be taken concurrently.

PHYS 4340 Advanced Physics Lab
3 Semester Credit Hours (1 Lecture Hour, 4 Lab Hours)
A laboratory course focusing on experimental design, advanced data analysis and reduction, and experimental laboratory techniques and instrumentation. Experiments will be drawn from a variety of physics areas. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: (PHYS 3334 or 3334*).
* May be taken concurrently.
Co-requisite: SMTE 0095.

PHYS 4496 Directed Independent Study
1-4 Semester Credit Hours (1-4 Lecture Hours)
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College.

Bachelor Degree Programs - School of Engineering & Computing Sciences

Civil Engineering, BS
Program Description
Civil engineers oversee large construction projects, including designing, constructing, supervising, and maintaining road systems and the accompanying infrastructure, buildings, airports, and systems for water treatment, hydroelectricity, and more. Because there are so many different aspects of civil engineering, many civil engineers choose to pursue a specialty. Popular specialties include construction engineering, geotechnical engineering, structural engineering, geospatial surveying engineering, environmental engineering, water resources engineering, transportation engineering, and coastal engineering. The Civil Engineering curriculum prepares graduates to apply knowledge of mathematics through differential equations, calculus-based physics, chemistry, and at least one additional area of basic science; to apply probability and statistics to address uncertainty; to analyze and solve problems in technical areas appropriate to civil engineering; to conduct experiments in technical areas of civil engineering and analyze and interpret the resulting data; to design a system, component, or process in civil engineering contexts; to include principles of sustainability in design; to explain basic concepts in project management, business, public policy, and leadership; and to analyze issues in professional ethics.

Program Educational Objectives
In accordance with ABET accreditation requirements, the Program Educational Objectives (PEOs) describe the professional accomplishments that Civil Engineering graduates are expected to achieve, within a few years of graduation. The PEOs are:

1. Within one year of graduation from TAMU-CC, our graduates will be working in industry, government, construction, or other professional service as civil engineers, or will be pursuing graduate degrees in civil
engineering or post-baccalaureate degrees in other fields, such as law, business, or medicine.

2. Within five years of graduation from TAMU-CC our graduates will have
   • advanced in their careers as indicated by obtaining promotions and positions of leadership, awards, recognitions as subject matter experts, and/or registration as professional engineers or in other professional disciplines; or by entrepreneurial activities, products or processes developed, patents, and/or publications;
   • demonstrated the ability to increase their knowledge and expertise through continuing education or advanced degrees; and
   • contributed to the improvement of the profession and of society through research, national and/or international collaboration, and/or professional and public service including mentoring.

Student Learning Outcomes
Graduates will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Fundamentals of Engineering (FE) Exam
All civil engineering students are encouraged to take the Fundamentals of Engineering (FE) exam. This is exam is an important step toward licensure as a Professional Engineer (P.E.), which many civil engineers find useful and necessary in their careers. Close to the end of the B.S. degree program is an excellent time to take the exam, because the student has the best preparation for the exam at that point in the student's academic career.

Admission from pre-engineering
For all students admitted into a pre-engineering program at TAMU-CC who wish to transfer into one of the TAMU-CC engineering programs (CEEN, EEN, IEEN, MEEN), the cumulative GPA for all MATH, CHEM, PHYS, ENGR, COSC, CEEN, EEN, IEEN, or MEEN courses that appear in the CEEN, EEN, IEEN, or MEEN program curricula, plus any ENTC courses, taken at TAMU-CC, or their equivalents taken at other institutions, should be 2.5 or greater to be admitted into the CEEN, EEN, IEEN, or MEEN programs at TAMU-CC. There should be a minimum of at least 12 hours of such courses taken at TAMU-CC or elsewhere before a transfer / admission to CEEN, EEN, IEEN, or MEEN may be considered.

All such students must also meet the requirements to take MATH 2413 Calculus I (4 sch) if they have not already done so.

Master of Business Administration (MBA) Option
Civil engineering students who have completed 96 credit hours toward the Civil Engineering B.S. degree and earned a cumulative GPA of 3.0 or higher may elect the MBA option in senior year. Students who elect the MBA option are required to take three MBA foundation courses to satisfy the Technical Elective Block requirements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ACCT 5312</td>
<td>Foundations of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 5311</td>
<td>Foundations in Economics</td>
<td>3</td>
</tr>
<tr>
<td>FINA 5311</td>
<td>Financial Management Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

Students who plan to elect the MBA Option are encouraged to have summer internship experience before senior year, and will be able to complete an MBA degree study with 2 regular semesters and 1 summer session beyond a Civil Engineering B.S. degree study.

General Requirements
The Civil Engineering curriculum consists of a minimum of 123 credit hours. It can be divided into five main areas:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>Common Engineering, Math and Science Courses</td>
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<tr>
<td>Capstone Project</td>
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<td><strong>Total Credit Hours</strong></td>
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</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   • UNIV 1101 First-Year Seminar I (1 sch)
   • UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
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<td><strong>Civil Engineering students should take:</strong></td>
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<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
<td></td>
</tr>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
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<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
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</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I</td>
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<tr>
<td><strong>Common Engineering, Math and Science Courses</strong></td>
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</tbody>
</table>
| CHEM 1411 | General Chemistry I (included in University Core) | }
COSC 1330 Programming for Scientists, Engineers, and Mathematicians 3
ENGR 1211 Introduction to Engineering 2
ENGR 1312 Engineering Graphics I 3
ENGR 2325 Statics 3
ENGR 2326 Dynamics 3
ENGR 2460 Circuit Analysis 4
ENGR 3315 Fluid Mechanics 3
ENGR 3316 Thermodynamics 3
ENGR 3320 Strength of Materials 3
ENGR 3322 Materials Science 3
ENGR 4240 Project Management 2
ENGR 4420 Engineering Lab Measurements 4

<table>
<thead>
<tr>
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<th>Title</th>
<th>Hours</th>
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<tr>
<td>MATH 2413</td>
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<td>MATH 2414</td>
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<td>Calculus III</td>
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<td>MATH 3315</td>
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<td>MATH 3342</td>
<td>Applied Probability and Statistics</td>
<td>3</td>
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<tr>
<td>PHYS 2425</td>
<td>University Physics I (included in University Core)</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II</td>
<td>4</td>
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</tbody>
</table>

### Required Civil Engineering Courses
- CEEN 2315 Geomatics and Surveying Engineering 3
- CEEN 3320 Geotechnical Engineering I 3
- CEEN 3330 GIS for Civil and Environmental Engineering 3
- CEEN 4304 Civil and Construction Materials 3
- CEEN 4306 Transportation Engineering 3
- CEEN 4312 Principles of Hydraulics and Hydrology 3
- CEEN 4324 Structural Engineering 3

### Technical Electives Block
- The 3 lecture hours in MATH 2413 Calculus I (4 sch), MATH 2414 Calculus II (4 sch), and MATH 2415 Calculus III satisfy the required 3 and 6 core curriculum hours in math and science, respectively. The 1 lab hour from each of these three courses, and the 3 lecture hours from MATH 2414 Calculus II (4 sch), satisfy the 6-hour component area option requirement in the core curriculum. Students transferring to Texas A&M University - Corpus Christi from other institutions may have various means for fulfilling the core curriculum. Please refer to the "General Education Requirement" (https://client-snap.dev8.leepfrog.com/tamucc/catalog.tamucc.edu/index7ef1.html?catoid=12&navoid=4240&General_Education_Requirement) in the catalog section entitled "Undergraduate Programs."

### Capstone Project
- ENGR 4370 Capstone Projects 3

### Total Hours
127

#### Course Sequencing

##### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>Fall</td>
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<tr>
<td>ENGL 1301</td>
<td>Composition I</td>
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<tr>
<td>HIST 1301</td>
<td>U.S. History to 1865</td>
<td>3</td>
</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
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<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
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</tr>
<tr>
<td>ENGR 1211</td>
<td>Introduction to Engineering</td>
<td>2</td>
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</tbody>
</table>

| Hours | 17 |

| Spring | | |
| ENGL 1302 | Writing and Rhetoric | 3 |
| or COMM 1311 | or Foundation of Communication | |
| ENGR 1312 | Engineering Graphics I | 3 |
| UNIV 1102 | First-Year Seminar II | 1 |
| MATH 2414 | Calculus II | 4 |
| COSC 1330 | Programming for Scientists, Engineers, and Mathematicians | 3 |
| PHYS 2425 | University Physics I | 4 |

| Hours | 18 |

##### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>Fall</td>
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</tr>
<tr>
<td>ENGR 2325</td>
<td>Statics</td>
<td>3</td>
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<tr>
<td>MATH 3315</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1302</td>
<td>U.S. History Since 1865</td>
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<tr>
<td>MATH 2415</td>
<td>Calculus III</td>
<td>4</td>
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<tr>
<td>PHYS 2426</td>
<td>University Physics II</td>
<td>4</td>
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</tbody>
</table>

| Hours | 17 |

| Spring | | |
| ENGR 2326 | Dynamics | 3 |
| Language, Philosophy & Culture Core Requirement | 3 |
| ENGR 3322 | Materials Science | 3 |
| ENGR 2460 | Circuit Analysis | 4 |

| Hours | 13 |

##### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Fall</td>
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<tr>
<td>POLS 2305</td>
<td>U.S. Government and Politics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3342</td>
<td>Applied Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3315</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3320</td>
<td>Strength of Materials</td>
<td>3</td>
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<tr>
<td>CEEN 2315</td>
<td>Geomatics and Surveying Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>

| Hours | 15 |

### Capstone Project
All civil engineering students must complete a senior-level capstone project in ENGR 4370 Capstone Projects (3 sch) (3 sem. hrs.). Students will work with practicing engineers and engineering faculty. The Capstone Project will give engineering students practical, professional experience to prepare them for careers in civil engineering.
Prerequisite: measurement.
and settlement; shear strength of soil; engineering soil properties and
water movement; soil stresses; soil compressibility, consolidation
index soil properties and soil classification; soil permeability and pore
and analytic methods. The topics to be covered in this class includes:
and provide a basic understanding of important geotechnical principles
in geotechnical engineering and practice of transportation engineering as related to planning,
and management. This course will introduce the terminology used in geotechnical engineering
the performance of structures built on or below the earth’s surface. This
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the performance of structures built on or below the earth’s surface. This

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the performance of structures built on or below the earth’s surface. This

CEEN 4306 Transportation Engineering
3 Semester Credit Hours (3 Lecture Hours)
(3:0) This course will give an introduction to the basic concepts, theory, and practice of transportation engineering as related to planning, design, and operations of the transportation system. The topics to be covered in this class includes: fundamental principles in planning, design and operation of transportation systems; issues and challenges in transportation; driver and vehicle performance capabilities; highway geometric and pavement design principles; traffic analysis and transportation planning.
Prerequisite: CEEN 2315.

CEEN 4310 Water Resources Engineering
3 Semester Credit Hours (3 Lecture Hours)
(3:0) This course will give an overview of the basic concepts, analysis methods, and design procedure. The topics to be covered includes: hydraulic processes, hydrological cycle, streamflow prediction, uncertainty analysis, water demands, water distribution systems, reservoir and dams, urban stormwater drainage, and water resources planning and management.
Prerequisite: ENGR 3315.
CEEN 4312 Principles of Hydraulics and Hydrology  
3 Semester Credit Hours (3 Lecture Hours)  
(3:0) This course will give an introduction to the basic concepts, theory, and analytic methods of hydraulics and hydrology. The topics to be covered in this class includes: water flow through pipes and pumping systems, water flow through open channels and hydraulic structures, watershed hydology, and urban sewer systems. 
Prerequisite: ENGR 3315.

CEEN 4322 Geotechnical Engineering II – Coastal Environment  
3 Semester Credit Hours (3 Lecture Hours)  
(3:0) This course introduces key concepts and basic analysis and design techniques in geotechnical engineering for coastal environments. Emphasis is on the interaction between oceanic dynamic processes (waves, currents, tides, and sediment transport) and coastal regions (harbors, structures, beaches and estuaries) and on the engineering approaches necessary to prevent adverse effects caused by this interaction. Geotechnical aspects of coastal engineering projects will include design of traditional structures and exposure to softer coastal engineering techniques. 
Prerequisite: CEEN 3320.

CEEN 4324 Structural Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
(3:0) This class will provide students with a solid background on principles of structural engineering. Students will be exposed to the theories and concepts of both concrete and steel design and analysis both at the element and system levels. Hands-on design experience and skills will be gained and learned through problem sets and a comprehensive design project. An understanding of real-world open-ended design issues will be developed. 
Prerequisite: ENGR 3320 and MATH 3315.

CEEN 4330 Introduction to Bridge and Pavement Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
(3:0) This course focuses on the materials, technology and procedures used to design and manage road pavements, with reference to the National Roads Authority (NRA) Design Manual for roads and bridges, and guidelines issued by the Department of Transport, Tourism and Sport (DTTS). 
Prerequisite: CEEN 4304.

CEEN 4332 Traffic Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
(3:0) The purpose of this course is to introduce fundamentals of traffic engineering including data collection, analysis, and design. Emphasis is on the safe and efficient operations of roadway intersections. Traffic engineering studies traffic control devices, capacity and level of service analysis of freeways and urban roads. Applications of traffic operations include computer simulation models to the design of isolated intersection and coordinated traffic signal control systems. 
Prerequisite: CEEN 4306.

CEEN 4342 Construction Management  
3 Semester Credit Hours (3 Lecture Hours)  
The course focuses on management techniques to solve the unique problems associated with a construction project. Study of Construction Management functions including Project Management, Cost Management, Time Management, Quality Management, Contract Administration, and Safety Management will be covered. Emphasis is put on the application of each function throughout the project phases. 
Prerequisite: CEEN 4304.

CEEN 4396 Directed Independent Study  
1-3 Semester Credit Hours  
(1-3) Requires a formal proposal of study to be completed in advance of registration, approval of supervising faculty and department chairperson.

Engineering Courses

ENGR 1211 Introduction to Engineering  
2 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)  
Introduction to the engineering profession, ethics, and disciplines; development of skills in teamwork, problem solving and design; other topics include computer applications and programming; visualization, orthographic drawings and CAD tools; introduction to electrical circuits, semiconductor devices, digital logic, communications and their application in systems; Newton’s laws, unit conversions, statistics, Excel; basic graphics skills. Offering: Fall and Spring. 
Prerequisite: MATH 1314. 
TCCNS: ENGR 1201

ENGR 1312 Engineering Graphics I  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
Topics include, depending on the major: emphasis on computer applications and programming and solids modeling using CAD tools or other software; fundamentals of engineering science; advanced graphic skills. Pre-req: MATH 1314 - College Algebra or equivalent academic preparation. Offered Fall and Spring. 
Prerequisite: MATH 1314. 
TCCNS: ENGR 1304

ENGR 2105 Electrical Circuits Laboratory  
1 Semester Credit Hour (3 Lab Hours)  
Laboratory experiments supporting theoretical principles presented in ENGR 2305 involving DC and AC circuit theory, network theorems, time, and frequency domain circuit analysis. Introduction to principles and operation of basic laboratory equipment; laboratory report preparation. 
Prerequisite: ENGR 2305* 
* May be taken concurrently. 
Co-requisite: ENGR 2305, SMTE 0099.

ENGR 2106 Digital Systems Laboratory  
1 Semester Credit Hour (1 Lab Hour)  
Basic laboratory experiments supporting theoretical principles presented in ENGR 2305 involving design, construction, and analysis of combinational and sequential digital circuits and systems, including logic gates, adders, multiplexers, encoders, decoders, arithmetic logic units, latches, flip-flops, registers, and counters; preparation of laboratory reports. 
Prerequisite: MATH 1314. 
Co-requisite: ENGR 2306, SMTE 0099.

ENGR 2305 Electrical Circuits  
3 Semester Credit Hours (3 Lecture Hours)  
Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources). Topology of electrical networks; Kirchhoff’s laws; node and mesh analysis; DC circuit analysis; operational amplifiers; transient and sinusoidai steady-state analysis; AC circuit analysis; first- and second-order circuits; Bode plots; and use of computer simulation software to solve circuit problems. 
Prerequisite: (PHYS 2425 and MATH 2414). 
Co-requisite: ENGR 2105.
ENGR 2306 Digital Systems
3 Semester Credit Hours (3 Lecture Hours)
Introduction to theory and design of digital logic, circuits, and systems. Number systems, operations and codes; logic gates; Boolean Algebra and logic simplification; Karnaugh maps; combinational logic; functions of combinational Logic; flip-flops and related devices; counters; shift registers; sequential logic; memory and storage.
Prerequisite: MATH 1314 and 2305.
* May be taken concurrently.
Co-requisite: ENGR 2106.

ENGR 2325 Statics
3 Semester Credit Hours (3 Lecture Hours)
Theory of engineering mechanics involving forces, moments, and couples on stationary structures; equilibrium in two and three dimensions; free body diagrams; truss analysis; friction; centroids; centers of gravity and moments of inertia.
Prerequisite: PHYS 2425 and MATH 2414.
* May be taken concurrently.

TCCNS: ENGR 2301

ENGR 2326 Dynamics
3 Semester Credit Hours (3 Lecture Hours)
Theory of engineering mechanics involving the motion of particles, rigid bodies and systems of particles; Newton's Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems.
Prerequisite: ENGR 2325.

TCCNS: ENGR 2302

ENGR 2460 Circuit Analysis
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
This course covers principles of electronics: charge, voltage, resistance, current, and power; Ohm's Law; Kirchhoff's voltage and current laws; RC and LC circuits; periodic functions, average and RMS measurements; transformers, electrical measurement instruments. The laboratory provides hands-on experience with devices and circuits discussed in the classroom.
Prerequisite: (PHYS 2426, MATH 2414 and 3315).
* May be taken concurrently.
Co-requisite: SMTE 0099.

TCCNS: ENGR 2304

ENGR 3315 Fluid Mechanics
3 Semester Credit Hours (3 Lecture Hours)
Fluid properties, fluid statics, dynamics, and kinematics, conservation of energy and momentum incompressible, laminar and turbulent flow. Similaritute and dimensional analysis, and viscous flow. Prerequisite or Co-requisite: (MATH 3315) and ENGR 2326 and MATH 2415.

ENGR 3316 Thermodynamics
3 Semester Credit Hours (3 Lecture Hours)
Theory and application of energy methods in engineering; conservation of mass and energy; energy transfer by heat, work and mass; thermodynamic properties; analysis of open and closed systems; the second law of thermodynamics and entropy; gas, vapor and refrigeration cycles.
Prerequisite: (PHYS 2425 and MATH 2414).

ENGR 3320 Strength of Materials
3 Semester Credit Hours (3 Lecture Hours)
Concepts in strength of materials, stress, strain; deformation under load, direct, shear, and combined stresses; stress concentrations, bending stresses and torsional shear stresses, deflection in beams and shafts; columns, and pressure vessels.
Prerequisite: ENGR 2325 and 3322 or ENGR 2322.

ENGR 3322 Materials Science
3 Semester Credit Hours (3 Lecture Hours)
Structure and properties of metallic and nonmetallic materials; microstructure, mechanical testing, phase diagrams, heat treatment, testing, ceramics, polymers, composites, construction materials, failure analysis, nondestructive evaluation, corrosion and thermal properties of materials.
Prerequisite: (CHEM 1411) and (PHYS 2425).
Co-requisite: SMTE 0099.

ENGR 3350 Manufacturing Processes
3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to metal and non-metallic manufacturing processes; casting, forging, rolling, extrusion, sheet metal forming, cutting tools turning and milling operations, abrasive machining, welding and joining, powder compaction, molding, forming of plastics, surface treatment, human factors and safety.
Prerequisite: ENGR 1312 and 3322.
Co-requisite: SMTE 0099.

ENGR 4240 Project Management
2 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Foundations of engineering economy, cash flow and equivalence, and project justification. Introduction to project management, planning, scheduling, and control, use of project management software, GANTT charts, PERT charts, and critical path. Students prepare proposals, including specifications, timelines, schedule, and budget, for projects to be implemented in ENGR 4370 - Capstone Projects. This course should be taken the semester preceding ENGR 4370 - Capstone Projects.
Prerequisite: (MEEN 3330) and (MEEN 3345) or (EEEN 3330) or (EEEN 3310) and (EEEN 3350).
Co-requisite: SMTE 0099.

ENGR 4350 Machine Vision and Image Processing Applications
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to automated vision systems and components, camera models, testing and measurement, and fundamentals of image processing. Topics include image analysis and processing in binary, gray scale and color images in spatial- and frequency-domain. Texture and shape analysis, hyperspectral imaging, other transforms, and filters are discussed and applied.
Prerequisite: (COSC 1330 or 1435) and ENGR 2460 and MATH 2414.

ENGR 4370 Capstone Projects
3 Semester Credit Hours (1 Lecture Hour, 5 Lab Hours)
This course allows students to employ the knowledge attained in other courses to implement (including building, testing, and documenting) an approved project, within budget and on schedule. Course requirements include a written report and oral presentations.
Prerequisite: (ENGR 4240) and (MEEN 4360) or (MEEN 4365) or (EEEN 4333) or CEEN 4304 or IENE 4310.
* May be taken concurrently.
Co-requisite: SMTE 0099.
ENGR 4390 Special Topics in Engineering
1,3 Semester Credit Hours (1,3 Lecture Hours)
Subject material variable. May be repeated for credit when topics are different.

ENGR 4420 Engineering Lab Measurements
4 Semester Credit Hours (2 Lecture Hours, 4 Lab Hours)
Principles of physical measurements; standards, calibration, error estimation; static and dynamic performance of measuring systems; laboratory experience, experiment planning, report writing. The purpose of this course is for students to gain proficiency in designing, assembling, and operating an experiment; and analyzing and presenting experimental results. This encompasses skills such as an understanding control and data acquisition electronics, operation and limitation of modern sensors, calibration and error analysis, assessing applicability of theory and the impact of secondary experimental variables, and writing and presenting reports and analysis.
Prerequisite: ENGR 2460.
Co-requisite: SMTE 0099.

Computer Science, BS
Program Description
The computer science degree program is applied in nature and is designed to prepare students to begin or advance computing careers in business, industry, government, or education, or to pursue further study in computer science. The curriculum is thorough, current, and oriented toward the technical competencies required of a modern computer professional with emphasis on the development, evaluation, and integration of software systems.

Mission
The mission of the Computer Science program is to educate undergraduate and graduate students in the principles of computer science and to extend the understanding and use of those principles by conducting research and service in support of the people and economy of south Texas, the state of Texas as a whole, and the nation, consistent with the program's function within a Hispanic-serving institution.

Program Educational Objectives
Based on the mission statements of the university, college, department, and program, we have derived the following objectives for the computer science undergraduate program. The objectives are to graduate students from the baccalaureate program in computer science who:

1. Contribute productively in a computer science discipline using state of the art technologies and progress towards their career goals and/or pursue their academic goals in graduate education.
2. Communicate effectively and interact or collaborate productively with team members of diverse backgrounds, such as race, religion, culture, ethnicity, and gender.
3. Continually improve their knowledge and skills in technical areas and broaden their global perspective of the field of computer science.
4. Uphold and enhance their sense of professional ethics and responsibilities towards individuals, organizations, and society.

Student Learning Outcomes
In order to prepare students to attain the program educational objectives, the BS CS degree program has been structured to ensure that all students, by the time of their graduation, will have been enabled to meet the following outcomes:

1. Analyze a complex computing problem, and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

Fast Track from Bachelor's Degree to Master's Degree
The university allows the opportunity for high-achieving students to count a select number of graduate credits toward their undergraduate degree and thereby obtain a graduate degree at an accelerated pace. For more information, see Fast Track Computer Science, BS and Computer Science, MS (p. 514).

General Requirements
The requirements for a Bachelor of Science degree in Computer Science include a total of 120-122 semester hours. The total is divided among the following groups: University Core Curriculum, Major Curriculum, and Electives.

There are four options for the degree, the Systems Programming Option, the Cyber Security and Infrastructure Option, the Computer Game Programming Option, and the Computer Information Systems Option. Besides the University Core Curriculum, all options also share a common major curriculum that consists of 38 semester hours in computer science and mathematics.

For information about the minor, please see the Computer Science Minor (p. 546) section.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>First-Year Seminars (when applicable)¹</td>
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</tr>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>Major Curriculum for All Options</td>
<td>38</td>
</tr>
<tr>
<td>Courses Specific to Each Option</td>
<td>39-40</td>
</tr>
<tr>
<td>Electives as needed to fulfill university graduation minimum requirements</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>120-123</strong></td>
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</tbody>
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¹ Full-time, first time in college students are required to take the first-year seminars.

• UNIV 1101 First-Year Seminar I (1 sch)
• UNIV 1102 First-Year Seminar II (1 sch)
Program Requirements

The specific requirements for each option of the Bachelor of Science degree in Computer Science follow.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tr>
<td>Full-time, First-year Students</td>
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<tr>
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<td></td>
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<tr>
<td>First year seminars</td>
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<tr>
<td></td>
<td>UNIV 1101 First-Year Seminar I *</td>
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<tr>
<td></td>
<td>UNIV 1102 First-Year Seminar II *</td>
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<tr>
<td>Core Curriculum Program</td>
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<tr>
<td>University Core Curriculum 1</td>
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</tr>
<tr>
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<td>42</td>
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<tr>
<td>Computer Science majors must take:</td>
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</tr>
<tr>
<td></td>
<td>MATH 2413 Calculus I</td>
<td></td>
</tr>
</tbody>
</table>

| Major Curriculum for All Options                                                                                  |
| COSC 1100                                                                                                         |
| COSC 1435 Introduction to Problem Solving with Computers I                                                        |
| COSC 1436 INTRODUCTION TO PROBLEM SOLVING WITH COMPUTERS II                                                       |
| COSC 2334 Computer Architecture                                                                                    |
| COSC 2437 Data Structures                                                                                        |
| COSC 3336 Introduction to Database Systems                                                                       |
| COSC 3346 Operating Systems                                                                                       |
| COSC 3370 Software Engineering                                                                                    |
| COSC 4100 Skills for Computing Professionals II                                                                    |
| ENGL 3310 Technical and Professional Writing for Computer Science                                                 |
| MATH 2305 Discrete Mathematics I 2                                                                                   |
| MATH 2413 Calculus I (included in University Core) 2                                                              |

Select one of the following:                                                                                       |
| MATH 3342 Applied Probability and Statistics 2,*,^                                                              |
| MATH 3345 Statistical Modeling and Data Analysis 2                                                             |

| Courses Specific to Each Option                                                                                   |
| Select one of the following Options: 39-40                                                                      |
| Systems Programming Option (p. 429)                                                                               |
| Cyber Security and Infrastructure Option (p. 429)                                                                |
| Computer Game Programming Option (p. 430)                                                                        |
| Computer Information Systems Option (p. 430)                                                                    |

Electives                                                                                                          |
| Electives as needed to fulfill university graduation minimum requirements                                         |
| Total Hours 120-123                                                                                               |

1  All Computer Science options require one or more courses that also satisfy the University Core curriculum. Before choosing a course to satisfy your University Core, verify that you will not be satisfying that part of the core with a required course.

2  These are supporting courses that can be used toward a Mathematics Minor.

*  Online offering

^  Blended offering

Systems Programming Option

This option is for those who intend to pursue careers as systems programmers or pursue advanced study in computer science. The degree program has an emphasis in system software programming and requires a one-year sequence in a physical science with a laboratory component.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Systems Programming Option Required Courses</td>
<td></td>
</tr>
<tr>
<td>COSC 3301 Cyber Security</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 3324 Object-oriented Programming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 3353 Survey of Programming Languages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 3373 Software Project Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 3385 Numerical Methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 4342 Computer Networks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 4343 Algorithms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 4348 Systems Programming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 hours of approved upper-division Computer Science electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 2414 Calculus II (3 hours included in University Core)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Select one of the following:                                                                                       |
| COSC 4353 Compiler Construction                                                                                 |
| COSC 4360 Theory of Programming Languages                                                                     |
| COSC 4370 Models of Computation                                                                                |

Science sequence (included in University Core)                                                                    |

Select one from the following:                                                                                     |

**Biology**                                                                                                        |
| BIOL 1406 & BIOL 1407 Biology I                                                                                  |

**Chemistry**                                                                                                       |
| CHEM 1411 & CHEM 1412 General Chemistry I                                                                       |

**Geology**                                                                                                         |
| GEOL 1403 & GEOL 1404 Physical Geology & Historical Geology                                                    |

**Physics**                                                                                                         |
| PHYS 2425 & PHYS 2426 University Physics I                                                                     |

Total Hours 40

Cyber Security and Infrastructure Option

This option is for those who intend to pursue careers in network administration, system administration, web administration and cyber security experts. The degree program has an emphasis on gaining these skills.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cyber Security and Infrastructure Option Required Courses</td>
<td></td>
</tr>
<tr>
<td>COSC 2348 Introduction to Scripting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 2465 Linux Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 2466 Network Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 3351 Internet Programming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 3372 Network Security</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 3474 Cyber Defense I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 4310 Digital Forensics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 4365 Windows Security</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSC 4367 Firewall and Intrusion Detection Systems</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


### Computer Game Programming Option

This option is for those who intend to pursue careers as game programmers. The degree program has an emphasis on the skills necessary for creating and programming computer games.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSC 2325</td>
<td>Game Design</td>
<td>3</td>
</tr>
<tr>
<td>COSC 3301</td>
<td>Cyber Security</td>
<td>3</td>
</tr>
<tr>
<td>COSC 3324</td>
<td>Object-oriented Programming</td>
<td>3</td>
</tr>
<tr>
<td>COSC 3325</td>
<td>Game Programming</td>
<td>3</td>
</tr>
<tr>
<td>COSC 3385</td>
<td>Numerical Methods</td>
<td>3</td>
</tr>
<tr>
<td>COSC 4325</td>
<td>Advanced Game Programming</td>
<td>3</td>
</tr>
<tr>
<td>COSC 4328</td>
<td>Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>COSC 4330</td>
<td>Introduction to Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>COSC 4342</td>
<td>Computer Networks</td>
<td>3</td>
</tr>
<tr>
<td>COSC 4343</td>
<td>Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II (3 hours included in University Core)</td>
<td>1</td>
</tr>
<tr>
<td>MATH 3311</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I (included in University Core)</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II (included in University Core)</td>
<td>3</td>
</tr>
<tr>
<td>3 hours of approved upper-division Computer Science electives</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Select one of the following:

- COSC 4353 Compiler Construction
- COSC 4360 Theory of Programming Languages
- COSC 4370 Models of Computation

**Total Hours**: 40

### Computer Information Systems Option

The Computer Information Systems option is intended for those who want to develop and maintain information systems. In this option, the student learns to develop software systems and function as a computer professional. The student should choose electives to link the application-independent foundations and processes of computing and information systems to the needs of a particular application area. The student will gain knowledge of the particular application area by choosing a minor in an academic discipline highly related to the application area.

The minor should be appropriate as an application area for computer information systems and must consist of at least 18 semester hours. The coursework that satisfies the minor is determined by the faculty in the minor subject.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSC 2470</td>
<td>COBOL Programming</td>
<td>4</td>
</tr>
<tr>
<td>COSC 3324</td>
<td>Object-oriented Programming</td>
<td>3</td>
</tr>
<tr>
<td>COSC 4342</td>
<td>Computer Networks</td>
<td>3</td>
</tr>
<tr>
<td>12 hours of approved upper-division Computer Science electives</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>18 hours of Minor Courses</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours**: 40

### Courses

#### COSC 1315 Computer Literacy

3 Semester Credit Hours (3 Lecture Hours)

A balanced introduction to the use and application of computers in modern society involving both descriptive information and hands-on laboratory participation. Includes a discussion of the general principles of operation of a computer and a brief history of the development of computing. The use of a personal computer operating system, common application software, and simple computer programming concepts are introduced. Satisfies university computer literacy requirement.

**Prerequisite:** (MATH 1314).

#### COSC 1320 C Programming

3 Semester Credit Hours (3 Lecture Hours)

Introduces the fundamental concepts of structured programming in the C language. Topics include data types; control structures, functions, structures, arrays, pointers, pointer arithmetic, unions, and files; the mechanics of running, testing, and debugging programs; introduction to programming; and introduction to the historical and social context of computing.

**Prerequisite:** (MATH 1314).

#### COSC 1330 Programming for Scientists, Engineers, and Mathematicians

3 Semester Credit Hours (3 Lecture Hours)

Introduction to computer programming for solving discipline specific problems using computers. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes coverage of language syntax, data and file structures, input/output devices, and disks/files.

**Prerequisite:** ENGR 2304

#### COSC 1435 Introduction to Problem Solving with Computers I

4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)

This course introduces the fundamental concepts of problem solving and algorithms. A brief introduction to computers and the programming life cycle is covered. The C++ programming language is used to develop basic computer programs demonstrating data types, fundamental control structures, functions, and arrays.

**Prerequisite:** MATH 1314 or 2312.

**TCCNS:** COSC 1436

#### COSC 1436 INTRODUCTION TO PROBLEM SOLVING WITH COMPUTERS II

4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)

This course is a continuation of COSC 1435. An introduction to abstract data types and object-oriented programming is covered. Topics include basic searching and sorting algorithms, dynamic allocation, linked lists, inheritance, polymorphism, and recursion.

**Prerequisite:** COSC 1435.

**TCCNS:** COSC 1437

#### COSC 2325 Game Design

3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)

This course will teach students the techniques for computer game design and how to work as part of a game development team from initial conception through release, including the game design process, game concepts, how and why we play games, character development, storytelling, user experience, game play, and core mechanics of games.
COSC 2334  Computer Architecture
3 Semester Credit Hours (3 Lecture Hours)
A concentrated study of internal computer concepts. Computer organization, machine and assembly language are emphasized.
Prerequisite: (COSC 1435 and MATH 2305).

COSC 2348  Introduction to Scripting
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to Windows and Unix/Linux shell scripting. The course covers basic scripting concepts including decision statements, control statements, functions and files manipulation. Advanced scripting tools such as grep, awk and sed are covered in this course.
Prerequisite: (COSC 1435).

COSC 2360  Cyber Security
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to cyber security. A broad range of cyber security issues will be covered, including social engineering attacks, secure coding, computer security, Internet of Things (IoT) security, mobile security, data security, network security, physical security and forensics. This course will cover the concepts of prevention, detection, and response to cyber security threats.
Prerequisite: (COSC 1435).

COSC 2390  Selected Topics I
1,3 Semester Credit Hours (1,3 Lecture Hours)
Variable content. May be repeated for credit depending on topic. Offered on sufficient demand. Does not count toward total hours required for BS in Computer Science.

COSC 2391  Selected Topics II
1-3 Semester Credit Hours (1-3 Lecture Hours)
This is a selected topics course with no lab component. Variable content. May be repeated for credit depending on topic. Offered on sufficient demand. Does not count toward total hours required for BS in Computer Science.

COSC 2437  Data Structures
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course provides a thorough study of standard structures used in the storing and retrieving of data and the processes by which these structures are created and manipulated. Topics include: object oriented design, linked lists, classes, trees, graphs, hashing, stacks, queues, sorting, searching, and recursion. A grade of C or better is required in the course to receive credit towards the Computer Science BS program.
Prerequisite: (COSC 1436) and (MATH 2305 or 2305*).

TCCN: COSC 2436

COSC 2465  Linux Systems
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course focuses on providing students with essential knowledge and skills to implement, administer, and troubleshoot servers in a networked environment. Operating system concepts, such as installing a standalone system, file systems authentication, and user support services are explored. Topics will include security issues, user and group administration, active directory services, DHCP, DNS, SSH, backup and restoration strategies and techniques, integrated mass storage technologies and alternative client technologies.
Prerequisite: COSC 1435.

COSC 2466  Network Systems
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course focuses on the standards and technologies used to establish inter-network structures that will support a TCP/IP data stream for higher-level services to operate over. This course introduces local area networks (LAN) and wide area networks (WAN). Topics include the TCP/IP and open system interconnection (OSI) models, cabling, switches, routers, protocols, subnetting, and networking hardware and software. Initial switch and router configuration will be examined and evaluated.
Prerequisite: (COSC 1435 and 2465).

COSC 2470  COBOL Programming
4 Semester Credit Hours (4 Lecture Hours)
A concentrated study of the COBOL language as applied to fundamental business computing problems and other data management applications.
Prerequisite: COSC 1435.

COSC 3100  Skills for Computing Professionals I
1 Semester Credit Hour (1 Lecture Hour)
This course focuses on beginning to develop professional skills that computer scientists will need to be successful in their careers and lives. Communication skills will include writing and giving oral presentations. Ethical issues will be explored. This is a class for computing professionals. As such, professional decorum will be required at all times.

COSC 3301  Cyber Security
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to cyber security. A broad range of cyber security issues will be covered, including social engineering attacks, secure coding, computer security, Internet of Things (IoT) security, mobile security, data security, network security, physical security and forensics. This course will cover the concepts of prevention, detection, and response to cyber security threats.

COSC 3324  Object-oriented Programming
3 Semester Credit Hours (3 Lecture Hours)
A study of concepts, terminology, and methodologies used in object-oriented systems, languages, and applications. Students will design and implement software systems using object-oriented analysis and design techniques.
Prerequisite: COSC 2437.

COSC 3325  Game Programming
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the student to techniques and tools used for all aspects of programming games. Topics will include game graphics, game physics, game AI, and sound. The course will contain lectures and hands-on labs. Students will work independently and in teams.
Prerequisite: COSC 2437.

COSC 3335  Programming for Unmanned Aircraft Systems
3 Semester Credit Hours (3 Lecture Hours)
This course introduces software development for Unmanned Systems (US). Students will be introduced to a variety of relevant topics including the different US platforms, design and implementation of algorithms for US, user interface for US, and state-of-the-art US applications, challenges & solutions.
Prerequisite: (COSC 1435 or 1330) and (MEEN 3335).
COSC 3336 Introduction to Database Systems  
3 Semester Credit Hours (3 Lecture Hours)  
A study of contemporary database management system concepts, terminology, and methodology for use and implementation. Commercially available systems are discussed and used with emphasis upon the relational model.  
Prerequisite: COSC 2437.

COSC 3346 Operating Systems  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to operating systems concepts, principles, and design. Topics include: processes and threads, CPU scheduling, mutual exclusion and synchronization, deadlock, memory management, file systems, security and protection, networking, and distributed systems. Selected existing operating systems are discussed, compared, and contrasted.  
Prerequisite: (COSC 2437 and 2394).

COSC 3351 Internet Programming  
3 Semester Credit Hours (3 Lecture Hours)  
Study of prominent web technologies with a focus on creating interactive web applications. Both client-side and server-side programming will be covered. Students will design and implement a web based project using technologies covered in class.  
Prerequisite: COSC 3336 or 3336*.  
*May be taken concurrently.

COSC 3352 Mobile Programming  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces software development for mobile platforms. Students will learn skills for creating and deploying mobile applications. Includes software engineering topics as related to mobile programming, primarily in how software design differs on mobile platforms.  
Prerequisite: COSC 2437.

COSC 3353 Survey of Programming Languages  
3 Semester Credit Hours (3 Lecture Hours)  
A study of selected programming languages for students familiar with programming. Students will write programs in a variety of languages.  
Prerequisite: COSC 2437.

COSC 3360 Human-computer Interaction  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces concepts and techniques for Human Computer Interaction. Particular emphasis will be placed on vision, audio, and language solutions for use in human-computer interactive systems. In addition, the students will learn how to apply the methods to solve simple HCI problems.  
Prerequisite: COSC 1436.

COSC 3370 Software Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to software engineering principles for the development and maintenance of high quality large software systems. Topics include: software life cycle, delivering on time and within budget, and the development and application of processes and tools for managing the complexities inherent in creating these systems.  
Prerequisite: COSC 2437.

COSC 3371 Computer Information Systems Economics  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to concepts in information technology and software engineering with a focus on economics and managerial issues. Topics include cost benefit analysis, software and effort estimation, feasibility analysis, information systems proposals, software team coordination, and project management. May not be used as a CS elective for CS majors.

COSC 3372 Network Security  
3 Semester Credit Hours (3 Lecture Hours)  
This course provides an introduction to the fundamentals of computer and network security and security laws and ethics. Topics include, identification of vulnerabilities, forms of attack, appropriate countermeasures, and the detection and defense of the same. Techniques for the securing of hardware, software and data, including physical security are covered.  
Prerequisite: COSC 2465.

COSC 3373 Software Project Management  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to the principles for software project management for small and medium-size projects. Many aspects of software project management, including management process, scope definition, time and cost estimation, quality control, human resources, communication, risks and project procurement management will be discussed. A number of applications and tools will be used to implement a class project.  
Prerequisite: (COSC 3370).

COSC 3385 Numerical Methods  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces concepts for solving problems numerically using computers. Students will learn about number systems, errors of finite representation, and iteration. A survey of basic numerical methods including: solutions to nonlinear equations, solutions to linear systems, approximation, interpolation, zeros of functions, numerical differentiation and integration, and Monte-Carlo methods.  
Prerequisite: MATH 2413 and (COSC 1330 or 1435).

COSC 3400 Skills for Computing Professionals  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course focuses on the professional skills that computer scientists will need to be successful in their careers. There are two key areas of study, communication skills needed by computer scientists and their ethical responsibilities. Communication skills will include: technical writing from a computer science perspective, presentation skills, client interviewing, and reading technical articles. Ethical issues will be explored from a computer science perspective.  
Prerequisite: ENGL 1302.

COSC 3474 Cyber Defense I  
4 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
This course covers cryptographic tools, cryptographic algorithms, types of malicious software, forms of attacks and software security. Strengths and weaknesses of cryptographic systems are covered as well as the types of attacks on cryptographic systems. Malicious activity signatures, analysis as well as detection will be covered. This course will also cover secure coding principles and types of software issues.  
Prerequisite: COSC 3372.

COSC 4100 Skills for Computing Professionals II  
1 Semester Credit Hour (2 Lab Hours)  
This course focuses on technical writing, workplace scenarios and professional skills that computer scientists will need to be successful in their careers and lives. This is a class for computing professionals. As such, professional decorum will be required at all times.  
Prerequisite: COSC 1100 and ENGL 3310.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSC 4310</td>
<td>Digital Forensics</td>
<td>3</td>
<td>This course will introduce undergraduate students to the fundamentals of computer forensics and cyber-crime scene analysis. The various laws and regulations dealing with computer forensic analysis will be discussed. Students will be introduced to the emerging international standards for computer forensic analysis, as well as a formal methodology for conducting computer forensic investigations. Several Forensics tools such as Encase and FTK will be used to conduct digital forensics investigations.</td>
<td>COSC 2437</td>
</tr>
<tr>
<td>COSC 4324</td>
<td>Image Processing</td>
<td>3</td>
<td>This course introduces concepts and techniques for image processing. The objective of this course is to introduce the fundamental techniques and algorithms used for processing and extracting useful information from digital images. The students will learn how to apply the image processing methods to solve real-world problems.</td>
<td>COSC 2437</td>
</tr>
<tr>
<td>COSC 4325</td>
<td>Advanced Game Programming</td>
<td>3</td>
<td>This course will introduce advanced concepts for game programming to the student. Topics will include game physics, game AI, advanced shaders, 3D techniques, multiplayer techniques, and networking. The course will contain lectures and hands-on labs.</td>
<td>COSC 2437</td>
</tr>
<tr>
<td>COSC 4328</td>
<td>Computer Graphics</td>
<td>3</td>
<td>Basic principles and techniques for computer graphics on modern graphics hardware. Students will gain experience in interactive computer graphics using the OpenGL API. Topics include: 2D viewing, 3D viewing, perspective, lighting, and geometry.</td>
<td>COSC 2437 and MATH 2413</td>
</tr>
<tr>
<td>COSC 4330</td>
<td>Introduction to Artificial Intelligence</td>
<td>3</td>
<td>Foundations, directions, and applications of artificial intelligence including search algorithms, knowledge acquisition, representation, and processing. Students will gain practical experience by implementing many of the basic algorithms.</td>
<td>COSC 2437</td>
</tr>
<tr>
<td>COSC 4342</td>
<td>Computer Networks</td>
<td>3</td>
<td>Computer-based communication systems. Topics include: advanced computer network architectures, protocols, and programming.</td>
<td>(COSC 2437 and MATH 2413)</td>
</tr>
<tr>
<td>COSC 4343</td>
<td>Algorithms</td>
<td>3</td>
<td>Advanced programming techniques for algorithmic and heuristic solutions of problems. Topics include: analysis and design of algorithms, testing of algorithms, optimum and exhaustive solutions, and recursion.</td>
<td>(COSC 2437 and MATH 2413)</td>
</tr>
<tr>
<td>COSC 4345</td>
<td>Introduction to Machine Learning</td>
<td>3</td>
<td>This course gives a broad introduction to machine learning with more emphasis on intelligent system design. Topics to be covered include linear and logistic regression, neural networks, clustering, classification, decision tree, evolutionary computation, feature selection, and reinforcement learning. The courses will explore various applications of machine learning to computer science, process modeling, pattern and speech recognition, data mining, and bioinformatics.</td>
<td></td>
</tr>
<tr>
<td>COSC 4348</td>
<td>Systems Programming</td>
<td>3</td>
<td>The design and implementation of system software such as device drivers, application support libraries, and interprocess communication. Students will study and use systems programming tools.</td>
<td>COSC 3346 and (COSC 3353 or 3324)</td>
</tr>
<tr>
<td>COSC 4353</td>
<td>Compiler Construction</td>
<td>3</td>
<td>This course introduces the basic concepts and mechanisms traditionally employed in language translators, with emphasis on compilers. Topics include: strategies for syntactic and semantic analysis, techniques of code optimization and approaches toward code generation.</td>
<td>COSC 3353</td>
</tr>
<tr>
<td>COSC 4354</td>
<td>Senior Capstone Project</td>
<td>3</td>
<td>Teamwork and formal methods of systems analysis and design are emphasized. Students will complete a large team project. Fall, Spring.</td>
<td>(COSC 3370, 3336 and ENGL 3310)</td>
</tr>
<tr>
<td>COSC 4360</td>
<td>Theory of Programming Languages</td>
<td>3</td>
<td>The study of programming language design including syntax, semantics, behavior, and implementation issues in imperative, functional, logic, and object-oriented languages. Other topics include type theory, concurrency, data dependency, and nondeterminism.</td>
<td>COSC 2437</td>
</tr>
<tr>
<td>COSC 4365</td>
<td>Windows Security</td>
<td>3</td>
<td>This course focuses on advanced system administration topics. An in-depth understanding of various concepts such as operating systems, servers, file systems authentication, and user support services are explored. Topics include security issues, user and group administration, server and work-station integration, central repositories for updates, Active directory, DMZ, web servers, email servers, electronic system update and maintenance, backup and restoration strategies and techniques, integrated mass storage technologies and alternative client technologies.</td>
<td>(COSC 2438) and (COSC 2465)</td>
</tr>
<tr>
<td>COSC 4367</td>
<td>Firewall and Intrusion Detection Systems</td>
<td>3</td>
<td>This is an applied course which focuses on the standards and technologies used to establish inter-network structures that will support a TCP/IP data stream for higher-level services to operate over. This course introduces firewalls, Intrusion Prevention Systems (IPS), and Intrusion Detection Systems (IDS) technology. Topics include Windows, Linux, Check Point and Cisco firewalls, TCP/IP and open system interconnection (OSI) models, attack traffic analysis, and network based and host based hardware and software. Device configuration will be examined and evaluated with appropriate exercises.</td>
<td>(COSC 4365) and COSC 3372</td>
</tr>
</tbody>
</table>
Electrical Engineering, BS

Program Description

Electrical Engineers develop electrical systems using knowledge of physics, mathematics, circuit design, electromagnetic theory, communication theory, control systems and signal processing. Electrical engineering historically involved how the generation, transmission and utilization of electrical energy. Today, electrical engineering applications also include control systems, robotics, automation, plasma, sensors, computers and imaging. The Bachelor of Science in Electrical Engineering (BSEE) program emphasizes service, systems-based knowledge, and sustainability with an eye toward the interface of traditional electrical engineering with new and emerging fields, in particular unmanned aircraft systems, maritime sciences and marine biology that directly impact the Gulf Coast.

Program Educational Objectives

The Program Educational Objectives (PEOs) describe the professional accomplishments that Electrical Engineering graduates are expected to achieve, within a few years of graduation. The PEOs are:

1. Within one year of graduation from TAMU-CC, our graduates will be working in industry, government, construction, or other professional service as electrical engineers, or will be pursuing graduate degrees in electrical engineering or post-baccalaureate degrees in other fields, such as law, business, or medicine.

2. Within five years of graduation from TAMU-CC our graduates will have
   • advanced in their careers as indicated by obtaining promotions and positions of leadership, awards, recognitions as subject matter experts, and/or registration as professional engineers or in other professional disciplines; or by entrepreneurial activities, products or processes developed, patents, and/or publications;
   • demonstrated the ability to increase their knowledge and expertise through continuing education or advanced degrees; and
   • contributed to the improvement of the profession and of society through research, national and/or international collaboration, and/or professional and public service including mentoring.

Student Outcomes

Student Outcomes describe the knowledge, skills and behaviors that the Electrical Engineering students are expected to have acquired by the time of graduation.

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Fundamentals of Engineering Exam

Students are encouraged to take the NCEES (National Council for Examiners for Engineering and Surveying) Fundamentals of Engineering (FE) exam (https://ncees.org/engineering/fe/) during their senior year. The FE exam is the first step in the process that leads to licensure as a Professional Engineer (P.E.).

Admission from pre-engineering

For all students admitted into a pre-engineering program at TAMU-CC who wish to transfer into one of the TAMU-CC engineering programs
(CEEN, EEEN, IEEN, MEEN), the cumulative GPA for all MATH, CHEM, PHYS, ENGR, COSC, CEEN, EEEN, IEEN, or MEEN courses that appear in the CEEN, EEEN, IEEN, or MEEN program curricula, plus any ENTC courses, taken at TAMU-CC, or their equivalents taken at other institutions, should be 2.5 or greater to be admitted into the CEEN, EEEN, IEEN, or MEEN programs at TAMU-CC. There should be a minimum of at least 12 hours of such courses taken at TAMU-CC or elsewhere before a transfer/admission to CEEN, EEEN, IEEN, or MEEN may be considered. All such students must also meet the requirements to take MATH 2413 Calculus I (4 sch) if they have not already done so.

**Master of Business Administration (MBA) Option**

Electrical engineering students who have completed 96 credit hours toward the Electrical Engineering B.S. degree and earned a cumulative GPA of 3.0 or higher may elect the MBA option in senior year. Students who elect the MBA option are required to take three MBA foundation courses in senior year and will be able to complete an MBA degree study with 2 regular semesters and 1 summer internship experience before senior year, and will be able to complete an MBA degree study with 2 regular semesters and 1 summer session beyond an Electrical Engineering B.S. degree study.

**General Requirements**

The Electrical Engineering curriculum consists of a minimum of 128 credit hours. It can be divided into four main areas:

- **Core Curriculum Program**
- **First-Year Seminars**
- **Common Engineering, Math and Science Courses**
- **Required Electrical Engineering Courses**
- **Technical Electives Block**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 5312</td>
<td>Foundations of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 5311</td>
<td>Foundations in Economics</td>
<td>3</td>
</tr>
<tr>
<td>FINA 5311</td>
<td>Financial Management Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

Students who plan to elect the MBA Option are encouraged to have summer internship experience before senior year, and will be able to complete an MBA degree study with 2 regular semesters and 1 summer session beyond an Electrical Engineering B.S. degree study.

**Program Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I*</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II*</td>
<td>1</td>
</tr>
<tr>
<td>ENGR 4370</td>
<td>Capstone Project</td>
<td>3</td>
</tr>
</tbody>
</table>

1 Full-time, first time in college students are required to take the first-year seminars.
• UNIV 1101 First-Year Seminar I (1 sch)
• UNIV 1102 First-Year Seminar II (1 sch)

Transfer students with 24 or more hours are exempt from First-Year Seminar.

**University Core Curriculum**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td>4</td>
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<tr>
<td>PHYS 2425</td>
<td>University Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II</td>
<td>4</td>
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</table>

**Common Engineering, Math and Science Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I (included in University Core)</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1320</td>
<td>C Programming</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 1211</td>
<td>Introduction to Engineering</td>
<td>2</td>
</tr>
<tr>
<td>ENGR 2106</td>
<td>Digital Systems Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ENGR 2306</td>
<td>Digital Systems</td>
<td>3</td>
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<tr>
<td>ENGR 3316</td>
<td>Thermodynamics</td>
<td>3</td>
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<tr>
<td>ENGR 3322</td>
<td>Materials Science</td>
<td>3</td>
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<tr>
<td>ENGR 3325</td>
<td>Statics</td>
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<tr>
<td>ENGR 3460</td>
<td>Circuit Analysis</td>
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<tr>
<td>MATH 2305</td>
<td>Discrete Mathematics I</td>
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<tr>
<td>MATH 2413</td>
<td>Calculus I (included in University Core)</td>
<td>4</td>
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<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
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<tr>
<td>MATH 2415</td>
<td>Calculus III</td>
<td>4</td>
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<tr>
<td>MATH 3311</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3315</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3345</td>
<td>Statistical Modeling and Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I (included in University Core)</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II (included in University Core)</td>
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**Required Electrical Engineering Courses**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>EEEN 3310</td>
<td>Electromagnetic Theory</td>
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</tr>
<tr>
<td>EEEN 3315</td>
<td>Electrical Circuits II</td>
<td>3</td>
</tr>
<tr>
<td>EEEN 3320</td>
<td>Introduction to Communication Theory and Systems</td>
<td>3</td>
</tr>
<tr>
<td>EEEN 3330</td>
<td>Control Systems I</td>
<td>3</td>
</tr>
<tr>
<td>EEEN 3350</td>
<td>Electronic Systems Design</td>
<td>3</td>
</tr>
<tr>
<td>EEEN 3418</td>
<td>Microprocessors and Microcontrollers</td>
<td>4</td>
</tr>
<tr>
<td>EEEN 4310</td>
<td>Signal Processing</td>
<td>3</td>
</tr>
<tr>
<td>EEEN 4333</td>
<td>Machine Vision and Image Processing</td>
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</tr>
<tr>
<td>ENGR 4240</td>
<td>Project Management</td>
<td>2</td>
</tr>
<tr>
<td>ENGR 4420</td>
<td>Engineering Lab Measurements</td>
<td>4</td>
</tr>
</tbody>
</table>

**Technical Electives Block**

Students must complete 9 hours of elective courses. These may include upper-division Engineering and 4000-level Engineering Technology courses outside of the required courses in their degree plans, any 4000-level MATH, COSC, BIOL, CHEM, or PHYS courses, the specified courses in the 5-year BS/MBA program, and other courses approved by the Department of Engineering.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 4370</td>
<td>Capstone Project</td>
<td>3</td>
</tr>
</tbody>
</table>

1 Electrical Engineering students must take two courses in physics even if the natural science portion of the core curriculum is satisfied by other means. Students transferring to Texas A&M University - Corpus Christi from other institutions may have various means for fulfilling the core curriculum. Please refer to the "General Education Requirement" in the catalog section entitled "Undergraduate Programs (p. 43)."
Electrical Engineering Courses

EEEN 3310 Electromagnetic Theory
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the theory of static and dynamic electromagnetic fields with a focus on engineering applications. Principles will be illustrated with applications in various areas. Topics include computational electromagnetics, transmission lines, antennas, electromagnetic interference, and signal propagation in high speed circuits.
Prerequisite: PHYS 2426, MATH 2415, 3315 and EEEN 3315.

EEEN 3315 Electrical Circuits II
3 Semester Credit Hours (3 Lecture Hours)
AC circuit analysis principles: AC generation, periodic functions, complex numbers, phasors, impedance and admittance, network theorems, power, frequency response, filters, transformers, and balanced three-phase systems; and use of analysis software.
Prerequisite: (ENGR 2305) or (ENGR 2460).

EEEN 3320 Introduction to Communication Theory and Systems
3 Semester Credit Hours (3 Lecture Hours)
Frequency domain and time domain response of linear systems; analog modulation methods including amplitude modulation, frequency modulation and phase modulation; signal and noise modeling using probabilistic descriptions; narrowband random processes and the performance of analog modulation techniques in the presence of noise; design of communication links.
Prerequisite: (ENGR 2305 and 2105 or ENGR 2460) and MATH 3345.

EEEN 3330 Control Systems I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to control systems; open and feedback; Laplace transform and frequency response; control valves; electric motors; P, PI, and PID modes of control; analog and digital controllers Process characteristics; analysis of control systems; gain and phase margin; stability.
Prerequisite: (ENGR 2305 or 2460).

EEEN 3345 Electronic Devices and Circuits
3 Semester Credit Hours (3 Lecture Hours)
The applications of electronic devices, including linear and non-linear Op-Amp circuits, oscillators, wave-shaping circuits, active filters, rectifiers, voltage regulators, and power supplies; industrial electronics. Offered Fall and Spring.
Prerequisite: EEEN 3315.

EEEN 3350 Electronic Systems Design
3 Semester Credit Hours (3 Lecture Hours)
Principles of engineering design of electronic circuits and systems; time and frequency responses; network analysis; systems specifications; evaluation, testing, and verification; use of electronic design automation tools. Offered Fall and Spring.
Prerequisite: (ENGR 2305 or 2460) and (ENGR 2306 and EEEN 3315).

EEEN 3418 Microprocessors and Microcontrollers
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to microprocessor/microcontroller architecture, assembly language programming, and interfacing. Topics include computer organization, addressing modes, instruction set, interrupts, timing, memory, and interfacing.
Prerequisite: COSC 1320 and (ENGR 2306 and 2106).
Co-requisite: SMTE 0099.

EEEN 4310 Signal Processing
3 Semester Credit Hours (3 Lecture Hours)
Discrete time signals & systems, z-transform, discrete Fourier transform, flow graph and matrix representation of digital filters, digital filter design techniques and computation of the fast Fourier transform (FFT). MATLAB software package is heavily utilized in this course.
Prerequisite: (EEEN 3320) and (EEEN 3330).

EEEN 4330 Introduction to Plasma Engineering and Applications
3 Semester Credit Hours (3 Lecture Hours)
Physical, electrical, chemical properties of plasmas; differences in properties of thermal and non-thermal plasmas, direct and alternating current plasma sources, inductive and capacitive coupled plasma sources, diagnostics and applications of plasmas.
Prerequisite: (ENGR 3322 and 2460 or ENGR 2305 or PHYS 2426).

EEEN 4331 Power Transmission and Distribution
3 Semester Credit Hours (3 Lecture Hours)
This course covers principles of power transmission and distribution. Topics include unbalanced distribution; point to point measurements; operation control of systems; power systems; transmission lines; fault analysis; line modeling and unit analysis. Offered Fall or Spring.
Prerequisite: EEEN 3315.

EEEN 4332 Power Protection Systems
3 Semester Credit Hours (3 Lecture Hours)
Course topics include safety, reliability and availability in power systems; breaker operation; relay operation and relay circuit design; fault tolerance; cost analysis; control systems and system surveillance. Offered in Fall.
Prerequisite: EEEN 3315.

EEEN 4333 Machine Vision and Image Processing
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to automated vision systems and components, camera models, testing and measurement, and fundamentals of image processing. Topics include image analysis and processing in binary, gray scale and color images in spatial- and frequency-domain. Texture and shape analysis, hyperspectral imaging, other transforms, and filters are discussed and applied.
Prerequisite: (COSC 1320, 1435, ENGR 2460 or 2305) and MATH 2414 and (EEEN 4310).

EEEN 4334 Control Systems II
3 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
Model identification and parameter estimation (least-square identification of an auto-regressive model; nonparametric identification in the time domain; and nonparametric identification in the frequency domain); Robust Control (Nyquist-plots, small-gap, and passivity); Optimal control (LQR/LQG for state-space systems and time-optimal controller for the positioning of a mass using force actuation); Nonlinear control (Lyapunov’s stability method; feedback linearization controller for a fully actuated 2nd order mechanical system; backstepping for triangular nonlinear systems; actuator limitations); writing and presenting reports and analysis.
Prerequisite: (EEEN 3330 or ENTC 4446).
EEEN 4345 Sensors and Systems
3 Semester Credit Hours (3 Lecture Hours)
(3:0) This course introduces sensors and sensing systems, and the acquisition, processing, and interpretation of signals obtained with selected sensors and systems. The course will also cover sensing modalities, signal transmission and reception. Measurement and uncertainty in sensors and systems will be discussed as applied to signal noise and interference. Filtering and estimation will be introduced. Sensing systems for vision, monitoring, and control applications will be surveyed. Sensor interfacing, signal conditioning and transforms will be applied. Other topics include multidimensional signal and image processing, object tracking, multisensor data fusion, applications in environmental monitoring, remote sensing and surveillance. Offered in alternating Fall semesters.
Prerequisite: (MATH 2414 and ENGR 2460).

EEEN 4396 Directed Independent Study
1-3 Semester Credit Hours
(1-3) Requires a formal proposal of study to be completed in advance of registration, approval of supervising faculty and department chairperson.

Engineering Courses

ENGR 1211 Introduction to Engineering
2 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Introduction to the engineering profession, ethics, and disciplines; development of skills in teamwork, problem solving and design; other topics include computer applications and programming; visualization, orthographic drawings and CAD tools; introduction to electrical circuits, semiconductor devices, digital logic, communications and their application in systems; Newton’s laws, unit conversions, statistics, Excel; basic graphics skills. Offering: Fall and Spring.
Prerequisite: MATH 1314.
TCCNS: ENGR 1201

ENGR 1312 Engineering Graphics I
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Topics include, depending on the major: emphasis on computer applications and programming and solids modeling using CAD tools or other software; fundamentals of engineering science; advanced graphic skills. Pre-req: MATH 1314 - College Algebra or equivalent academic preparation. Offered Fall and Spring.
Prerequisite: MATH 1314.
TCCNS: ENGR 1304

ENGR 2105 Electrical Circuits Laboratory
1 Semester Credit Hour (3 Lab Hours)
Laboratory experiments supporting theoretical principles presented in ENGR 2305 involving DC and AC circuit theory, network theorems, time, and frequency domain circuit analysis. Introduction to principles and operation of basic laboratory equipment; laboratory report preparation.
Prerequisite: ENGR 2305.
* May be taken concurrently.
Co-requisite: ENGR 2305, SMTE 0099.

ENGR 2106 Digital Systems Laboratory
1 Semester Credit Hour (1 Lab Hour)
Basic laboratory experiments supporting theoretical principles presented in ENGR 2306 involving design, construction, and analysis of combinational and sequential digital circuits and systems, including logic gates, adders, multiplexers, encoders, decoders, arithmetic logic units, latches, flip-flops, registers, and counters; preparation of laboratory reports.
Prerequisite: MATH 1314.
Co-requisite: ENGR 2306, SMTE 0099.

ENGR 2305 Electrical Circuits
3 Semester Credit Hours (3 Lecture Hours)
Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources). Topology of electrical networks; Kirchhoff’s laws; node and mesh analysis; DC circuit analysis; operational amplifiers; transient and sinusoidal steady-state analysis; AC circuit analysis; first- and second-order circuits; Bode plots; and use of computer simulation software to solve circuit problems.
Prerequisite: (PHYS 2425 and MATH 2414).
Co-requisite: ENGR 2105.

ENGR 2306 Digital Systems
3 Semester Credit Hours (3 Lecture Hours)
Introduction to theory and design of digital logic, circuits, and systems. Number systems, operations and codes; logic gates; Boolean Algebra and logic simplification; Karnaugh maps; combinational logic; functions of combinational Logic; flip-flops and related devices; counters; shift registers; sequential logic; memory and storage.
Prerequisite: MATH 1314 and 2305.
* May be taken concurrently.
Co-requisite: ENGR 2106.

ENGR 2325 Statics
3 Semester Credit Hours (3 Lecture Hours)
Theory of engineering mechanics involving forces, moments, and couples on stationary structures; equilibrium in two and three dimensions; free body diagrams; truss analysis; friction; centroids; centers of gravity and moments of inertia.
Prerequisite: PHYS 2425 and MATH 2414.
* May be taken concurrently.
TCCNS: ENGR 2301

ENGR 2326 Dynamics
3 Semester Credit Hours (3 Lecture Hours)
Theory of engineering mechanics involving the motion of particles, rigid bodies and systems of particles; Newton’s Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems.
Prerequisite: ENGR 2325.
TCCNS: ENGR 2302

ENGR 2460 Circuit Analysis
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
This course covers principles of electronics: charge, voltage, resistance, current, and power; Ohm’s Law; Kirchhoff’s voltage and current laws; RC and LC circuits; periodic functions, average and RMS measurements; transformers, electrical measurement instruments. The laboratory provides hands-on experience with devices and circuits discussed in the classroom.
Prerequisite: (PHYS 2426, MATH 2414 and 3315).  
* May be taken concurrently.
Co-requisite: SMTE 0099.
TCCNS: ENGR 2305

ENGR 3315 Fluid Mechanics
3 Semester Credit Hours (3 Lecture Hours)
Fluid properties, fluid statics, dynamics, and kinematics, conservation of energy and momentum incompressible, laminar and turbulent flow. Similitude and dimensional analysis, and viscous flow. Prerequisite or
Prerequisite: (MATH 3315) and ENGR 2326 and MATH 2415.
Co-requisite: MATH 1315.
ENGR 3316 Thermodynamics
3 Semester Credit Hours (3 Lecture Hours)
Theory and application of energy methods in engineering; conservation of mass and energy; energy transfer by heat, work and mass; thermodynamic properties; analysis of open and closed systems; the second law of thermodynamics and entropy; gas, vapor and refrigeration cycles. 
Prerequisite: (PHYS 2425 and MATH 2414).

ENGR 3320 Strength of Materials
3 Semester Credit Hours (3 Lecture Hours)
Concepts in strength of materials, stress, strain; deformation under load, direct, shear, and combined stresses; stress concentrations, bending stresses and torsional shear stresses, deflection in beams and shafts; columns, and pressure vessels. 
Prerequisite: ENGR 2322 or ENGR 2325 and 3322 or ENGR 3322.

ENGR 3322 Materials Science
3 Semester Credit Hours (3 Lecture Hours)
Structure and properties of metallic and nonmetallic materials; microstructure, mechanical testing, phase diagrams, heat treatment, testing, ceramics, polymers, composites, construction materials, failure analysis, nondestructive evaluation, corrosion and thermal properties of materials. 
Prerequisite: (CHEM 1411) and (PHYS 2425).

ENGR 3350 Manufacturing Processes
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to metal and nonmetallic manufacturing processes; casting, forging, rolling, extrusion, sheet metal forming, cutting tools turning and milling operations, abrasive machining, welding and joining, powder compaction, molding, forming of plastics, surface treatment, human factors and safety. 
Prerequisite: ENGR 1312 and 3322.

ENGR 4240 Project Management
2 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Foundations of engineering economy, cash flow and equivalence, and project justification. Introduction to project management, planning, scheduling, and control, use of project management software, GANTT charts, PERT charts, and critical path. Students prepare proposals, including specifications, timelines, schedule, and budget, for projects to be implemented in ENGR 4370 - Capstone Projects. This course should be taken the semester preceding ENGR 4370 - Capstone Projects. 
Prerequisite: (MEEN 3330) and (MEEN 3345) or (EEEN 3330) or (EEEN 3310) and (EEEN 3350).
Co-requisite: SMTE 0099.

ENGR 4350 Machine Vision and Image Processing Applications
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to automated vision systems and components, camera models, testing and measurement, and fundamentals of image processing. Topics include image analysis and processing in binary, gray scale and color images in spatial- and frequency-domain. Texture and shape analysis, hyperspectral imaging, other transforms, and filters are discussed and applied. 
Prerequisite: (COSC 1330 or 1435) and ENGR 2460 and MATH 2414.

ENGR 4370 Capstone Projects
3 Semester Credit Hours (1 Lecture Hour, 5 Lab Hours)
This course allows students to employ the knowledge attained in other courses to implement (including building, testing, and documenting) an approved project, within budget and on schedule. Course requirements include a written report and oral presentations. 
Prerequisite: (ENGR 4240) and (MEEN 4360) or (MEEN 4365) or (EEEN 4333, CEEN 4304 or EEEN 4310). 
Co-requisite: SMTE 0099.

ENGR 4390 Special Topics in Engineering
1,3 Semester Credit Hours (1,3 Lecture Hours)
Subject material variable. May be repeated for credit when topics are different.

ENGR 4420 Engineering Lab Measurements
4 Semester Credit Hours (2 Lecture Hours, 4 Lab Hours)
Principles of physical measurements; standards, calibration, error estimation; static and dynamic performance of measuring systems; laboratory experience, experiment planning, report writing. The purpose of this course is for students to gain proficiency in designing, assembling, and operating an experiment; and analyzing and presenting experimental results. This encompasses skills such as an understanding control and data acquisition electronics, operation and limitation of modern sensors, calibration and error analysis, assessing applicability of theory and the impact of secondary experimental variables, and writing and presenting reports and analysis. 
Prerequisite: ENGR 2460.
Co-requisite: SMTE 0099.

Geographic Information Science, BS
Program Description
The Geographic Information Science Program prepares graduates with knowledge and skills for a variety of career paths related to the acquisition, analysis, and management of geospatial data and information. Career paths include pursuing advanced degrees and employment in the fields of Geomatics and Geospatial Information Systems.

Program Objectives

- Geographic Information Science program graduates will demonstrate growth and advancement in the surveying profession or geospatial sciences.
- Students will be capable of continuing paths towards graduate studies and/or employment in the fields of Geomatics and Geographic Information Systems.
- Students will be prepared to become Registered Professional Land Surveyors and/or GIS Professionals.

Student Learning Outcomes
Graduates of the program will have:

1. An ability to identify, formulate, and solve broadly-defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. An ability to formulate or design a system, process, procedure or program to meet desired needs.
3. An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

Program
The Geographic Information Science Program provides broad-based expertise and cutting-edge skills that span the growing geospatial field and helps to alleviate the shortage of well-educated geospatial professionals. The program is intended for those seeking to become surveyors, engineers and other geospatial professionals with knowledge and skills in using and managing rapidly developing geospatial technologies.

Our GIS and Geomatics curriculum covers a wide range of geospatial principles. Students engage in activities using a systematic approach to integrate all means of capturing and managing spatial data required for scientific, administrative, legal, and technical operations involved in the production and management of spatial information. These activities include, but are not limited to, cartography, control surveying, digital mapping, geodesy, geographic information systems, hydrography, land information management, land surveying, mining surveying, photogrammetry, and remote sensing.

The curriculum also focuses on computer-based solutions to problems involving the collection, synthesis, analysis, and communication of spatially related information within a geographic jurisdiction or area. It meets the needs of local, state, and federal government agencies and private industries’ transitioning to highly automated graphics systems that integrate digital mapping with computerized databases.

The program prepares graduates for careers in industry and/or science. Students are required to complete a Capstone Project related to one of the above areas of interest. The Capstone Project will be evaluated under the Geospatial Systems Project GISC 4351 Geospatial Systems Project (3 sch) course. Students who complete the program have a comprehensive understanding of these disciplines that empowers them to advance their careers in geospatial technologies or to continue their studies to further advance the science.

For Additional Information
Website: http://gisc.tamucc.edu/
Mailing Address: Geographic Information Science Program, Unit 5868 College of Science and Engineering Texas A&M University-Corpus Christi 6300 Ocean Drive Corpus Christi, TX 78412-5868

General Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
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<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
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<tr>
<td>Foundations Required for the Geographic Information Science Program</td>
<td>8</td>
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<tr>
<td>Core Required for the Geographic Information Science Program</td>
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<tr>
<td>Designated Electives</td>
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<td><strong>Total Credit Hours</strong></td>
<td><strong>126-128</strong></td>
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</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

Degree Requirements

<table>
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<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
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<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
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</tr>
<tr>
<td>Core Curriculum Program</td>
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<tr>
<td>University Core Curriculum</td>
<td></td>
<td>42</td>
</tr>
<tr>
<td>Students must take:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II (lecture component/3 hours)</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II</td>
<td>4</td>
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<tr>
<td>Foundations Required for the Geographic Information Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II (included in University Core)</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3342</td>
<td>Applied Probability and Statistics *</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1435</td>
<td>Introduction to Problem Solving with Computers I or COSC 1330</td>
<td>4</td>
</tr>
<tr>
<td>或COSC 1330</td>
<td>Programming for Scientists, Engineers, and Mathematicians</td>
<td>4</td>
</tr>
<tr>
<td>Core Required for the Geographic Information Science Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GISC 1336</td>
<td>Digital Drafting and Design</td>
<td>3</td>
</tr>
<tr>
<td>GISC 1470</td>
<td>Geospatial Systems I</td>
<td>4</td>
</tr>
<tr>
<td>GISC 2250</td>
<td>Field Camp I</td>
<td>2</td>
</tr>
<tr>
<td>GISC 2301</td>
<td>Geospatial Systems II</td>
<td>3</td>
</tr>
<tr>
<td>GISC 2438</td>
<td>Geospatial Software Systems I</td>
<td>4</td>
</tr>
<tr>
<td>GISC 2470</td>
<td>Geospatial Plane Measurement I</td>
<td>4</td>
</tr>
<tr>
<td>GISC 3300</td>
<td>Geospatial Mathematical Techniques</td>
<td>4</td>
</tr>
<tr>
<td>GISC 3325</td>
<td>Geodetic Science</td>
<td>4</td>
</tr>
<tr>
<td>GISC 3412</td>
<td>Geospatial Plane Measurement II</td>
<td>4</td>
</tr>
<tr>
<td>GISC 3420</td>
<td>Geospatial Software Systems II</td>
<td>4</td>
</tr>
<tr>
<td>GISC 3421</td>
<td>Visualization for GIS</td>
<td>4</td>
</tr>
<tr>
<td>GISC 4180</td>
<td>Geospatial Systems Internship *</td>
<td>1</td>
</tr>
<tr>
<td>GISC 4305</td>
<td>Legal Aspects of Spatial Information</td>
<td>3</td>
</tr>
<tr>
<td>GISC 4315</td>
<td>Satellite Positioning</td>
<td>3</td>
</tr>
<tr>
<td>GISC 4318</td>
<td>Cadastral Systems</td>
<td>3</td>
</tr>
<tr>
<td>GISC 4335</td>
<td>Geospatial Systems III</td>
<td>3</td>
</tr>
</tbody>
</table>
GISC 4340 Geospatial Computations and Adjustment 3
GISC 4350 Field Camp II 3
GISC 4351 Geospatial Systems Project 3
GISC 4371 History of Land Ownership 3
GISC 4431 Remote Sensing 4
6 hours of mathematics and/or sciences 1 6
MATH 2305 Discrete Mathematics I
MATH 2415 Calculus III
MATH 3311 Linear Algebra
One 3 hour upper-division MATH elective

Designated Electives
Select one of the following: 3
GISC 4320 Hydrography
GISC 4590 Selected Topics (Approved by GIS faculty)

Total Hours 128

1 Math can be any division math courses. Note: The course(s) satisfies a Mathematics Minor is a good choice.
Science can be any Natural Science course (based on scientific method) above 2000, or any Natural Science course that satisfies the laboratory science group (cannot satisfy both).
Sciences are disciplines focused on knowledge or understanding of the fundamental aspects of natural phenomena. Sciences course(s) consist of chemistry and physics besides the degree required core and other natural sciences including life, Earth, and space sciences.

Online offering
Blended offering

Courses
GISC 1301 Physical Geography
3 Semester Credit Hours (3 Lecture Hours)
The goal of this course is to encourage you to think geographically, examining the interactions between physical systems and human activities. Introduction to topics covered include elements of Physical Geography (studies of atmosphere, ocean and land surface environments), Geographic Information Systems (computer systems that capture, analysis, and display of geographic information), and human environmental interactions. Cross listed with GEOG 1301.
TCCNS: GEOG 1301

GISC 1336 Digital Drafting and Design
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
An introduction to graphic and drafting principles and practices in surveying and mapping science. This course includes the development of the basic drafting skills needed to produce surveying plats and graphical presentations. The elements of descriptive geometry are addressed. A major component of the course is an introduction to the fundamentals of computer-aided drafting and design (CADD). Spring.

GISC 1470 Geospatial Systems I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to geographic information systems (GIS) and its theoretical foundations. Topics covered include vector and raster data models, acquisition and manipulation of data, cartography, current topics, data quality, and basic spatial analysis. Principles and uses of GIS software also covered. Fall and Spring.

GISC 2250 Field Camp I
2 Semester Credit Hours (6 Lab Hours)
A one-week field camp with intensive field data collection and computations. Traversing between control points. Digital contour data and leveling control. Detail spatial data by total station. Construction set out using total station and steel band. Taken during the sophomore or junior year. Spring.
Prerequisite: GISC 2470.

GISC 2301 Geospatial Systems II
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
An intermediate level course in the concepts and applications of geographic information systems (GIS). Topics covered include spatial database design and management, raster analysis, terrain mapping, analysis, and applications. Spring.
Prerequisite: (GISC 1470).

GISC 2438 Geospatial Software Systems I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the design and development of GIS software to solve spatial problems. Topics covered include programming basics, design and implementation common tasks in GIS applications. Fall.
Prerequisite: GISC 1470 and COSC 1435 or COSC 1330.

GISC 2470 Geospatial Plane Measurement I
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Historical introduction to field measurement and mapping; distance Measurement of long baselines. Gravity and the geoid. Relationship between terrestrial observations and grid coordinates. Fall.
Prerequisite: MATH 1316 or 2413.

GISC 3300 Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications.
Prerequisite: MATH 2413 and 3342.

GISC 3325 Geodetic Science
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Prerequisite: GISC 2470.

GISC 3412 Geospatial Plane Measurement II
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Principles and reduction of observations and errors in spatial measurement. Techniques of horizontal and vertical angle measurement for precise positioning. Trigonometric heighting and vertical staff tacheometry. Setting out of structures. Design and computation of horizontal and vertical curves. Spring.
Prerequisite: (GISC 2470 and 1336).

* May be taken concurrently.
GISC 3420  Geospatial Software Systems II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced programming course focusing on the design and implementation of GIS scripts and GIS web applications. Topics covered include GIS web applications, web mashups, GIS scripts, GIS tool creation, and advanced user interface design and implementation. Spring. 
Prerequisite: GISC 2438.

GISC 3421  Visualization for GIS
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Basic elements of thematic cartography, cartographic theory, and cartographic projections. Integration of cartographic principles with GIS visualization. Principles of map design with GIS data. Spring.
Prerequisite: GISC 2301.

GISC 4180  Geospatial Systems Internship
1 Semester Credit Hour (1 Lecture Hour)
Internship education requires work with approved Geospatial Systems related industry employer. Students provide weekly written reports and final presentation to program at the end of internship. Must have completed 60 semester hours before attempting. Fall, Spring, and Summer.

GISC 4305  Legal Aspects of Spatial Information
3 Semester Credit Hours (3 Lecture Hours)
Legal ownership of spatial data and information collected in the public sector. Public access to large digital databases. Copyright law as applied to spatial data. Legal issues related to property boundaries, statutory boundaries, voter district boundaries, and jurisdictional boundaries. Government fees and charges for access to spatial data. Social and economic value of spatial data. Spring.
Prerequisite: GISC 2470.

GISC 4315  Satellite Positioning
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Prerequisite: GISC 2470 and MATH 2413.

GISC 4318  Cadastral Systems
3 Semester Credit Hours (3 Lecture Hours)
Land ownership recording systems used in Texas and U.S. Investigation and research for artificial and natural boundaries. Title searches at the county courthouse, title plants, and other sources for cadastral research. Riparian and littoral boundaries. Boundary marking and preparation of cadastral plans. Metes and bounds descriptions. Writing field notes. Urban and rural cadastral issues. Use of coordinate systems in cadastral mapping. Fall.
Prerequisite: GISC 2470.

GISC 4320  Hydrography
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Introduction to offshore and inshore hydrographic mapping. Tidal datums and their computation. Review of hydrographic and nautical charts. Electronic position finding and bathymetric data collection. Echo sounding, side scan sonar. Seafloor mapping and underwater locating. Beach (combined land and hydrographic) mapping. Spring even years.
Prerequisite: GISC 2470 and MATH 2413.

GISC 4326  Geomatics Professional Practice
3 Semester Credit Hours (3 Lecture Hours)
An intensive one-week summer course presented by practicing geomatics professionals covering many of the aspects of operating a professional surveying practice in the State of Texas. Topics cover surveyor responsibility and liability, the surveyor in court, standards of practice, surveying mathematics, Texas coordinate system, celestial observations, and project control.
Prerequisite: GISC 2250.

GISC 4335  Geospatial Systems III
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Advanced spatial analysis and modeling in GIS. Topics covered include exploratory analysis of spatial data, network analysis, spatial point patterns, area objects and spatial autocorrelation, and spatial interpolation. Also covers new approaches to spatial analysis. Fall.
Prerequisite: GISC 2301, 3421 and MATH 3342.

GISC 4340  Geospatial Computations and Adjustment
3 Semester Credit Hours (3 Lecture Hours)
Prerequisite: GISC 2470, MATH 3342 and GISC 3300.

GISC 4350  Field Camp II
3 Semester Credit Hours (6 Lab Hours)
A one-week field camp undertaking projects in cadastral, engineering, hydrographic, and geodetic positioning. Reduction of digital field data to produce final plans and reports. Taken during the senior year. Spring.
Prerequisite: GISC 3412, 4318 and 2250.

GISC 4351  Geospatial Systems Project
3 Semester Credit Hours
This course allows students to employ knowledge attained in other courses to create a project to spatially analyze information of interest to you and your field of study. Students will either undertake a GIS project to manage, analyze, and visualize spatial data, or a survey project in cadastral, topographic, engineering, hydrographic, or geodetic positioning survey. Spring.
Prerequisite: GISC 4350 or 4335.

GISC 4371  History of Land Ownership
3 Semester Credit Hours (3 Lecture Hours)
This course prepares students by providing proper knowledge of how land transferred throughout history and techniques for researching land ownership in the present. Students receive an overview of legal aspects and other topics relative to land issues applicable for Land Surveyors, Civil Engineers, and GIS professionals, among others. Spring.
Prerequisite: GISC 3412.

GISC 4431  Remote Sensing
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Provides the foundations to interpret, process, and apply remotely sensed data acquired by satellites and sub-orbital platforms (aircraft, UAVs) for mapping and analysis of our natural and built environment. Principles of electromagnetic energy-matter interaction, remote sensing systems and data characteristics, digital image processing, and information extraction methods will be covered. Included is treatment of: aerial photogrammetry; multispectral, thermal, and hyperspectral sensing; earth observation satellites; radar and lidar; emergent topics. Emphasis will be on their use for geospatial and environmental applications. Fall.
Prerequisite: (PHYS 2425, MATH 3342 and GISC 3300) or (MEEN 3310 and PHYS 2425).
Industrial Engineering, BS

Program Description

The Industrial Engineering curriculum prepares graduates to design, develop, implement, and improve integrated systems that include people, materials, information, equipment and energy. The curriculum includes in-depth instruction to accomplish the integration of systems using appropriate analytical, computational, and experimental practices.

Industrial Engineering, BS

Industrial Engineers apply science, mathematics, and engineering methods to complex system integration and operations. Because these systems are so large and complex, IEs need to have knowledge and skills in a wide variety of disciplines, the ability to work well with people, and a broad, systems perspective. Industrial engineers use their knowledge and skills to improve systematic processes through the use of statistical analysis, interpersonal communication, design, planning, quality control, operations management, computer simulation, and problem solving.

The Industrial Engineering curriculum prepares graduates to design, develop, implement, and improve integrated systems that include people, materials, information, equipment and energy. The curriculum includes in-depth instruction to accomplish the integration of systems using appropriate analytical, computational, and experimental practices.

Program Educational Objectives

In accordance with ABET accreditation requirements, the Program Educational Objectives (PEOs) describe the professional accomplishments that Industrial Engineering graduates are expected to achieve, within a few years of graduation. The PEOs are:

1. Within one year of graduation from TAMU-CC, our graduates will be working in industry, government, construction, or other professional service as industrial engineers, or will be pursuing graduate degrees in industrial engineering or post-baccalaureate degrees in other fields, such as law, business, or medicine.
2. Within five years of graduation from TAMU-CC our graduates will have 
   • advanced in their careers as indicated by obtaining promotions and positions of leadership, awards, recognitions as subject matter experts, and/or registration as professional engineers or in other professional disciplines; or by entrepreneurial activities, products or processes developed, patents, and/or publications;
   • demonstrated the ability to increase their knowledge and expertise through continuing education or advanced degrees; and
   • contributed to the improvement of the profession and of society through research, national and/or international collaboration, and/or professional and public service including mentoring.

Student Learning Outcomes

Graduates will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Fundamentals of Engineering (FE) Exam

All engineering students are encouraged to take the Fundamentals of Engineering (FE) exam. This exam is an important step toward licensure as a Professional Engineer (P.E.), which many engineers find useful and necessary in their careers. Close to the end of the B.S. degree program is an excellent time to take the exam, because the student has the best preparation for the exam at that point in the student’s academic career.

Admission from pre-engineering

For all students admitted into a pre-engineering program at TAMU-CC who wish to transfer into one of the TAMU-CC engineering programs (CEEN, EEEN, IEEEN, MEEN), the cumulative GPA for all MATH, CHEM, PHYS, ENGR, COSC, CEEN, EEEN, IEEEN, or MEEN courses that appear in the CEEN, EEEN, IEEEN, or MEEN program curricula, plus any ENTC courses, taken at TAMU-CC, or their equivalents taken at other institutions, should be 2.5 or greater to be admitted into the CEEN, EEEN, IEEEN, or MEEN programs at TAMU-CC. There should be a minimum of at least 12 hours of such courses taken at TAMU-CC or elsewhere before a transfer / admission to CEEN, EEEN, IEEEN, or MEEN may be considered. All such students must also meet the requirements to take MATH 2413 Calculus I (4 sch) if they have not already done so.

Master of Business Administration (MBA) Option

Industrial engineering students who have completed 96 credit hours toward the Industrial Engineering B.S. degree and earned a cumulative GPA of 3.0 or higher may elect the MBA option in senior year. Students
who elect the MBA option are required to take three MBA foundation courses to satisfy the Technical Elective Block requirements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 5312</td>
<td>Foundations of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 5311</td>
<td>Foundations in Economics</td>
<td>3</td>
</tr>
<tr>
<td>FINA 5311</td>
<td>Financial Management Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

Students who plan to elect the MBA Option are encouraged to have summer internship experience before senior year, and will be able to complete an MBA degree study with 2 regular semesters and 1 summer session beyond an Industrial Engineering B.S. degree study.

**General Requirements**

The Industrial Engineering curriculum consists of a minimum of 123 credit hours. It can be divided into five main areas:

**Requirements**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)¹</td>
<td>0-2</td>
</tr>
<tr>
<td>Common Engineering, Math and Science Courses</td>
<td>48</td>
</tr>
<tr>
<td>Required Industrial Engineering Courses</td>
<td>21</td>
</tr>
<tr>
<td>Capstone Project</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective Block</td>
<td>9</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>123-125</td>
</tr>
</tbody>
</table>

¹ Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

**Program Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I ¹</td>
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</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II ¹</td>
<td>1</td>
</tr>
</tbody>
</table>

**Core Curriculum Program**

University Core Curriculum: 42 credit hours

**Industrial Engineering students should take:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I (Science requirement) ¹</td>
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</tr>
<tr>
<td>MATH 2413</td>
<td>Calculus I (Mathematics requirement)</td>
<td></td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II (Component Area Option)</td>
<td></td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I (Science requirement)</td>
<td></td>
</tr>
</tbody>
</table>

**Common Engineering, Math and Science Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I (included in University Core) ¹</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1330</td>
<td>Programming for Scientists, Engineers, and Mathematicians</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 1211</td>
<td>Introduction to Engineering</td>
<td>2</td>
</tr>
<tr>
<td>ENGR 1312</td>
<td>Engineering Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3316</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3322</td>
<td>Materials Science</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 2325</td>
<td>Statics</td>
<td>3</td>
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</tbody>
</table>

**Required Industrial Engineering Courses**

<table>
<thead>
<tr>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEEN 2302</td>
<td>Engineering Economics</td>
</tr>
<tr>
<td>IEEN 3302</td>
<td>Operations Research</td>
</tr>
<tr>
<td>IEEN 3320</td>
<td>Human Factors</td>
</tr>
<tr>
<td>IEEN 3324</td>
<td>Human Computer Interface</td>
</tr>
<tr>
<td>IEEN 3330</td>
<td>Robotics and Automation</td>
</tr>
<tr>
<td>IEEN 4312</td>
<td>Experimental Design and Analysis</td>
</tr>
<tr>
<td>IEEN 4330</td>
<td>Digital Systems Simulation</td>
</tr>
</tbody>
</table>

**Technical Electives Block**

Students must complete 9 hours of elective courses. These may include upper-division Engineering and 4000-level Engineering Technology courses outside of the required courses in their degree plans, any 4000-level MATH, COSC, BIOL, CHEM, or PHYS courses, the specified courses in the 5-year BS/MBA program, and other courses approved by the Department of Engineering.

**Capstone Project**

<table>
<thead>
<tr>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 4370</td>
<td>Capstone Projects</td>
</tr>
</tbody>
</table>

**Total Hours** 124

¹ The 3 lecture hours in MATH 2413 Calculus I (4 sch), CHEM 1411 General Chemistry I (4 sch), and PHYS 2425 University Physics I (4 sch) satisfy the required 3 and 6 core curriculum hours in math and science, respectively. The 1 lab hour from each of these three courses, and the 3 lecture hours from MATH 2414 Calculus II (4 sch), satisfy the 6-hour component area option requirement in the core curriculum. Students transferring to Texas A&M University - Corpus Christi from other institutions may have various means for fulfilling the core curriculum. Please refer to the "General Education Requirement" in the catalog section entitled "Undergraduate Programs (p. 43)."

* Online offering
^ Blended offering

**Capstone Project**

All industrial engineering students must complete a senior-level capstone project in ENGR 4370 Capstone Projects (3 sch). Students will work with practicing engineers and engineering faculty. The Capstone Project will give engineering students practical, professional experience to prepare them for careers in electrical engineering.
Courses

Engineering Courses

ENGR 1211 Introduction to Engineering  
2 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)  
Introduction to the engineering profession, ethics, and disciplines; development of skills in teamwork, problem solving and design; other topics include computer applications and programming; visualization, orthographic drawings and CAD tools; introduction to electrical circuits, semiconductor devices, digital logic, communications and their application in systems; Newtont's laws, unit conversions, statistics, Excel; basic graphics skills. Offering: Fall and Spring.  
Prerequisite: MATH 1314.  
TCCNS: ENGR 1201

ENGR 1312 Engineering Graphics I  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
Topics include, depending on the major: emphasis on computer applications and programming and solids modeling using CAD tools or other software; fundamentals of engineering science; advanced graphic skills. Pre-req: MATH 1314 - College Algebra or equivalent academic preparation. Offered Fall and Spring.  
Prerequisite: MATH 1314.  
TCCNS: ENGR 1304

ENGR 2105 Electrical Circuits Laboratory  
1 Semester Credit Hour (3 Lab Hours)  
Laboratory experiments supporting theoretical principles presented in ENGR 2305 involving DC and AC circuit theory, network theorems, time, and frequency domain circuit analysis. Introduction to principles and operation of basic laboratory equipment; laboratory report preparation.  
Prerequisite: ENGR 2305*.  
Co-requisite: ENGR 2305, SMTE 0099.

ENGR 2106 Digital Systems Laboratory  
1 Semester Credit Hour (1 Lab Hour)  
Basic laboratory experiments supporting theoretical principles presented in ENGR 2306 involving design, construction, and analysis of combinational and sequential digital circuits and systems, including logic gates, adders, multiplexers, encoders, decoders, arithmetic logic units, latches, flip-flops, registers, and counters; preparation of laboratory reports.  
Prerequisite: MATH 1314.  
Co-requisite: ENGR 2306, SMTE 0099.

ENGR 2306 Digital Systems  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to theory and design of digital logic, circuits, and systems. Number systems, operations and codes; logic gates; Boolean Algebra and logic simplification; Karnaugh maps; combinational logic; functions of combinational Logic; flip-flops and related devices; counters; shift registers; sequential logic; memory and storage.  
Prerequisite: MATH 1314 and 2305*.  
Co-requisite: ENGR 2106.

ENGR 2325 Statics  
3 Semester Credit Hours (3 Lecture Hours)  
Theory of engineering mechanics involving forces, moments, and couples on stationary structures; equilibrium in two and three dimensions; free body diagrams; truss analysis; friction; centroids; centers of gravity and moments of inertia.  
Prerequisite: PHYS 2425 and MATH 2414*.  
* May be taken concurrently.  
TCCNS: ENGR 2301

ENGR 2326 Dynamics  
3 Semester Credit Hours (3 Lecture Hours)  
Theory of engineering mechanics involving the motion of particles, rigid bodies and systems of particles; Newton's Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems.  
Prerequisite: ENGR 2325.  
TCCNS: ENGR 2302

ENGR 2460 Circuit Analysis  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
This course covers principles of electronics: charge, voltage, resistance, current, and power; Ohm's Law; Kirchhoff's voltage and current laws; RC and LC circuits; periodic functions, average and RMS measurements; transformers, electrical measurement instruments. The laboratory provides hands-on experience with devices and circuits discussed in the classroom.  
Prerequisite: (PHYS 2426, MATH 2414 and 3315*).  
* May be taken concurrently.  
Co-requisite: SMTE 0099.  
TCCNS: ENGR 2305

ENGR 3315 Fluid Mechanics  
3 Semester Credit Hours (3 Lecture Hours)  
Fluid properties, fluid statics, dynamics, and kinematics, conservation of energy and momentum incompressible, laminar and turbulent flow. Similitude and dimensional analysis, and viscous flow. Prerequisite or  
Prerequisite: (MATH 3315) and ENGR 2326 and MATH 2415.  
Co-requisite: MATH 1315.

ENGR 3316 Thermodynamics  
3 Semester Credit Hours (3 Lecture Hours)  
Theory and application of energy methods in engineering; conservation of mass and energy; energy transfer by heat, work and mass; thermodynamic properties; analysis of open and closed systems; the second law of thermodynamics and entropy; gas, vapor and refrigeration cycles.  
Prerequisite: (PHYS 2425 and MATH 2414).
ENGR 3320  Strength of Materials
3 Semester Credit Hours (3 Lecture Hours)
Concepts in strength of materials, stress, strain; deformation under load, direct, shear, and combined stresses; stress concentrations, bending stresses and torsional shear stresses, deflection in beams and shafts; columns, and pressure vessels.
Prerequisite: ENGR 2325 and 3322 or ENGR 2322.

ENGR 3322  Materials Science
3 Semester Credit Hours (3 Lecture Hours)
Structure and properties of metallic and nonmetallic materials; microstructure, mechanical testing, phase diagrams, heat treatment, testing, ceramics, polymers, composites, construction materials, failure analysis, nondestructive evaluation, corrosion and thermal properties of materials.
Prerequisite: (CHEM 1411) and (PHYS 2425).
Co-requisite: SMTE 0099.

ENGR 3350  Manufacturing Processes
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to metal and non-metallic manufacturing processes; casting, forging, rolling, extrusion, sheet metal forming, cutting tools turning and milling operations, abrasive machining, welding and joining, powder compaction, molding, forming of plastics, surface treatment, human factors and safety.
Prerequisite: ENGR 1312 and 3322.
Co-requisite: SMTE 0099.

ENGR 4240  Project Management
2 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Foundations of engineering economy, cash flow and equivalence, and project justification. Introduction to project management, planning, scheduling, and control, use of project management software, GANTT charts, PERT charts, and critical path. Students prepare proposals, including specifications, timelines, schedule, and budget, for projects to be implemented in ENGR 4370 - Capstone Projects. This course should be taken the semester preceding ENGR 4370 - Capstone Projects.
Prerequisite: (MEEN 3330) and (MEEN 3345) or (EEEN 3330) or (EEEN 3310) and (EEEN 3350).
Co-requisite: SMTE 0099.

ENGR 4350  Machine Vision and Image Processing Applications
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to automated vision systems and components, camera models, testing and measurement, and fundamentals of image processing. Topics include image analysis and processing in binary, gray scale and color images in spatial- and frequency-domain. Texture and shape analysis, hyperspectral imaging, other transforms, and filters are discussed and applied.
Prerequisite: (COSC 1330 or 1435) and ENGR 2460 and MATH 2414.

ENGR 4370  Capstone Projects
3 Semester Credit Hours (1 Lecture Hour, 5 Lab Hours)
This course allows students to employ the knowledge attained in other courses to implement (including building, testing, and documenting) an approved project, within budget and on schedule. Course requirements include a written report and oral presentations.
Prerequisite: (ENGR 4240) and (MEEN 4360) and (MEEN 4365) or (EEEN 4333, CEEN 4304 or IENE 4310).
* May be taken concurrently.
Co-requisite: SMTE 0099.

ENGR 4390  Special Topics in Engineering
1,3 Semester Credit Hours (1,3 Lecture Hours)
Subject material variable. May be repeated for credit when topics are different.

ENGR 4420  Engineering Lab Measurements
4 Semester Credit Hours (2 Lecture Hours, 4 Lab Hours)
Principles of physical measurements; standards, calibration, error estimation; static and dynamic performance of measuring systems; laboratory experience, experiment planning, report writing. The purpose of this course is for students to gain proficiency in designing, assembling, and operating an experiment; and analyzing and presenting experimental results. This encompasses skills such as an understanding control and data acquisition electronics, operation and limitation of modern sensors, calibration and error analysis, assessing applicability of theory and the impact of secondary experimental variables, and writing and presenting reports and analysis.
Prerequisite: ENGR 2460.
Co-requisite: SMTE 0099.

Industrial Engineering Courses

IEEN 2302  Engineering Economics
3 Semester Credit Hours (3 Lecture Hours)
(3:0) Engineering management relies on the knowledge of engineering economics to be able to evaluate projects from a financial perspective. Optimizing financial performance of a project is a key responsibility of the engineer in the decision-making process. Examples of engineering projects would include but not limited to equipment replacement analysis, planning a new product line, and waste management. This course is designed to present engineering students the major concepts and techniques of engineering economic analysis that are needed in the decision-making process. The emphasis of this course is on the analytical analysis of money and its impact on decision making.
Prerequisite: MATH 2413.

IEEN 3302  Operations Research
3 Semester Credit Hours (3 Lecture Hours)
Introduction to operations research, linear programming, duality, other algorithms for linear programming, the transportation and assignment problems, dynamic programming, integer programming; offered: Fall and Spring.
Prerequisite: MATH 2414.
Co-requisite: MATH 3311.

IEEN 3320  Human Factors
3 Semester Credit Hours (3 Lecture Hours)
The principles of the life sciences, engineering, and mathematics are applied to the investigation of existing and proposed socio-technical systems. Methods for the reduction of fatigue and human error are taught. Various fields of human factors and the fundamental concepts of the discipline are introduced. This course provides the basics of human perceptual, cognitive, and motor abilities relevant to human factors. This course also offers class project opportunities gain experience using human factors knowledge in actual applied settings. Offered: Fall and Spring.
Prerequisite: ENGR 1312.
Co-requisite: MATH 3342.
IEEN 3324 Human Computer Interface
3 Semester Credit Hours (3 Lecture Hours)
The emphasis of this course is the design of the human-computer interface. The fundamental concepts of human-computer interaction and user centered design thinking are taught, through working in teams on an interaction design project, supported by lectures, readings, and discussions. The variety of evaluation methods and design principles of usable and appropriate computer interfaces are introduced based on psychological, social, and technical analysis. Topics will include usability and affordances, direct manipulation, systematic design methods, user conceptual models and interface metaphors, design languages and genres, human cognitive models, physical ergonomics, information and interactivity structures, and design tools and environments. Offered: Fall and Spring.
Prerequisite: ENGR 1312.
Co-requisite: IEEN 3320.

IEEN 3330 Robotics and Automation
3 Semester Credit Hours (3 Lecture Hours)
This course covers topics of concepts, principles, and relationships of automated assembly devices, computer aided drafting/design (CADD), computer-aided manufacturing (CAM), industrial robots, numerical control (NC), industrial lasers, programmable logic controllers (PLCs), automated guided vehicles (AGVs), flexible manufacturing systems (FMS), and computer- integrated manufacturing (CIM). Offered: Fall and Spring.
Prerequisite: ENGR 2460.

IEEN 4310 Process Engineering
3 Semester Credit Hours (3 Lecture Hours)
This course covers introduction to software design paradigms, system and software requirements, computer aided software engineering, and software design fundamentals using existing documentation for a proposed system. Relevant topics include in-depth survey of data flow-oriented, object-oriented, data-oriented, and real-time design. Team project involving the implementation of the proposed system using structured programming, information hiding, and strength and coupling measures is required. Each student will be required to make an oral presentation as part of the team project. Offered: Fall.
Prerequisite: IEEN 3330.

IEEN 4312 Experimental Design and Analysis
3 Semester Credit Hours (3 Lecture Hours)
Main coverage: Basic principles of experimental design; Randomization; Completely randomized design; Paired design; Randomized blocks, Latin Squares, Greco-Latin Squares and related designs; Factorial design; Blocking in factorial design; 2k factorial design; Extension of 2k factorials; Blocking and confounding in 2k factorials; Partial confounding; Fractional factorial designs; Blocking in fractional factorials; Nested and split-plot designs; Replicated and un-replicated designs; Regression, ANOVA, and follow-up analysis; Sample size determination; Response surface model. Offered: Fall and Spring.
Prerequisite: IEEN 3302 and 3320.

IEEN 4322 Cognitive Ergonomics
3 Semester Credit Hours (3 Lecture Hours)
This course is concerned with mental processes, such as perception, decision making, memory, reasoning, and response execution, as they affect interactions among humans and other elements of a work system. Relevant topics include skilled performance, attention, distraction, human error, work stress, risk perception, and Kansei engineering as these may relate to human-system design, safety and productivity. Assessment methodologies include hierarchical task analysis, cognitive task analysis, mental workload, human error identification/accident investigation, and situation awareness assessment. Offered: Fall.
Prerequisite: IEEN 3320.

IEEN 4324 Human Factors and Autonomous Systems
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the survey of human factors and ergonomics with particular reference to human functions in human-machine systems and principles of human factors to demonstrate and apply a broad knowledge of various modern industrial engineering methods and tools associated with designing autonomous systems in manufacturing and other related fields. Applications of engineering design methods to represent, integrate and solve problems, including the ability to recognize problem context and integrate knowledge and skills appropriate sources are provided. Knowledge of basic human capabilities and the ways that these capabilities are taken into account in the design of human-machine systems and work environments. Offered: Fall.
Prerequisite: IEEN 3320.

IEEN 4326 Airborne Design of Experiments
3 Semester Credit Hours (3 Lecture Hours)
Definitions, concepts, and history. Aviation Human Factors, management, and the organization. Human performance in aviation operations, Human information processing and operational decision-making, Human error and threat management, Threat and Error Management (TEM) in flight operations, air traffic control and cabin operations, Resource management training on the flight deck and in air traffic control, Automation in the workplace, The design of Standard Operating Procedures (SOPs) and checklists. Offered: Fall and Spring.
Prerequisite: IEEN 3302.

IEEN 4330 Digital Systems Simulation
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Introduction (definitions and types of simulations), Mechanism of discrete event simulation, Random number/variate generation, Input data analysis (input distribution modeling), Simulation modeling using Arena package, Review of probability and statistics, Simulation output analysis, Monte Carlo simulation, Modeling continuous processes, Verification and validation of simulation models, Read/write simulation data from/to external files. Offered: Fall and Spring.
Prerequisite: IEEN 3302.

IEEN 4332 Distribution Center Design and Operation
3 Semester Credit Hours (3 Lecture Hours)
Introduction (issues, equipment, processes), layout, order-picking, automation, special topics: crossdocking, warehouse performance. Offered: Fall and Spring.
Prerequisite: IEEN 3330.
IEEN 4334 Scheduling and Sequencing  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction and overview, EOQ Models, MRP job shop scheduling rules & Gantt chart, algorithms for one machine problems, implicit enumerations & dynamic program, branch and bound, heuristics approaches, project Scheduling, parallel Machine Scheduling, relaxation of Assumptions, batch processing, sequence dependence, project presentations. &nbsp;Offered: Fall and Spring.  
Prerequisite: IEEN 3302.

IEEN 4342 Construction Management  
3 Semester Credit Hours (3 Lecture Hours)  
The course focuses on management techniques to solve the unique problems associated with a construction project. Study of Construction Management functions including Project Management, Cost Management, Time Management, Quality Management, Contract Administration, and Safety Management will be covered. Emphasis is put on the application of each function throughout the project phases.  
Offering: Spring.  
Prerequisite: IEEN 2302 and 3320.

IEEN 4396 Directed Independent Study  
1-3 Semester Credit Hours  
Requires a formal proposal of study to be completed in advance of registration, approval of supervising faculty and department chairperson. Offered Fall, Spring, and Summer.

Mechanical Engineering Technology, BS

Program Description

The Engineering Technology Council of the American Society for Engineering Education defines Engineering Technology as the profession in which knowledge of mathematics and natural sciences gained by higher education, experience, and practices is devoted primarily to the implementation and extension of existing technology for the benefit of humanity. Engineering technology focuses on the applied aspects of science and engineering to prepare graduates for practice in product improvement, manufacturing, and engineering operational functions. Engineering technologists are suited for industries that deal with application, manufacturing, implementation, engineering operation, sales, and production.

The Mechanical Engineering Technology degree is offered in both the traditional face-to-face format and an online format for the upper-division courses. The fully-online courses form a competency-based education program in which students receive credit for courses when specific competencies are demonstrated, and receive the degree when all degree-level competencies are demonstrated. In some cases, students may be able to take traditional courses for credit in the competency-based education program.

The goal of Engineering Technology is to prepare well educated, highly skilled, and socially and professionally responsible engineering technologists from a diverse population of students to create productive and rewarding careers. Graduates will be well grounded in the fundamentals of engineering, mathematics, science, communications, and problem solving. To create continuous improvement, the program uses input from employers, alumni, and the Industrial Advisory Committee. Engineering Technology is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, www.abet.org (http://www.abet.org).

Contact Information

Engineering Technology Program, Texas A&M University-Corpus Christi, Corpus Christi, TX 78412-5797. Phone: (361) 825-5849. Web: http://entc.tamucc.edu/

Mechanical Engineering Technology

Mechanical Engineering Technology graduates will exemplify the attributes previously described.

Program Educational Objectives

Program Educational Objectives (PEOs) are statements that describe what graduates are expected to accomplish within a few years of graduation.

The Program Educational Objectives for B.S. Mechanical Engineering Technology program are:

1. Within two years of graduation from TAMU-CC, our graduates who have chosen to pursue a career in mechanical engineering technology, or a related field, will be working in industry, government, construction, or other professional service, in the areas of design, manufacture, sales, installation, operation and/or maintenance of complex, high-value systems.

2. Within five years of graduation from TAMU-CC, our graduates who have chosen to pursue a career in mechanical engineering technology or a related field will have:
   a. advanced in their careers as indicated by obtaining promotions and positions of leadership, awards, recognitions as subject matter experts, and/or registration as professional engineers or in other professional disciplines; or by entrepreneurial activities, products or processes developed, or patents;
   b. demonstrated the ability to increase their knowledge and expertise through continuing education or advanced degrees; and
   c. contributed to the improvement of the profession and of society through participation and service in professional and public organizations and through mentoring.

Student Learning Outcomes

Student Outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills, and behaviors that students acquire as they progress through the program.

Graduates of the B.S. Mechanical Engineering Technology program will have:

1. an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
2. an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
3. an ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4. an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
5. an ability to function effectively as a member as well as a leader on technical teams.

**Competency-Based Education Program for BS Mechanical Engineering Technology (CBE MCET)**

A competency-based education (CBE) program is one in which specific, concrete competencies are defined. The top-level competencies are the ABET student learning outcomes listed above. Subject-specific sub-competencies are identified and assessed in each of the CBE MCET courses. When a student demonstrates the competencies for a specific course, the student passes the course. When all of the competencies for the degree have been demonstrated, the student receives the degree. The CBE MCET program is being offered for the upper-division (3000- and 4000-level) courses. Once a student has completed the first two years of the traditional MCET BS program as described below, the student may opt for the CBE MCET program. Each of the courses in the CBE MCET program, with the exception of certain laboratory classes described below, may be completed online.

A student must apply for the CBE program in MCET. The student

- Must be admitted as a student to TAMU-CC.
- Must indicate a positive decision to apply for the CBE MCET program, either through ApplyTexas or a change of major form if student is already at TAMU-CC.
- Must have completed all core courses and all lower-division courses as listed below under “Prior Course Completion.”
- Must have a 2.5 GPA in all coursework that applies to the program (core courses and lower-division courses that will be counted towards the program), whether taken at TAMU-CC or elsewhere.

Credit By Examination: Some courses will have an online pre-test that students can take to earn college credit for that course. The test will be the equivalent of a comprehensive final exam that will test students on all competencies related to the course. The pre-test will be proctored according to the same standard as all other tests taken in the course. If students pass the pre-test, they will receive credit and not be required to take the course. The fee for taking the pre-test in each course must be paid by the student and may range up to $300 per exam. The student should contact the office of the Department of Engineering or the Office of Distance Education and Learning Technologies at TAMU-CC to determine the exact cost of the pre-test.

Credit By Portfolio: For the courses listed below, it is possible that through experience on the job (such as running a process unit in a plant or working in a machine shop), the student might have acquired the competencies in a particular course and therefore be able to obtain credit by submitting examples of work, certified by a supervisor, that illustrate the competencies in the course. The competencies for these courses may be found on the program website, and students given the opportunity to submit portfolios for evaluation (at the cost of an evaluation fee up to $300). The supervisor must be approved by the Engineering faculty as having the necessary qualifications to validate the work submitted by the student. The portfolio(s) submitted by the student must demonstrate that the student has mastered the competencies in the class, as published on the program website.

Because of the nature of the last two courses, credit by portfolio must be obtained for both courses and cannot be obtained for each course individually.

**Student Learning Outcomes**

The student learning outcomes for the CBE MCET program are the same as for the traditional BS in MCET. These student outcomes will be met by the demonstration of specific competencies in each of the courses in the CBE MCET program.

**General Requirements**

A summary of the hours necessary for graduation follows:

The specific requirements for each aspect of the Bachelor of Science degree in Mechanical Engineering Technology are indicated below.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Common Engineering Technology Courses</td>
<td>31</td>
</tr>
<tr>
<td>Required Mechanical Engineering Technology Courses</td>
<td>36</td>
</tr>
<tr>
<td>Technical Elective Block</td>
<td>12-13</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>121-124</strong></td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

Transfer students with 24 or more hours are exempt from First-Year Seminar.

**Program Requirements**

The courses that are considered to be in the major field of study are all MATH, CHEM, PHYS, COSC, ENTC, ENGR, EEEN, and MEEN courses in the curriculum listed below (any ENGR, MEEN, or EEEN courses taken to fulfill MCET degree requirements must be approved by the program coordinator and the department chair).

The specific requirements for each aspect of the Bachelor of Science degree in Mechanical Engineering Technology are indicated below. Students are encouraged to take the NCEES (National Council of Examiners for Engineering and Surveying) Fundamentals of Engineering (FE) exam during their senior year. The FE exam, http://ncees.org/exams/fe-exam/, is the first step in the process that leads to the P.E. license.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
<td>1</td>
</tr>
</tbody>
</table>
UNIV 1102  First-Year Seminar II * 1

**Core Curriculum Program**

University Core Curriculum 42

Engineering Technology students must take: 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2413</td>
<td>Calculus I (3-hour lecture component)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I (3-hour lecture component)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II (3-hour lecture component)</td>
<td>1</td>
</tr>
</tbody>
</table>

**Common Engineering Technology Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2413</td>
<td>Calculus I (1 hour laboratory component)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I (1 hour laboratory component)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II (1 hour laboratory component)</td>
<td>1</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 1211</td>
<td>Introduction to Engineering</td>
<td>2</td>
</tr>
<tr>
<td>ENGR 1312</td>
<td>Engineering Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1330</td>
<td>Programming for Scientists, Engineers, and Mathematicians</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I *</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 2460</td>
<td>Circuit Analysis</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 3316</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 4446</td>
<td>Control Systems I</td>
<td>4</td>
</tr>
<tr>
<td>ENTC 4415</td>
<td>Project Justification and Management</td>
<td>4</td>
</tr>
<tr>
<td>ENTC 4350</td>
<td>Capstone Projects</td>
<td>3</td>
</tr>
</tbody>
</table>

**Required Mechanical Engineering Technology Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTC 2325</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ENTC 2326</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3322</td>
<td>Materials Science</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 3302</td>
<td>Manufacturing Processes</td>
<td>3</td>
</tr>
<tr>
<td>or ENGR 3350</td>
<td>Manufacturing Processes</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 3220</td>
<td>Thermal-Fluids Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>ENTC 3306</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>or ENGR 3315</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 3308</td>
<td>Strength of Materials</td>
<td>3</td>
</tr>
<tr>
<td>or ENGR 3320</td>
<td>Strength of Materials</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 3455</td>
<td>Solid Modeling and Finite Elements</td>
<td>4</td>
</tr>
<tr>
<td>ENTC 4210</td>
<td>Solid Mechanics Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>ENTC 4320</td>
<td>Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 4330</td>
<td>Solid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 4360</td>
<td>Mechanical System Design</td>
<td>3</td>
</tr>
</tbody>
</table>

**Technical Elective Block**

Any upper division 3 hour Math, Science or Mechanical Engineering courses. 3

Select three of the following: 9

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTC 3323</td>
<td>Robotics and Automation</td>
</tr>
<tr>
<td>ENTC 4322</td>
<td>Programmable Logic Controllers</td>
</tr>
<tr>
<td>ENTC 4335</td>
<td>Energy Conversion</td>
</tr>
<tr>
<td>ENTC 4360</td>
<td>Mechanical System Design</td>
</tr>
<tr>
<td>ENTC 4490</td>
<td>Selected Topics</td>
</tr>
</tbody>
</table>

Total Hours 128

1 Engineering Technology students must take two courses in Physics even if the natural science portion of the core curriculum is satisfied by other means. Students transferring to A&M-Corpus Christi from other institutions may have various means for fulfilling the core curriculum. Please refer to the “General Education Requirement” in the catalog section entitled “Undergraduate Programs (p. 43).” Three hours of the Component Area Option of the University Core Curriculum are satisfied by the fourth (lab) hour of each of MATH 2413 Calculus I (4 sch), PHYS 2425 University Physics I (4 sch), and PHYS 2426 University Physics II (4 sch) (the first three lecture hours of each are used to satisfy the mathematics and natural science components of the Core). The other three hours of the Component Area Option of the Core are satisfied by the three lecture hours of MATH 2414 Calculus II (4 sch).

* Online offering

**Competency-Based Education Program for BS Mechanical Engineering Technology (CBE MCET)**

**Prior Course Completion**

A student must apply for admission to the CBE MCET program. Prior to being admitted to the program, the student must complete all TAMU-CC core curriculum requirements and the following courses or their equivalents (those courses which satisfy the core requirements for mathematics, life and physical sciences, and the component area option (CAO) are also listed, for completeness).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I *</td>
<td>4</td>
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<tr>
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</tr>
<tr>
<td>ENTC 4415</td>
<td>Project Justification and Management</td>
<td>4</td>
</tr>
<tr>
<td>ENTC 4350</td>
<td>Capstone Projects</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Requirements**

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</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1330</td>
<td>Programming for Scientists, Engineers, and Mathematicians</td>
<td>3</td>
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</tbody>
</table>

**Program Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 3316</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 4415</td>
<td>Project Justification and Management</td>
<td>4</td>
</tr>
<tr>
<td>ENTC 4446</td>
<td>Control Systems I</td>
<td>4</td>
</tr>
</tbody>
</table>

**Required Mechanical Engineering Technology Courses - CBE**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTC 3306</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 3308</td>
<td>Strength of Materials</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3322</td>
<td>Materials Science</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 3455</td>
<td>Solid Modeling and Finite Elements</td>
<td>4</td>
</tr>
</tbody>
</table>
ENTC 4320 Heat Transfer 3
ENTC 4330 Solid Mechanics 3
ENTC 4360 Mechanical System Design 3

Chemical Process Industry Elective Block - CBE 1
ENTC 4331 Unit Processes 3
ENTC 4332 Process Modeling and Control 3
ENTC 4333 Chemical Reaction Engineering 3
ENTC 4335 Energy Conversion 3

On-Campus Block 2
ENTC 4320 Thermal-Fluids Laboratory 2
ENTC 4332 Manufacturing Processes 3
ENTC 4210 Solid Mechanics Laboratory 2
ENTC 4350 Capstone Projects 3

Total Hours 55

1 Or, the student may select 4 courses from upper-division, traditional format ENTC and MEEN courses.

2 Because of their nature, these courses must be completed in a traditional face-to-face format on campus or have a face-to-face component, if credit is not obtained by portfolio (see above). The two lab classes will be taught during the same five-week summer school term, in the first term of the summer. ENTC 3302 Manufacturing Processes (3 sch) and ENTC 4350 Capstone Projects (3 sch) courses will be taught as hybrids, with online and face-to-face components. The face-to-face laboratory component of ENTC 3302 Manufacturing Processes (3 sch) will be taught during a five-week summer term. Because of the team nature of capstone projects, the online CBE version of ENTC 4350 Capstone Projects (3 sch) will last 14 weeks and will be synchronized with spring and fall semester offerings of the traditional face-to-face version of ENTC 4350 Capstone Projects (3 sch). The capstone project in ENTC 4350 Capstone Projects (3 sch) will be completed as subsystems by subgroups or individuals off campus and integrated on campus at the end of the semester, with arrangements made for team presentations.

* Online offering

Courses

ENTC 2414 Circuit Analysis I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Fundamental aspects of DC circuit analysis: charge, voltage, resistance, current, and power; Ohm’s Law; methods of analysis; series and parallel circuits; Kirchhoff’s voltage and current laws; Thevenin and Norton Theorems; electrical measurement instruments; and use of analysis software. Offered: Fall/Spring.
Prerequisite: MATH 2413.
Co-requisite: PHYS 2426, SMTE 0099.
TCCNS: ENGT 1401

ENTC 2490 Special Topics
1-4 Semester Credit Hours (1-4 Lecture Hours, 3 Lab Hours)
Subject material variable. May be repeated for different topics.

ENTC 3220 Thermal-Fluids Laboratory
2 Semester Credit Hours (4 Lab Hours)
Application of measurement instrumentation and experimental techniques utilized in thermodynamics and fluid mechanics. Experiments and project in hydrostatics, hydraulics, and thermodynamics. Offered in Spring.
Prerequisite: (ENTC 3306 and 3320*).
* May be taken concurrently.
Co-requisite: SMTE 0099.

ENTC 3302 Manufacturing Processes
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to metal and non-metallic manufacturing processes; casting, forging, rolling, extrusion, sheet metal forming, cutting tools turning and milling operations, abrasive machining, welding and joining, powder compaction, molding, forming of plastics, surface treatment, human factors and safety. Offered: Fall/Spring.
Prerequisite: (ENTC 1312) and (ENTC 3308) and (ENTC 2326) or (ENGR 2326).
Co-requisite: SMTE 0099.

ENTC 3306 Fluid Mechanics
3 Semester Credit Hours (3 Lecture Hours)
Fluid properties, fluid statics, dynamics, and kinematics, conservation of energy and momentum incompressible, laminar and turbulent flow. Similitude and dimensional analysis, and viscous flow. Offered: Fall (Spring as needed).
Prerequisite: (ENTC 2326 or ENGR 2326).

ENTC 3308 Strength of Materials
3 Semester Credit Hours (3 Lecture Hours)
Concepts in strength of materials, stress, strain; torsion; deformation under load; direct, shear, and combined stresses; shear and moment diagrams; Mohr’s circle; stress concentrations, bending stresses and torsional shear stresses, deflection in beams and shafts; columns, connections, and pressure vessels. Offered: Fall (Spring as needed).
Prerequisite: (ENTC 2325 or ENGR 2325) and (ENTC 3410).

ENTC 3320 Thermodynamics
3 Semester Credit Hours (3 Lecture Hours)
Theory and application of energy methods in engineering; conservation of mass and energy; energy transfer by heat, work and mass; thermodynamic properties; analysis of open and closed systems; the second law of thermodynamics and entropy; gas, vapor and refrigeration cycles. Offered: Fall/Spring.
Prerequisite: PHYS 2425 and MATH 2414.

ENTC 3323 Robotics and Automation
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Automation in a manufacturing and assembly setting, material handling systems, remote guided vehicles, automated storage and retrieval systems, computer numerical machine tools, robotics. Offered: Spring.
Prerequisite: ENTC 3415.
Co-requisite: SMTE 0099.

ENTC 3350 Human Factors Engineering
3 Semester Credit Hours (3 Lecture Hours)
Application of human factors engineering principles utilized in mechanical system and product design. Overview of human characteristics and research and design techniques.
Prerequisite: (ENTC 3302 or 3302*).
* May be taken concurrently.
ENTC 3455  Solid Modeling and Finite Elements  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Use of computer aided design and solid modeling tools in engineering design and manufacturing including: solid modeling, stress, flow and heat transfer analysis using finite element methods, and rapid prototyping.  
Offered: Spring.  
Prerequisite: ENTC 3308.

ENTC 4210  Solid Mechanics Laboratory  
2 Semester Credit Hours (4 Lab Hours)  
Prerequisite: (ENTC 4330).  
* May be taken concurrently.  
Co-requisite: SMTE 0099.

ENTC 4320  Heat Transfer  
3 Semester Credit Hours (3 Lecture Hours)  
Fundamental study of convection, conduction and radiation as applied to heat transfer, heat exchangers, boilers, other heat transfer equipment.  
Offered: Spring.  
Prerequisite: ENTC 3306 and 3320.

ENTC 4322  Programmable Logic Controllers  
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)  
Introduction to PLCs and their use in industrial automation. Topics include programming, counters, timers, interrupts, and process control applications. Offered: As needed.  
Prerequisite: ENTC 3416.  
Co-requisite: SMTE 0099.

ENTC 4330  Solid Mechanics  
3 Semester Credit Hours (3 Lecture Hours)  
Stress analysis of deformable bodies and mechanical elements; stress transformation; combined loading; failure modes; material failure theories; fracture and fatigue; deflections and instabilities; thick cylinders; curved beams; design of structural/mechanical members; design processes for shafts, bearings, springs, fasteners, and mechanical joints.  
Prerequisite: ENTC 3308.

ENTC 4331  Unit Processes  
3 Semester Credit Hours (3 Lecture Hours)  
Principles and methods for staged separation processes including distillation, absorption and stripping, extraction, and adsorption systems. Offered in Fall and Spring  
Prerequisite: ENTC 4320.

ENTC 4332  Process Modeling and Control  
3 Semester Credit Hours (3 Lecture Hours)  
Prerequisite: ENTC 3306.

ENTC 4333  Chemical Reaction Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
Fundamental principles of chemical reaction engineering and application to design and analysis of basic chemical reactors containing both homogeneous and heterogeneous reactions. Offered Fall and Spring.  
Prerequisite: ENTC 4331 and 4332.

ENTC 4335  Energy Conversion  
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)  
Installation, design characteristics, operational performance, and maintenance of motors, turbines, pumps and compressors. Introduction to global energy concerns; fossil and nuclear fuels; energy consumption analysis; energy management and conservation techniques; renewable and alternative energy sources. Modern energy conversion devices such as fuel cells, photovoltaic cells, and micro-power turbines.  
Prerequisite: ENTC 3320.

ENTC 4350  Capstone Projects  
3 Semester Credit Hours (1 Lecture Hour, 5 Lab Hours)  
This course allows students to employ the knowledge attained in other courses to implement (including building, testing, and documenting) the project approved in ENTC 4415 - Project Justification and Management, within budget and on schedule. Course requirements include a written report and oral presentations. Normally taken in the student's last semester.  
Prerequisite: ENTC 4415.  
Co-requisite: SMTE 0099.

ENTC 4360  Mechanical System Design  
3 Semester Credit Hours (3 Lecture Hours)  
Analysis, management and cost, team work, optimal design, and computer simulation of mechanical systems and components; Applications in fluid flow and heat transfer, machine elements, and stress analysis. Selected course topics are assigned as projects.  
Prerequisite: ENTC 4330.

ENTC 4415  Project Justification and Management  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Foundations of engineering economy, cash flow and equivalence, and project justification. Introduction to project management, planning, scheduling, and control, use of project management software, GANTT charts, PERT charts, critical path. Students prepare proposals, including specifications, timelines, schedule, and budget, for projects to be implemented in ENTC 4350 - Capstone Projects.  
Co-requisite: SMTE 0099.

ENTC 4446  Control Systems I  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Introduction to control systems; open and feedback; Laplace transform and frequency response; control valves; electric motors; P, PI, and PID modes of control; analog and digital controllers Process characteristics; analysis of control systems; gain and phase margin; stability.  
Prerequisite: ENTC 2414.

ENTC 4490  Selected Topics  
1-4 Semester Credit Hours (1-4 Lecture Hours)  
Subject material variable. May be repeated for different topics.

ENTC 4496  Directed Independent Study  
1-4 Semester Credit Hours  
Requires a formal proposal of study to be completed in advance of registration, approval of supervising faculty and chairperson.

Mechanical Engineering, BS  
Program Description  
Mechanical Engineering is an engineering discipline that requires an understanding of mechanics, kinematics, thermodynamics and energy, and involves the application of principles of physics and mathematics to develop mechanical systems. The American Society of Mechanical Engineers (ASME) defines mechanical engineering as the branch of engineering that serves society through the analysis, design, and
manufacture of systems that convert a source of energy to useful work. The Bachelor of Science in Mechanical Engineering (BSME) program emphasizes service, systems-based knowledge, and sustainability with an eye toward the interface of traditional mechanical engineering with new and emerging fields, in particular unmanned aircraft systems, maritime sciences and marine biology that directly impact the Gulf Coast.

The program educational objectives of this program are:

1. Within one year of graduation from TAMU-CC, our graduates will be working in industry, government, construction, or other professional service as mechanical engineers, or will be pursuing graduate degrees in mechanical engineering or post-baccalaureate degrees in other fields, such as law, business, or medicine.
2. Within five years of graduation from TAMU-CC our graduates will have
   • advanced in their careers as indicated by obtaining promotions and positions of leadership, awards, recognitions as subject matter experts, and/or registration as professional engineers or in other professional disciplines; or by entrepreneurial activities, products or processes developed, patents, and/or publications;
   • demonstrated the ability to increase their knowledge and expertise through continuing education or advanced degrees; and
   • contributed to the improvement of the profession and of society through research, national and/or international collaboration, and/or professional and public service including mentoring.

Student Learning Outcomes

Graduates will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Admission from pre-engineering

For all students admitted into a pre-engineering program at TAMU-CC who wish to transfer into one of the TAMU-CC engineering programs (CEEN, EENE, IEEN, MEEN), the cumulative GPA for all MATH, CHEM, PHYS, ENGR, COSC, CEEN, EENE, IEEN, or MEEN courses that appear in the CEEN, EENE, IEEN, or MEEN program curricula, plus any ENTC courses, taken at TAMU-CC, or their equivalents taken at other institutions, should be 2.5 or greater to be admitted into the CEEN, EENE, IEEN, or MEEN programs at TAMU-CC. There should be a minimum of at least 12 hours of such courses taken at TAMU-CC or elsewhere before a transfer / admission to CEEN, EENE, IEEN, or MEEN may be considered. All such students must also meet the requirements to take MATH 2413 Calculus I (4 sch) if they have not already done so.

Master of Business Administration (MBA) Option

Mechanical Engineering students who have completed 96 credit hours toward the Mechanical Engineering B.S. degree and earned a cumulative GPA of 3.0 or higher may elect the MBA option in senior year. To satisfy the Technical Elective Block requirements, students who elect the MBA option are required to take

1. any upper division 3-credit hour math/physics/chemistry/biology course (MATH 3342 Applied Probability and Statistics (3 sch) preferred) and
2. three MBA foundation courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 5312</td>
<td>Foundations of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 5311</td>
<td>Foundations in Economics</td>
<td>3</td>
</tr>
<tr>
<td>FINA 5311</td>
<td>Financial Management Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

Students who plan to elect the MBA Option are encouraged to have summer internship experience before senior year, and will be able to complete an MBA degree study with 2 regular semesters and 1 summer session beyond a Mechanical Engineering B.S. degree study.

General Requirements

The mechanical engineering curriculum consists of a minimum of 126 credit hours and can be divided into four main areas: University Core requirements, mathematics and science requirements, engineering requirements, and technical electives. Because courses in mechanical engineering tend to be sequential, it is very important that students have the proper prerequisites. When in doubt, students should check with their faculty mentor.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)¹</td>
<td>0-2</td>
</tr>
<tr>
<td>Common Engineering and Math Courses</td>
<td>45</td>
</tr>
<tr>
<td>Required Mechanical Engineering Courses</td>
<td>29</td>
</tr>
<tr>
<td>Technical Elective Block</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>128-130</strong></td>
</tr>
</tbody>
</table>

¹ Full-time, first time in college students are required to take the first-year seminars.
   • UNIV 1101 First-Year Seminar I (1 sch)
   • UNIV 1102 First-Year Seminar II (1 sch)

Transfer students with 24 or more hours are exempt from First-Year Seminar.

Program Requirements

The courses that are considered to be in the major field of study are all MATH, CHEM, PHYS, COSC, ENGR, MEEN, EENE, and ENTC courses in
the curriculum listed below (any EEEN or ENTC courses taken to fulfill MEEN degree requirements must be approved by the program coordinator and the department chair). Students who have been admitted as pre-mechanical engineering (PREM) majors must have a cumulative GPA of at least 2.5 in all MATH, CHEM, PHYS, COSC, and ENGR courses taken from the list below before they will be allowed to transfer into the Mechanical Engineering BS program and to take any upper-division (3000-level or above) ENGR, MEEN, or EEEN courses.

Note:
The specific requirements of the Bachelor of Science in Mechanical Engineering degree are indicated below. Students are encouraged to take the NCEES (National Council of Examiners for Engineering and Surveying) Fundamentals of Engineering (FE) exam during their senior year. The FE exam, http://ncees.org/exams/fe-exam/, is the first step in the process that leads to the P.E. license.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
<td>1</td>
</tr>
<tr>
<td><strong>Core Curriculum Program</strong></td>
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<td></td>
</tr>
<tr>
<td>University Core Curriculum</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering students should take:</td>
<td></td>
<td></td>
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<tr>
<td>MATH 2413</td>
<td>Calculus I (3 hour lecture component)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I (3 hour lecture component)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II (3 hour lecture component)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Common Engineering, Math and Science Courses</strong></td>
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<td></td>
</tr>
<tr>
<td>MATH 2413</td>
<td>Calculus I (1 hour laboratory component)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I (1 hour laboratory component)</td>
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<tr>
<td>PHYS 2426</td>
<td>University Physics II (1 hour laboratory component)</td>
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<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2415</td>
<td>Calculus III</td>
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<tr>
<td>MATH 3315</td>
<td>Differential Equations</td>
<td>3</td>
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<tr>
<td>ENGR 1211</td>
<td>Introduction to Engineering</td>
<td>2</td>
</tr>
<tr>
<td>ENGR 1312</td>
<td>Engineering Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1330</td>
<td>Programming for Scientists, Engineers, and Mathematicians</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I *</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 3316</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3322</td>
<td>Materials Science</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 2325</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 2326</td>
<td>Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 2460</td>
<td>Circuit Analysis</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 3315</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3320</td>
<td>Strength of Materials</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3350</td>
<td>Manufacturing Processes</td>
<td>3</td>
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<tr>
<td><strong>Required Mechanical Engineering Courses</strong></td>
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<tr>
<td>MEEN 3310</td>
<td>Engineering Analysis for Mechanical Engineering</td>
<td>3</td>
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<tr>
<td>MEEN 3330</td>
<td>Solid Mechanics for Mechanical Engineering</td>
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</tr>
<tr>
<td>MEEN 3320</td>
<td>Solid Mechanics Laboratory</td>
<td>2</td>
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<tr>
<td>MEEN 3345</td>
<td>Heat Transfer</td>
<td>3</td>
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<tr>
<td>MEEN 4240</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>MEEN 4351</td>
<td>Dynamical Systems Analysis and Modeling</td>
<td>3</td>
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<tr>
<td>MEEN 4360</td>
<td>Thermal Systems Design</td>
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<td>MEEN 4365</td>
<td>Mechanical Systems Design</td>
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<tr>
<td>ENGR 4370</td>
<td>Capstone Projects</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 4420</td>
<td>Engineering Lab Measurements</td>
<td>4</td>
</tr>
</tbody>
</table>

**Technical Electives Block**

Four courses or 12 hours.

**Math/Science elective**

Select one upper division 3 hour math/physics/chemistry/biology course.

**Technical electives**

Select 9 hours of elective courses.

**Capstone Project**

ENGR 4370 | Capstone Projects                                                    | 3     |

**Total Hours** 139

1 Mechanical engineering students must take two courses in physics even if the natural science portion of the core curriculum is satisfied by other means. Students transferring to A&M-Corpus Christi from other institutions may have various means for fulfilling the core curriculum. Please refer to the "General Education Requirement" in the catalog section entitled "Undergraduate Programs (p. 43)." Three hours of the Component Area Option of the University Core Curriculum are satisfied by the fourth (lab) hour of each of MATH 2413 Calculus I (4 sch), PHYS 2425 University Physics I (4 sch), and PHYS 2426 University Physics II (4 sch) (the first three lecture hours of each are used to satisfy the mathematics and natural science components of the Core, as described above). The other three hours of the Component Area Option of the Core are satisfied by the three lecture hours of MATH 2414 Calculus II (4 sch).

2 Students must complete 9 hours of elective courses. These may include upper-division Engineering and 4000-level Engineering Technology courses outside of the required courses in their degree plans, any 4000-level MATH, COSC, BIOL, CHEM, or PHYS courses, the specified courses in the 5-year BS/MBA program, and other courses approved by the Department of Engineering.

* Online offering
^ Blended offering

**Capstone Project**

All mechanical engineering students must complete a senior-level capstone project in ENGR 4370 Capstone Projects (3 sch). Students will work with practicing engineers and mechanical engineering faculty. The capstone project will give engineering students practical, professional experience to prepare them for careers in mechanical engineering.
Courses

Engineering Courses

ENGR 1211 Introduction to Engineering
2 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Introduction to the engineering profession, ethics, and disciplines; development of skills in teamwork, problem solving and design; other topics include computer applications and programming; visualization, orthographic drawings and CAD tools; introduction to electrical circuits, semiconductor devices, digital logic, communications and their application in systems; Newton's laws, unit conversions, statistics, Excel; basic graphics skills. Offering: Fall and Spring.
Prerequisite: MATH 1314.
TCCNS: ENGR 1201

ENGR 1312 Engineering Graphics I
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Topics include, depending on the major: emphasis on computer applications and programming and solids modeling using CAD tools or other software; fundamentals of engineering science; advanced graphic skills. Pre-req: MATH 1314 - College Algebra or equivalent academic preparation. Offered Fall and Spring.
Prerequisite: MATH 1314.
TCCNS: ENGR 1304

ENGR 2105 Electrical Circuits Laboratory
1 Semester Credit Hour (3 Lab Hours)
Laboratory experiments supporting theoretical principles presented in ENGR 2305 involving DC and AC circuit theory, network theorems, time, and frequency domain circuit analysis. Introduction to principles and operation of basic laboratory equipment; laboratory report preparation.
Prerequisite: ENGR 2305.
Co-requisite: ENGR 2305, SMTE 0099.

ENGR 2106 Digital Systems Laboratory
1 Semester Credit Hour (1 Lab Hour)
Basic laboratory experiments supporting theoretical principles presented in ENGR 2306 involving design, construction, and analysis of combinational and sequential digital circuits and systems, including logic gates, adders, multipliers, encoders, decoders, arithmetic logic units, latches, flip-flops, registers, and counters; preparation of laboratory reports.
Prerequisite: MATH 1314.
Co-requisite: ENGR 2306, SMTE 0099.

ENGR 2305 Electrical Circuits
3 Semester Credit Hours (3 Lecture Hours)
Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources). Topology of electrical networks; Kirchhoff's laws; node and mesh analysis; DC circuit analysis; operational amplifiers; transient and sinusoidal steady-state analysis; AC circuit analysis; first- and second-order circuits; Bode plots; and use of computer simulation software to solve circuit problems.
Prerequisite: PHYS 2425 and MATH 2414.
Co-requisite: ENGR 2105.

ENGR 2306 Digital Systems
3 Semester Credit Hours (3 Lecture Hours)
Introduction to theory and design of digital logic, circuits, and systems. Number systems, operations and codes; logic gates; Boolean Algebra and logic simplification; Karnaugh maps; combinational logic; functions of combinational Logic; flip-flops and related devices; counters; shift registers; sequential logic; memory and storage.
Prerequisite: MATH 1314 and 2305.
Co-requisite: ENGR 2106.

ENGR 2325 Statics
3 Semester Credit Hours (3 Lecture Hours)
Theory of engineering mechanics involving forces, moments, and couples on stationary structures; equilibrium in two and three dimensions; free body diagrams; truss analysis; friction; centroids; centers of gravity and moments of inertia.
Prerequisite: PHYS 2425 and MATH 2414.
*May be taken concurrently.

ENGR 2326 Dynamics
3 Semester Credit Hours (3 Lecture Hours)
Theory of engineering mechanics involving the motion of particles, rigid bodies and systems of particles; Newton's Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems.
Prerequisite: ENGR 2325.
TCCNS: ENGR 2302

ENGR 2460 Circuit Analysis
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
This course covers principles of electronics: charge, voltage, resistance, current, and power; Ohm's Law; Kirchhoff's voltage and current laws; RC and LC circuits; periodic functions, average and RMS measurements; transformers, electrical measurement instruments. The laboratory provides hands-on experience with devices and circuits discussed in the classroom.
Prerequisite: PHYS 2426, MATH 2414 and 3315.
*May be taken concurrently.
Co-requisite: SMTE 0099.
TCCNS: ENGR 2305

ENGR 3315 Fluid Mechanics
3 Semester Credit Hours (3 Lecture Hours)
Fluid properties, fluid statics, dynamics, and kinematics, conservation of energy and momentum incompressible, laminar and turbulent flow. Similitude and dimensional analysis, and viscous flow. Prerequisite or
Prerequisite: (MATH 3315) and ENGR 2326 and MATH 2415.
Co-requisite: MATH 1315.

ENGR 3316 Thermodynamics
3 Semester Credit Hours (3 Lecture Hours)
Theory and application of energy methods in engineering; conservation of mass and energy; energy transfer by heat, work and mass; thermodynamic properties; analysis of open and closed systems; the second law of thermodynamics and entropy; gas, vapor and refrigeration cycles.
Prerequisite: (PHYS 2425 and MATH 2414).
ENGR 3320  Strength of Materials  
3 Semester Credit Hours (3 Lecture Hours)  
Concepts in strength of materials, stress, strain; deformation under load, direct, shear, and combined stresses; stress concentrations, bending stresses and torsional shear stresses, deflection in beams and shafts; columns, and pressure vessels.  
Prerequisite: ENGR 2325 and 3222 or ENGR 2322.

ENGR 3322  Materials Science  
3 Semester Credit Hours (3 Lecture Hours)  
Structure and properties of metallic and nonmetallic materials; microstructure, mechanical testing, phase diagrams, heat treatment, testing, ceramics, polymers, composites, construction materials, failure analysis, nondestructive evaluation, corrosion and thermal properties of materials.  
Prerequisite: (CHEM 1411) and (PHYS 2425).  
Co-requisite: SMTE 0099.

ENGR 3350  Manufacturing Processes  
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)  
Introduction to metal and non-metallic manufacturing processes; casting, forging, rolling, extrusion, sheet metal forming, cutting tools turning and milling operations, abrasive machining, welding and joining, powder compaction, molding, forming of plastics, surface treatment, human factors and safety.  
Prerequisite: ENGR 1312 and 3222.  
Co-requisite: SMTE 0099.

ENGR 4240  Project Management  
2 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
Foundations of engineering economy, cash flow and equivalence, and project justification. Introduction to project management, planning, scheduling, and control, use of project management software, GANTT charts, PERT charts, and critical path. Students prepare proposals, including specifications, timelines, schedule, and budget, for projects to be implemented in ENGR 4370 - Capstone Projects. This course should be taken the semester preceding ENGR 4370 - Capstone Projects.  
Prerequisite: (MEEN 3330) and (MEEN 3345) or (ENGR 3330) or (EEEN 3310) and (EEEN 3350).  
Co-requisite: SMTE 0099.

ENGR 4350  Machine Vision and Image Processing Applications  
3 Semester Credit Hours (3 Lecture Hours)  
Introduces students to automated vision systems and components, camera models, testing and measurement, and fundamentals of image processing. Topics include image analysis and processing in binary, gray scale and color images in spatial- and frequency-domain. Texture and shape analysis, hyperspectral imaging, other transforms, and filters are discussed and applied.  
Prerequisite: (COSC 1330 or 1435) and ENGR 2460 and MATH 2414.

ENGR 4370  Capstone Projects  
3 Semester Credit Hours (1 Lecture Hour, 5 Lab Hours)  
This course allows students to employ the knowledge attained in other courses to implement (including building, testing, and documenting) an approved project, within budget and on schedule. Course requirements include a written report and oral presentations.  
Prerequisite: (ENGR 4240) and (MEEN 4360)

* May be taken concurrently.  
Co-requisite: SMTE 0099.

ENGR 4390  Special Topics in Engineering  
1,3 Semester Credit Hours (1,3 Lecture Hours)  
Subject material variable. May be repeated for credit when topics are different.

ENGR 4420  Engineering Lab Measurements  
4 Semester Credit Hours (2 Lecture Hours, 4 Lab Hours)  
Principles of physical measurements; standards, calibration, error estimation; static and dynamic performance of measuring systems; laboratory experience, experiment planning, report writing. The purpose of this course is for students to gain proficiency in designing, assembling, and operating an experiment; and analyzing and presenting experimental results. This encompasses skills such as an understanding control and data acquisition electronics, operation and limitation of modern sensors, calibration and error analysis, assessing applicability of theory and the impact of secondary experimental variables, and writing and presenting reports and analysis.  
Prerequisite: ENGR 2460.  
Co-requisite: SMTE 0099.

Mechanical Engineering Courses

MEEN 3320  Solid Mechanics Laboratory  
2 Semester Credit Hours (4 Lab Hours)  
Prerequisite: MEEN 3330 or 3330*.  
* May be taken concurrently.  
Co-requisite: SMTE 0099.

MEEN 3310  Engineering Analysis for Mechanical Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming, and probability and statistics for mechanical engineering. (Cross-listed with MATH 3310 - Mathematical Analysis for Mechanical Engineering)  
Prerequisite: MATH 3315.

MEEN 3330  Solid Mechanics for Mechanical Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
Stress analysis of deformable bodies and mechanical elements; stress transformation; combined loading; failure modes; material failure theories; fracture and fatigue; deflections and instabilities; thick cylinders; curved beams; design of structural/mechanical members; design processes for shafts, bearings, springs, fasteners, and mechanical joints.  
Prerequisite: ENGR 3320.

MEEN 3335  Introduction to Unmanned Aircraft Systems  
3 Semester Credit Hours (3 Lecture Hours)  
Overview of unmanned aerial systems: history, platforms, operations, command and control, sensor systems, payloads, regulations, policy. Current developments in unmanned aerial systems.

MEEN 3340  Solid Modeling and Finite Elements  
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)  
Use of computer aided design and solid modeling tools in engineering design, and analysis, and manufacturing including: solid modeling, stress, flow, and heat transfer analysis using finite element methods.  
Prerequisite: MEEN 3310 and ENGR 3320.
MEEN 3345 Heat Transfer
3 Semester Credit Hours (3 Lecture Hours)
Steady and unsteady conduction in one- and two-dimensions; forced convection, internal and external flows; heat exchangers; introduction to radiation; elements of thermal system design.
Prerequisite: (ENGR 3316 and 3315).

MEEN 4325 Energy Conversion
3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Natural resources: fuels, solar, wind, geothermal, wave, and ocean thermal; thermodynamics of power cycles and processes: Rankine, Brayton, gas turbine, IC engines, fuel cell; nuclear power; direct energy conversion: photovoltaic, thermoelectric, thermionic, magnetohydrodynamics; non-reactive processes: wind, wave/tidal, ocean thermal energy, solar thermal; concept of life cycle assessments of carbon foot print. Student teamwork of a class term paper is expected.
Prerequisite: ENGR 3316.

MEEN 4330 Introduction to Plasma Engineering and Applications
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Physical, electrical, chemical properties of plasmas; differences in properties of thermal and non-thermal plasmas, direct and alternating current plasma sources, inductive and capacitive coupled plasma sources, diagnostics and applications of plasmas.
Prerequisite: ENGR 2322 and (ENGR 2460 or PHYS 2426).
Co-requisite: SMTE 0099.

MEEN 4335 Introduction to Aircraft Aerodynamics and Performance
3 Semester Credit Hours (3 Lecture Hours)
Forces on aircraft; standard atmosphere; steady-state cruise, climb, and turn performance; performance optimization; introduction to aircraft longitudinal stability.
Prerequisite: ENGR 2326 and COSC 1330.

MEEN 4336 Introduction to UAS for Agricultural Applications
3 Semester Credit Hours (3 Lecture Hours)
Provides the foundations to acquire remote sensing data using Unmanned Aircraft Systems (UAS) and to interpret, process, and apply remotely sensed data for agricultural applications. Principles of remote sensing, digital image processing, and geospatial analysis will be covered. Emphasis will be on the use of UAS remote sensing technology for various disciplines in agricultural sciences including plant breeding, plant physiology, crop scouting, pest management and entomology. Offered Spring.
Prerequisite: MEEN 3335.

MEEN 4345 Sensors and Systems
3 Semester Credit Hours (3 Lecture Hours)
This course covers sensors and sensing systems where sensing modalities, analysis of sensed data, data transmission and reception are discussed. Filtering and estimation in sensing systems are considered. The course covers sensors at component level to develop subsystems and more complex sensing systems that monitor physical phenomena in laboratory or marine/terrestrial environments. Other topics include multidimensional signal and image processing, object tracking, multisensory data fusion, applications in environmental monitoring, remote sensing and surveillance.
Prerequisite: MATH 2414, PHYS 2426 and ENGR 2460.

MEEN 4350 Controls, Automation and Robotics
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Automation in a manufacturing and assembly setting for ocean and marine environments, material handling systems, remote guided vehicles, automated storage and retrieval systems, computer numerical machine tools, robotics.
Prerequisite: MATH 3315, ENGR 2326 and 2460.
Co-requisite: SMTE 0099.

MEEN 4351 Dynamical Systems Analysis and Modeling
3 Semester Credit Hours (3 Lecture Hours)
Modeling and analysis of systems that have a time-based response. Transient as well as steady state solutions for SDOF and MDOF systems and computational solutions including time response, Bode plots, phase plots, and other plots relevant to the system. Linear and non-linear modeling of systems will be studied. Modeling of mechanical systems (vibrations), electrical circuits, and thermal/fluid systems will be covered.
Prerequisite: COSC 1330, ENGR 2460 and MEEN 3345.

MEEN 4355 Marine Fabrication
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Advanced topics in manufacturing and fabrication related to ships and offshore platforms and construction.
Prerequisite: ENGR 3350.
Co-requisite: SMTE 0099.

MEEN 4360 Thermal Systems Design
3 Semester Credit Hours (3 Lecture Hours)
Analysis, management and cost, optimal design, and computer simulation of thermal systems and components; Applications in fluid flow and heat transfer, pumps, turbines and heat exchangers. Selected course topics are assigned as projects.
Prerequisite: MEEN 3345.

MEEN 4365 Mechanical Systems Design
3 Semester Credit Hours (3 Lecture Hours)
Analysis, management and cost, optimal design, and computer simulation of mechanical systems and components; machine elements, and stress analysis. Selected course topics are assigned as projects.
Prerequisite: (MEEN 3330 and ENGR 3350).

MEEN 4375 Fuel Cells
3 Semester Credit Hours (3 Lecture Hours)
Students will acquire an understanding of thermodynamics, transport phenomena and reaction fundamentals that are required to understand the processes and phenomena that pose limits on fuel cell performance.
Prerequisite: ENGR 3316, MEEN 3345 and CHEM 1411.

MEEN 4380 Renewable Energy
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Renewable and alternative energy sources and fuels; modern energy conversion devices, such as offshore wind farms, marine current turbines, fuel cells, photovoltaic cells, and micro-power turbines. Cost and environmental analysis of renewable sources. Installation, design characteristics, operational performance, and maintenance of motors, turbines, pumps and compressors. Introduction to global energy concerns; fossil and nuclear fuels; energy consumption analysis; energy management and conservation techniques.
Prerequisite: ENGR 3316, 2460 and MEEN 4325.
Co-requisite: SMTE 0099.
MEEN 4385 Offshore Energy Management
3 Semester Credit Hours (3 Lecture Hours)
Topics related to the design and energy management of ships and offshore platforms will be covered. Such topics may include oil and gas exploration, wind and marine energy systems, and environmental protection.
Prerequisite: MEEN 3345.

MEEN 4390 Introduction to Computational Fluid Dynamics
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to numerical, computational, modeling and simulation of thermo-fluid systems. Applications related to ships and offshore platforms and structures will be presented.
Prerequisite: MEEN 3345.

MEEN 4395 Offshore Water Exploration and Desalination Systems
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Advanced and future applications of sea floor mapping, under-water acoustics and GIS for fresh water exploration and mining. Renewable energy driven coastal, near-shore, and offshore desalination systems.
Prerequisite: ENGR 2316.

MEEN 4396 Directed Independent Study
3 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration, approval of supervising faculty and chairperson.

Teaching Certificates

- Biology, BS - Grades 7-12 Life Science Education Concentration (p. 457)
- Chemistry, BS - Grades 7-12 Physical Science Education Concentration (p. 464)
- Elementary Education, BS - Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/)
- Environmental Science, BS - Grades 4-8 Science Education Concentration (p. 467)
- Mathematics, BS - Grades 7-12 Mathematics Education Concentration (p. 471)
- Mathematics, Grades 7-12, Teacher Certification Without a Mathematics Major (p. 476)
- Science, Mathematics and Technology Education, Teacher Certificate (p. 481)

Biology, BS - Grades 7-12 Life Science Education Concentration

Program Description
Introduction
The College of Science and Engineering is committed to the support of students seeking to become science, mathematics and technology educators at all levels. The Science, Mathematics and Technology Education (SMTE) program offers content courses for students seeking K-12 science, mathematics and technology education. SMTE classes are also an integral part of the course work for degrees preparing students for Teacher Certifications. The SMTE program does not offer a degree; rather, degrees leading to Teacher Certification are offered by other Science and Engineering programs and by the College of Education and Human Development. Students seeking to teach in the elementary and secondary schools of Texas must meet degree requirements as well as certification requirements. The requirements and procedure to become a science, mathematics or technology teacher in Texas are outlined below. Undergraduate students who are graduating from the College of Science & Engineering or the College of Liberal Arts who are seeking initial teacher certification at the 4-8, 7-12 and EC-12 levels prior to graduation, automatically qualify for the Minor in Education.

How to Become a Science, Mathematics or Technology Teacher in Texas
In order to be recommended for teacher certification at this university, a candidate must fulfill three basic requirements:

1. have a bachelor’s degree from an accredited college or university that includes an academic major and teacher training courses,
2. complete teacher training through an approved program, and
3. successfully complete the appropriate teacher certification tests for the subject and grade level that the candidate wishes to teach.

Additional information on the requirements to become a teacher in Texas can be obtained at the State Board of Educator Certification (SBEC) website: http://www.sbec.state.tx.us/SBECOnline/certinfo/becometeacher.asp. This website also provides information on the resources available to help students pay for a teacher training program.

SBEC has approved three levels of teacher certification for regular educators:

1. Early childhood to grade 6 which includes foundation subjects and enrichment areas such as art, PE, and music,
2. Grade 4-8 which includes the foundation areas only, and
3. Grade 7-12 certification.

Students can find information on the different certifications at the official Texas Examinations of Educator Standards (TExES) Web site: http://www.texas.ets.org. Texas A&M University-Corpus Christi offers several degrees leading to a number of these teacher certifications. The College of Education and Human Development offers several degrees leading to teacher certification. The College of Science and Engineering offers bachelor’s degrees leading to teacher certification in the sciences, mathematics and technology at the 4-8 and the 7-12 levels:

- Biology, BS - Grades 7-12 Life Science Education Concentration (120-122 sem. hrs.) Details immediately follow below.
- Chemistry, BS - Grades 7-12 Physical Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/chemistry-bs-grades-7-12-physical-science-education-concentration/) (126-128 sem. hrs.)
- Environmental Science, BS - Grades 4-8 Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/environmental-science-bs-grades-4-8-science-education-concentration/) (125-130 sem. hrs.)
- Elementary Education, BS - Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/) (College of Education and Human Development)
- Mathematics, BS - Grades 7-12 Mathematics Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/mathematics-bs-grades-7-12-education-concentration/) (120 sem. hrs.)
Mathematics 7-12 teacher certification is also possible with an undergraduate major other than mathematics. Details can be found in the Mathematics, Grades 7-12 Teacher Certification Without a Mathematics Major (p. 476) section.

The individual programs, Biology, Chemistry, Environmental Science, and Mathematics offer these degrees and courses.

Students seeking Teacher Certification are also strongly urged to contact the Certification Officer in the College of Education and Human Development about current requirements and procedures that must be met to obtain the certificate. In particular, students following a degree plan leading to teacher certification must be admitted to the Teacher Education Program at Texas A&M University-Corpus Christi prior to enrolling in any 4000 level EDCI or EDUC courses. Application forms for admission to the teacher education program may be obtained from the Undergraduate or Certification Office, room FC 201. The students are referred to the College of Education and Human Development section of this catalog for more information on the Teacher Education Program.

Grade Point Average for Admission to Teacher Education

A minimum grade point average of 2.75 (4.0 = A) in all work attempted, a minimum grade point average of 2.75 in all science, math, or specialization areas, and no grade below “C” in any science or mathematics course on a student's degree plan and/or education courses within the professional block of courses are required. (See College of Education and Human Development, "Admission to Teacher Education" and "Admission to Clinical Teaching" for other requirements.)

Alteration of a Certification Plan

Any amendment to a degree plan originally filed must be approved by the student’s academic advisor, the Department Chair, the Dean of the College of Science and Engineering, and the Certification Officer of the College of Education and Human Development for the degree to be granted.

General Requirements

The Life Science Education plan is designed for those students who desire a Bachelor of Science Degree in Biology and a secondary teaching certificate in life science. The requirements for a Bachelor of Science in Biology degree with grades 7-12 Life Science Education Concentration are a minimum of 120^3 semester hours. Forty-two are designated University core curriculum courses; 39 are biology teaching core courses, and 27 are professional development courses. Other requirements include a psychology course and upper division elective courses. Other requirements include a psychology course and upper division elective courses.

Additional Educational Requirements for Certification

Students seeking teaching certification are required to complete 9 credits of English coursework and 3 credits of Public Speaking coursework.

ENGL 1302 Writing and Rhetoric (3 sch) and a literature course (ENGL 2316 Literature and Culture (3 sch) or ENGL 2332 Literature of the Western World: From the Classics to the Renaissance (3 sch)), or ENGL 2333 Literature of the Western World: From the Enlightenment to the Present (3 sch)) from the core curriculum will satisfy 6 of the 9 required credits. Either COMM 1311. Foundation of Communication (3 sch) or COMM 1315 Public Speaking (3 sch) will satisfy the public speaking course requirement.

Program Requirements

Requirements | Credit Hours
---|---
First-Year Seminars (when applicable) | 0-2
Core Curriculum Program (p. 556) | 42
Support Areas | 12
Biology Teaching Core | 41
Professional Development/Reading Sequence | 27

Total Credit Hours | 122-124

1 Full-time, first time in college students are required to take the first-year seminars. The First-Year Seminars will not count towards the 120 hour minimum requirements to graduate.

• UNIV 1101 First-Year Seminar I (1 sch)
• UNIV 1102 First-Year Seminar II (1 sch)

Students may have to take additional hours to meet university requirements such as First-Year Seminar courses or major requirements that include 4 hour math and science courses.

Program Requirements

Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
<td>1</td>
</tr>
<tr>
<td>Core Curriculum Program</td>
<td>42</td>
<td></td>
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<tr>
<td>University Core Curriculum</td>
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<tr>
<td>Life Science Education students must take specific courses to ensure they have the proper prerequisites for more advanced coursework:</td>
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<tr>
<td>Communication</td>
<td></td>
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<tr>
<td>COMM 1311</td>
<td>Foundation of Communication *</td>
<td></td>
</tr>
<tr>
<td>ENGL 1302</td>
<td>Writing and Rhetoric *</td>
<td></td>
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<tr>
<td>Mathematics</td>
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<tr>
<td>MATH 2413</td>
<td>Calculus I (lab hour counts under Component Area Option) *</td>
<td></td>
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<tr>
<td>Life and Physical Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 1406</td>
<td>Biology I (lab hour counts under Component Area Option)</td>
<td></td>
</tr>
<tr>
<td>BIOL 1407</td>
<td>Biology II (lab hour counts under Component Area Option)</td>
<td></td>
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<tr>
<td>Language, Philosophy, and Culture</td>
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<tr>
<td>Students must select one literature course of the following:</td>
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<tr>
<td>ENGL 2316</td>
<td>Literature and Culture *</td>
<td></td>
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<tr>
<td>ENGL 2332</td>
<td>Literature of the Western World: From the Classics to the Renaissance *</td>
<td></td>
</tr>
<tr>
<td>ENGL 2333</td>
<td>Literature of the Western World: From the Enlightenment to the Present *</td>
<td></td>
</tr>
</tbody>
</table>
Select one of the following electives:

**Upper Division Biology Elective Requirement**

- BIOL 3325 Biostatistics
- BIOL 4301 Embryology
- BIOL 4302 Coral Reef Conservation
- BIOL 4308 Biogeography
- BIOL 4319 Biology of Marine Mammals
- BIOL 4323 Global Change Ecology
- BIOL 4328 Fisheries
- BIOL 4335 Conservation Biology
- BIOL 4343 Oceans and Human Health
- BIOL 4370 Mariculture
- BIOL 4371 Population Genetics
- BIOL 4304 Biology of Viruses

*Other upper division Biology courses may be taken with approval.*

**Professional Development and Reading Sequence**

*Pre-requisite: MATH 0300 Developmental Mathematics (3 sch) depending on their math placement level (i.e., MATH 1314 Precalculus (3 sch)).

**Support Areas**

To become certified to teach, a total of 9 sem. hrs. of English are required. Six of these credit hours are taken in the University Core Curriculum Program: ENGL 1302 Writing and Rhetoric (3 sch) and the required 3 sem. hr. literature course (ENGL 2316 Literature and Culture (3 sch) or ENGL 2332 Literature of the Western World: From the Classics to the Renaissance (3 sch) or ENGL 2333 Literature of the Western World: From the Enlightenment to the Present (3 sch)). One additional 3 sem. hr. English course (2000-level or higher) is required to meet certification requirements and this degree requires that students take ENGL 3301 Technical and Professional Writing (3 sch) to fulfill that requirement.

**Professional Development and Reading Sequence**

Students who seek a 7-12 level Life Science teaching certificate should contact an Certification Officer in the College of Education and Human Development about requirements and procedures that must be met to obtain the certificate. The professional development sequence must be taken in a specific order and it is recommended that students contact the College of Education and Human Development early in their academic careers for specific details on these courses.

**Courses**

**BIOL 1308 Science for Life I (Non-Majors Biology)**

### 3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)

A non-majors science course in which students will learn basic biological principles, identify the relevance of science in everyday life, and understand the scientific method. Hands-on lab activities will reinforce course concepts. This course does not substitute for BIOL 1406 - Biology I or BIOL 1407 - Biology II for science majors.

*Co-requisite: SMTE 0091.*

**TCCNS:** BIOL 1308
BIOL 1406  Biology I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Presentation of basic biological concepts including scientific method, cytology, energetics, nucleic acids and genetics. This course is suitable for all majors.
Prerequisite: (MATH 1314, 1316, 2305, 2413, minimum score of 21 in 'ACT Math' or minimum score of 550 in 'SAT Math').
Co-requisite: SMTE 0091.
TCCNS: BIOL 1406

BIOL 1407  Biology II
4 Semester Credit Hours (4 Lecture Hours)
This course is an overview of the major concepts in biological diversity and plant and animal biology. Laboratory work will include individual/team activities as well as technology-related assignments.
Prerequisite: BIOL 1406.
Co-requisite: SMTE 0091.
TCCNS: BIOL 1407

BIOL 2300  Science Communication
3 Semester Credit Hours (3 Lecture Hours)
This course involves presentation and discussion of selected topics relating to the professional skills of practicing biological scientists, including basic software instruction, a review of library services pertinent to science, the application of scientific literature research skills, hypothesis generation and statistical tests, critical reviews of scientific articles, and an introduction to ethical issues in science.

BIOL 2371  Principles of Evolution
3 Semester Credit Hours (3 Lecture Hours)
An overview of the mechanisms by which heritable information changes, adaptations develop, and species diversify. Provides a foundation for molecular, cellular, and organismal studies in the biological sciences.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 2401  Anatomy and Physiology I
4 Semester Credit Hours (4 Lecture Hours)
Structure and function of the human body emphasizing biological chemistry, cell biology, tissues, and the integumentary, skeletal, muscular, and nervous systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his or her career track and obtain approval for a substitution from his or her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.
Prerequisite: BIOL 2401.
Co-requisite: SMTE 0091.
TCCNS: BIOL 2401

BIOL 2402  Anatomy and Physiology II
4 Semester Credit Hours (4 Lecture Hours)
Structure and function of the human body emphasizing blood, growth, development, genetics, and the endocrine, digestive, respiratory, cardiovascular, lymphatic, immune and urogenital systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his or her career track and obtain approval for a substitution from his or her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.
Prerequisite: BIOL 2401.
Co-requisite: SMTE 0091.
TCCNS: BIOL 2402

BIOL 2402 Principles of Microbiology
4 Semester Credit Hours (4 Lecture Hours)
Introduction to microorganisms with emphasis on those of importance in patient care. Principles of disinfection, sterilization, immunity. This class is intended for nursing majors; it cannot substitute for BIOL 2421 - Microbiology.
Prerequisite: SMTE 0092.
TCCNS: BIOL 2420

BIOL 2420  Principles of Microbiology
4 Semester Credit Hours (4 Lecture Hours)
An introduction to microorganisms including the bacteria, fungi, and viruses. Laboratory involves microbiological techniques and development of basic laboratory skills.
Prerequisite: BIOL 1406, 1407, CHEM 1411 and 1412.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2421

BIOL 2472  Principles of Botany
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the structure, function, diversity and application of plants. Laboratory focus on anatomical features, physiological adaptations, classification, and life cycles.
Prerequisite: BIOL 1407 and CHEM 1411.
Co-requisite: SMTE 0091.

BIOL 3300  Animal Nutrition
3 Semester Credit Hours (3 Lecture Hours)
Examines the dietary requirements of both companion animals and livestock. Includes the anatomy, physiology and biochemistry of the gastrointestinal system, nutrient procurement and use, feed additives, growth stimulants, metabolic diseases, and diet therapy. Cross listed with BIMS 3300.
Prerequisite: BIOL 1407 and CHEM 3411 and (CHEM 3412 or 3412*).
* May be taken concurrently.

BIOL 3325  Biostatistics
3 Semester Credit Hours (3 Lecture Hours)
The application of statistical analyses to biological data. Students will gain an understanding of how to apply statistical analyses to biological data through study of the principles of experimental design including how to frame informative research questions. At a fundamental level, these concepts are linked to the philosophy of science and our understanding of the way the world works.

BIOL 3345  Cell Physiology
3 Semester Credit Hours (3 Lecture Hours)
Emphasis on cellular functions that underlie physiological processes, transport across membranes, membrane potential and excitability, the cell nucleus, and organelles and their relationship to energy, metabolism, and transport mechanisms within the cell. Offered during Spring semester of odd-numbered years
Prerequisite: BIOL 2200 or BIMS 2200 and BIOL 3410.
BIOL 3403 Molecular Biology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Principles of molecular biology including advanced concepts of gene structure, expression and regulation, chromatin structure, recombination, and current molecular biology techniques. Laboratory emphasis is on basic skills for nucleic acid analyses, including extraction, PCR amplification, quantification, restriction, and electrophoresis. DNA sequencing-based approaches are covered including bioinformatics for sequence comparisons, polymorphisms, and molecular identification. Cross listed with BIMS 3403.
Prerequisite: BIOL 2416 and 2421.
Co-requisite: SMTE 0092.

BIOL 3410 Cell Biology
4 Semester Credit Hours (4 Lecture Hours)
Study of cellular architecture and function. Topics include membranes, transport, organelles, cytoskeleton, and signaling mechanisms. Interrelationships of structure, function, energy and metabolism are explored. Laboratory will emphasize basic techniques of cell biology.
Prerequisite: BIOL 2416 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 3413 Invertebrate Zoology
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
Structure, life history, and evolution of the invertebrates with special emphasis on the phylogeny and ecological relationships of the major phyla. Laboratory will involve field trips and survey collections. Offered fall semester every year.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3414 Vertebrate Zoology
4 Semester Credit Hours (4 Lecture Hours)
Structure, life history, and evolution of the vertebrates with special emphasis on the phylogeny and ecological relationships of the classes. Laboratory will involve field trips and survey collections. Offered only in Spring semester.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3425 Functional Anatomy
4 Semester Credit Hours (4 Lecture Hours)
General trends in morphological development and adaptation as demonstrated by the anatomy and embryology of living and extinct chordates. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3428 Principles of Ecology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the interrelationships of organisms and their environment. Population structure, community classification and regulation, and energy flow in ecosystems will also be covered. Laboratory sections will focus on experimental design and field techniques in ecology.
Prerequisite: BIOL 1407 and (BIOL 2200, 2300, BIMS 2200 or UNIV 1101 and UNIV 1102) and CHEM 1411 and (MATH 2413 or 2413*).
May be taken concurrently.
Co-requisite: SMTE 0091.

BIOL 3430 Physiology
4 Semester Credit Hours (4 Lecture Hours)
The study of physiological processes that are the product of complex interactions between tissues, organs and organ systems, with emphasis on the circulatory, respiratory, endocrine, muscular, digestive, and urogenital systems. Particular focus on homeostasis, and the role of the environment and evolution on organ systems. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I, or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3455 Plant form and Function
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Anatomy of vegetative and reproductive organs of plants, unique cellular features, development and differentiation of cell and tissue types. Emphasis on physiological mechanisms of response and adaptation to the environment.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3479 Plant Ecology
4 Semester Credit Hours (4 Lecture Hours)
Structure, physiology, life cycles, and economic impact of plants. Factors influencing diversity, succession and ecological distribution of plants.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4100 Research Ethics and Professionalism
1 Semester Credit Hour (1 Lecture Hour)
A course designed to enhance the professionalism of undergraduate researchers. This course discusses the codified aspects of research ethics, including fabrication, falsification and plagiarism of data; assigning authorship, submitting manuscripts to more than one journal and management of lab teams. It also addresses careers in science, resume writing, producing the successful application and interviewing skills.

BIOL 4301 Embryology
3 Semester Credit Hours (3 Lecture Hours)
Studies the events that occur just prior to and during gestation. Includes gametogenesis, chromosomal and single gene aberrations, teratology, and the development of the body systems.
Prerequisite: BIOL 2416.

BIOL 4302 Coral Reef Conservation
3 Semester Credit Hours (3 Lecture Hours)
Survey of challenges and threats facing coral reef ecosystems in the 21st century and discussion of conservation and management strategies. Topics include biology and ecology of reef ecosystems, climate change impacts, coral bleaching, over-fishing and the effectiveness and design of marine protected areas.

BIOL 4304 Biology of Viruses
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the study of viruses, including viral life cycles, replication schemes and Baltimore classification of representative bacteriophages, plant and animal viruses. Emphasis on analysis and review of primary literature on viruses.
Prerequisite: BIOL 2416, 2421 and CHEM 1411.

BIOL 4308 Biogeography
3 Semester Credit Hours (3 Lecture Hours)
This course offers an overview of the theories, methods, and current directions in modern biogeography, emphasizing marine and terrestrial plant and animal species and communities.
BIOL 4311 Biological Bases of Behavior  
3 Semester Credit Hours (3 Lecture Hours)  
This lecture-based course examines the processes by which neuronal circuits generate behaviors and the mechanisms by which experience modulates the activity of these circuits.  
**Prerequisite:** BIMS 4323.

BIOL 4312 Mariculture Techniques  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
The study and hands-on application of biological, mechanical, and other concepts required to develop the skills and techniques necessary for efficient operation and management of public and private aquaculture facilities. Offered in Fall of odd-numbered years.  
**Prerequisite:** BIOL 4370.

BIOL 4319 Biology of Marine Mammals  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to marine mammals, with a focus on their interactions with their biotic and abiotic environment  
**Prerequisite:** BIOL 1407.

BIOL 4323 Global Change Ecology  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to the effects of climatic and anthropogenic change on terrestrial and aquatic structure and function. Includes readings from the current literature and discussion of controversial articles.  
**Prerequisite:** BIOL 3428.

BIOL 4328 Fisheries  
3 Semester Credit Hours (3 Lecture Hours)  
A study of theory and techniques in fisheries science, including practical fisheries sampling designs and techniques, behavior of fisheries populations and application to resource management with emphasis in tide-influenced waters. Includes readings in the current literature.  
**Prerequisite:** BIOL 1407.

BIOL 4329 Fisheries Techniques  
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)  
This class is designed to provide practical experience in the theory and application of traditional and modern fisheries sampling and analytical techniques used in Fisheries Science and Management. This is a hands-on field- and laboratory-based course that will develop skills that are most commonly used by fisheries biologists and technicians. Offered in Fall of even-numbered years.  
**Prerequisite:** BIOL 4328.

BIOL 4334 Biology and Ecology of Coral Reefs  
3 Semester Credit Hours (3 Lecture Hours)  
This course will introduce the biology of corals, describe the abiotic and biotic interactions among coral reef ecosystem inhabitants, identify the threats of climate change, and discuss the conservation and management of reefs for the future. Offered every spring.  
**Prerequisite:** BIOL 3428.

BIOL 4335 Conservation Biology  
3 Semester Credit Hours (3 Lecture Hours)  
Principles and theories relating to the conservation of biological diversity, including patterns and processes creating biological diversity, estimates of extinction rates, consequences of losses of biodiversity and causes of diversity loss.  
**Prerequisite:** BIOL 3428.

BIOL 4336 Marine Ecology  
3 Semester Credit Hours (3 Lecture Hours)  
Habitats and community structure in marine environments; biotic and abiotic factors governing the distribution of marine organisms.  

BIOL 4340 Genomics, Proteomics and Bioinformatics  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to integrative biological study using genome-wide approaches and bioinformatics. The "-omics" technologies (Genomics, Proteomics, Metabolomics, etc.) will be surveyed for current and potential contributions to understanding biological function at molecular, cellular, organismal and ecosystem levels.  
**Prerequisite:** BIOL 2416 and 3410 or CHEM 4401.

BIOL 4343 Oceans and Human Health  
3 Semester Credit Hours (3 Lecture Hours)  
Healthy oceans are essential to the habitability of our planet – for humans and all other forms of life. Students will explore links between oceans, pollution, human well-being, ecosystem services, resource management, and the science and legislation governing the enforcement of water quality standards.  

BIOL 4350 Research and Design  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Course will include experimental design, literature review of a research topic and laboratory work on the research topic.  

BIOL 4353 Down the River: Biology of Gulf Coast Fishes  
3 Semester Credit Hours (3 Lecture Hours)  
This course covers aspects of ecology and biogeography of riverine and estuarine fishes while exposing students to field sampling techniques and museum preparation of specimens. This will be a unique opportunity for students to gain an in-depth understanding of the biological complexity of Texas Gulf Coast river systems while gaining hands-on experience in field and museum ichthyological techniques that are employed by state, federal and academic researchers alike.  
**Co-requisite:** SMTE 0091.

BIOL 4355 Public Aquarium and Animal Care Operations  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines the unique requirements needed for public aquariums and zoos to balance animal care and health with public display for general education and conservation research.  
**Co-requisite:** SMTE 0091.

BIOL 4370 Mariculture  
3 Semester Credit Hours (3 Lecture Hours)  
Survey of the physiological, behavioral, environmental, and economic parameters governing the culture of selected aquatic species. Included are techniques employed worldwide to produce aquatic products.  
**Prerequisite:** BIOL 1407.

BIOL 4371 Population Genetics  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to evolutionary processes and their genetic basis, this course focuses on theoretical and experimental approaches to the study of population genetics, quantitative genetics, evolutionary ecology, and molecular evolution.  
**Prerequisite:** BIOL 2416 and MATH 2413.

BIOL 4396 Directed Independent Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Research in areas of current interest. Written report required. May be repeated for a maximum of 6 semester hours.  
**Prerequisite:** BIOL 1407 and CHEM 1412.
BIOL 4399  Directed Independent Research
3-6 Semester Credit Hours (3-6 Lecture Hours)
Independent laboratory- or field-based research project on topic of
current interest. Project developed in conjunction with a faculty advisor.
Written report required. May be repeated once for a total of 6 semester
credit hours

BIOL 4405  Limnology
4 Semester Credit Hours (4 Lecture Hours)
The study of the functional relationships and productivity of aquatic
communities as they are affected by their physical, chemical, and biotic
environment. The influence of man's activities on these systems will be
the focus of the course.
Prerequisite: BIOL 3428.
Co-requisite: SMTE 0091.

BIOL 4406  Immunology
4 Semester Credit Hours (4 Lecture Hours)
An overview of immunology with emphasis on current knowledge of the
immune system. Detailed examination of the specific cells, cytokines,
antibodies, and molecules that comprise the immune system. Laboratory
demonstrates the basic principles and techniques used in
immunologic studies. Cross listed with BIMS 4406.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

BIOL 4408  Microbial Diversity and Ecology
4 Semester Credit Hours (4 Lecture Hours)
Biodiversity and roles of microorganisms in natural environments.
Interactions with other micro- and macro-organisms (humans, animals
and plants) and with abiotic factors. Unique abilities of microorganisms
such as nitrogen fixation and adaptation to extreme environments.
Prerequisite: (BIOL 2421 or 4328).
Co-requisite: SMTE 0092.

BIOL 4410  Mammalogy
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics and ecology of mammals. Offered in even Fall semesters.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4411  Animal Behavior
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An understanding of why animals behave in the manner they do, through
examination of both invertebrate and vertebrate species.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4413 Entomology
4 Semester Credit Hours (4 Lecture Hours)
A broad overview of the natural history, classification, phylogeny, ecology,
behavior, development and physiology of insects and their kin. The lab
will involve field work, collection and curation.
Prerequisite: BIOL 3413.
Co-requisite: SMTE 0091.

BIOL 4417 Field Biology
4 Semester Credit Hours (1 Lecture Hour, 6 Lab Hours)
is a hands-on course designed to teach students key concepts by
immersing them in nature. Topics include adaptations of plants and
animals in different habitats, food web interactions, and how biotic and
abiotic forces interact to structure natural communities including spatial
and temporal variation in communities.
Prerequisite: BIOL 3428.
Co-requisite: SMTE 0091.

BIOL 4422 Plant Taxonomy
4 Semester Credit Hours (4 Lecture Hours)
Principles and practice in the classification of flowering plants. Field trips
are required.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4425 Ornithology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics, anatomy, physiology, ecology, behavior, and field
identification of birds. Offered in odd Fall semester.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4429 Marine Botany
4 Semester Credit Hours (4 Lecture Hours)
The ecology of marine plants with emphasis on identification, life
histories, and environmental factors of distribution.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4430 Marine Plankton
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
In this class we will investigate the systematics, distribution, and ecology
of major marine plankton groups and introduce major concepts in
biological oceanography. Offered in Spring of odd-numbered years.

BIOL 4432 Ichthyology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics, evolution, biology, and ecology of fishes. Laboratory
identification of marine and freshwater fishes collected during field
excursions.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4433 Parasitology
4 Semester Credit Hours (4 Lecture Hours)
An introduction to parasitology with emphasis on internal parasites
and appropriate references to human endoparasites and parasites of
veterinary importance.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

BIOL 4435 Biological Microtechniques
4 Semester Credit Hours (4 Lecture Hours)
Theory and techniques of processing specimens for histochemistry and
microscopic examination. Laboratory includes preparation of tissues and
small specimens for analysis and display.
Prerequisite: BIOL 1407 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 4442 Herpetology
4 Semester Credit Hours (4 Lecture Hours)
Systematics, ecology, and behavior of amphibians and reptiles.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4444 Estuarine Organisms
4 Semester Credit Hours (4 Lecture Hours)
Systematics, distribution, and ecology of estuarine macrofauna and
macroflora. Weekend field trips and individual study required.
Prerequisite: BIOL 3413.
Co-requisite: SMTE 0091.
Chemistry, BS - Grades 7-12 Physical Science Education Concentration

Program Description

Introduction

The College of Science and Engineering is committed to the support of students seeking to become science, mathematics and technology educators at all levels. The Science, Mathematics and Technology Education (SMTE) program offers content courses for students seeking K-12 science, mathematics and technology education. SMTE classes are also an integral part of the course work for degrees preparing students for Teacher Certifications. The SMTE program does not offer a degree; rather, degrees leading to Teacher Certification are offered by other Science and Engineering programs and by the College of Education and Human Development. Students seeking to teach in the elementary and secondary schools of Texas must meet degree requirements as well as certification requirements. The requirements and procedure to become a science, mathematics or technology teacher in Texas are outlined below. Undergraduate students who are graduating from the College of Science & Engineering or the College of Liberal Arts who are seeking initial teacher certification at the 4-8, 7-12 and EC-12 levels prior to graduation, automatically qualify for the Minor in Education.

How to Become a Science, Mathematics or Technology Teacher in Texas

In order to be recommended for teacher certification at this university, a candidate must fulfill three basic requirements:

1. have a bachelor's degree from an accredited college or university that includes an academic major and teacher training courses,
2. complete teacher training through an approved program, and
3. successfully complete the appropriate teacher certification tests for the subject and grade level that the candidate wishes to teach.

Additional information on the requirements to become a teacher in Texas can be obtained at the State Board of Educator Certification (SBEC) website: http://www.sbec.state.tx.us/SBECOnline/certinfo/becometeacher.asp. This website also provides information on the resources available to help students pay for a teacher training program.

SBEC has approved three levels of teacher certification for regular educators:

1. Early childhood to grade 6 which includes foundation subjects and enrichment areas such as art, PE, and music,
2. Grade 4-8 which includes the foundation areas only, and
3. Grade 7-12 certification.

Students can find information on the different certifications at the official Texas Examinations of Educator Standards (TExES) Web site: http://www.texas.ets.org. Texas A&M University-Corpus Christi offers several degrees leading to a number of these teacher certifications. The College of Education and Human Development offers several degrees leading to teacher certification. The College of Science and Engineering offers bachelor’s degrees leading to teacher certification in the sciences, mathematics and technology at the 4-8 and the 7-12 levels:

- Biology, BS - Grades 7-12 Life Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/biology-bs-grades-7-12-life-science-education-concentration/) (120-122 sem. hrs.)
- Chemistry, BS - Grades 7-12 Physical Science Education Concentration (126-128 sem. hrs.) Details immediately follow below.
- Environmental Science, BS - Grades 4-8 Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/environmental-science-bs-grades-4-8-science-education-concentration/) (125-130 sem. hrs.)
- Elementary Education, BS - Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/) (College of Education and Human Development)
- Mathematics, BS - Grades 7-12 Mathematics Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/mathematics-bs-grades-7-12-education-concentration/) (120 sem. hrs.)

Mathematics 7-12 teacher certification is also possible with an undergraduate major other than mathematics. Details can be found in the Mathematics, Grades 7-12 Teacher Certification Without a Mathematics Major (p. 476) section.

BIOL 4446 Tropical Ecosystems & Conservation
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Survey of the ecology and conservation issues of the major ecosystems in the tropics and field techniques used to study tropical forest ecology.
Prerequisite: BIOL 3428.
Co-requisite: SMTE 0091.

BIOL 4452 Ecology and Evolution of Fishes
4 Semester Credit Hours (3 Lecture Hours, 4 Lab Hours)
This course covers aspects of fish ecology from individual, population, community, and ecosystem levels. We discuss the role of the environment on fish physiology and behavior, food-web dynamics, community assembly and diversity, ecosystem interactions, and anthropogenic impacts on fishes with a focus on conservation.
Prerequisite: BIOL 4432.
Co-requisite: SMTE 0091.

BIOL 4547 Marine Science Field Camp
5 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
Students learn techniques required to properly conduct marine science field research. Practical, hands-on experience is gained in a variety of topics including biotic and abiotic sample collection and processing, quantitative analysis of field data, evaluation of environmental factors, survival and distribution of living organisms, and the structure of biotic communities.

BIOL 4590 Selected Topics
5 Semester Credit Hours (5 Lecture Hours)
Variable content. May be repeated for credit.

BIOL 4598 Biology Internship
2-6 Semester Credit Hours
Two to six semester credit hours may be earned by working in an internship position in a governmental agency, private industry, or other appropriate venue.

BIOL 4609 Field and Sampling Techniques
3,9 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
The study of techniques required for proper field work in the biological sciences. The course includes ecological sampling methods, safety, logistics, equipment operation and maintenance and travel concerns.
Co-requisite: SMTE 0091.

Chemistry, BS - Grades 7-12 Physical Science Education Concentration

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In order to be recommended for teacher certification at this university, a candidate must fulfill three basic requirements:

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- Chemistry, BS - Grades 7-12 Physical Science Education Concentration (126-128 sem. hrs.) Details immediately follow below.
- Environmental Science, BS - Grades 4-8 Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/environmental-science-bs-grades-4-8-science-education-concentration/) (125-130 sem. hrs.)
- Elementary Education, BS - Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/) (College of Education and Human Development)
- Mathematics, BS - Grades 7-12 Mathematics Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/mathematics-bs-grades-7-12-education-concentration/) (120 sem. hrs.)

Mathematics 7-12 teacher certification is also possible with an undergraduate major other than mathematics. Details can be found in the Mathematics, Grades 7-12 Teacher Certification Without a Mathematics Major (p. 476) section.
The individual programs, Biology, Chemistry, Computer Science, Environmental Science, and Mathematics offer these degrees and courses.

Students seeking Teacher Certification are also strongly urged to contact the Certification Officer in the College of Education and Human Development about current requirements and procedures that must be met to obtain the certificate. In particular, students following a degree plan leading to teacher certification must be admitted to the Teacher Education Program at Texas A&M University-Corpus Christi prior to enrolling in any 4000 level EDCI or EDUC courses. Application forms for admission to the teacher education program may be obtained from the Undergraduate or Certification Office, room FC 201. The students are referred to the College of Education and Human Development section of this catalog for more information on the Teacher Education Program.

Grade Point Average for Admission to Teacher Education
A minimum grade point average of 2.75 (4.0 = A) in all work attempted, a minimum grade point average of 2.75 in all science, math, or specialization areas, and no grade below "C" in any science or mathematics course on a student’s degree plan and/or education courses within the professional block of courses are required. (See College of Education and Human Development, "Admission to Teacher Education” and “Admission to Student Teaching” for other requirements.)

Alteration of a Certification Plan
Any amendment to a degree plan originally filed must be approved by the student’s academic advisor, the Department Chair, the Dean of the College of Science and Engineering, and the Certification Officer of the College of Education and Human Development for the degree to be granted.

General Requirements
The Bachelor of Science degree in Chemistry with a Physical Science Education concentration is designed for those planning to teach chemistry or physics at the 7-12 level, or who need chemical knowledge and skills relevant to future studies in the sciences. The BS in Chemistry requires at least 120 semester hours with a university required 45 upper-division hours. Students may have to take additional hours to meet university general education requirements such as First-Year Seminar courses. The degree requirements for the physical science education concentration are as follows:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
</tr>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>Special Foundations Courses</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry Major Requirements</td>
<td>46</td>
</tr>
<tr>
<td>Electives</td>
<td>11</td>
</tr>
<tr>
<td>Professional Development and</td>
<td>27</td>
</tr>
<tr>
<td>Reading Sequence</td>
<td>130-132</td>
</tr>
</tbody>
</table>

- Full-time, first time in college students are required to take the first-year seminars.
  - UNIV 1101 First-Year Seminar I (1 sch)
  - UNIV 1102 First-Year Seminar II (1 sch)

### Program Requirements

#### Full-time, First-year Students

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I ^</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II ^</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Core Curriculum Program

| University Core Curriculum                                                                 | 42 |

Students choosing a physical science education concentration must take THE FOLLOWING as part of their core curriculum requirements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td></td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td></td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I</td>
<td></td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II</td>
<td></td>
</tr>
<tr>
<td>PSYC 2301</td>
<td>General Psychology</td>
<td></td>
</tr>
</tbody>
</table>

#### Special Foundations for Physical Science Education Concentration

| PHYS 2425 | University Physics I (included in University Core) ^ | 2 |
| PHYS 2426 | University Physics II (included in University Core) ^ | 2 |
| MATH 2413 | Calculus I (included in University Core) ^         | 2 |
| MATH 2414 | Calculus II (included in University Core) ^         | 2 |
| MATH 3315 | Differential Equations                       | 3   |

#### Chemistry Major for Physical Science Education Concentration

| CHEM 1411 | General Chemistry I ^                     | 4   |
| CHEM 1412 | General Chemistry II                      | 4   |
| CHEM 3411 | Organic Chemistry I                       | 4   |
| CHEM 3412 | Organic Chemistry II                      | 4   |
| CHEM 3417 | Quantitative Analysis                     | 4   |
| CHEM 3418 | Instrumental Analysis                     | 4   |
| CHEM 4401 | Biochemistry I                             | 4   |
| CHEM 4443 | Environmental Chemistry                   | 4   |
| CHEM 4423 | Physical Chemistry I                      | 4   |
| PHYS 3334 | Modern Physics I ^                        | 3   |
| SMTE 4217 | Secondary Approaches to the Life Sciences | 2   |
| SMTE 4270 | Science Education Topics I ^              | 2   |
| SMTE 4320 | Secondary Science Laboratory Techniques   | 3   |

#### Electives

| BIOL 1406 | Biology I                                | 4   |
| BIOL 1407 | Biology II                               | 4   |

One 3 hour English course 2000-level or higher ^

#### Professional Development Sequence

**Preliminary Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>READ 3353</td>
<td>Content Area Reading for Secondary Students ^</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3311</td>
<td>School and Society ^</td>
<td>3</td>
</tr>
</tbody>
</table>

**Field-Based Semester**

| EDUC 4605 | Planning, Teaching, Assessment and Technology | 6 |
| EDUC 4321 | Instructional Design for Special Populations | 3 |

**Student Teaching Semester**

| EDUC 4311 | Classroom Management                       | 3 |
| EDUC 4995 | Clinical Teaching                          | 9 |

**Total Hours** 131
1. Students entering with some college credit may not be required to take one or both of the First-Year Seminar courses (see the “First-Year Seminar” section of the Core Curriculum Program for rules and exceptions concerning these courses).
2. Fifteen of these hours are used to fulfill the University Core Curriculum science and mathematics requirements.
3. To become certified to teach, a total of 9 sem. hrs. of English are required. Six of these hours are taken in the University Core Curriculum Program: ENGL 1302 Writing and Rhetoric (3 sch) and the required 3 sem. hr. literature course (ENGL 2316 Literature and Culture (3 sch), ENGL 2332 Literature of the Western World: From the Classics to the Renaissance (3 sch), or ENGL 2333 Literature of the Western World: From the Enlightenment to the Present (3 sch) - see above). The Texas Education Agency also requires one additional 3 semester credit hour English course (2000-level or higher) to meet certification requirements.

* Online offering
^ Blended offering

**Professional Development Sequence**

Students who seek an 7-12 level Physical Science teaching certificate should contact a Certification Officer in the College of Education and Human Development about requirements and procedures that must be met to obtain the certificate. The professional development sequence must be taken in a specific order and it is recommended that students contact the College of Education and Human Development early in their academic careers for specific details on these courses.

**Courses**

**CHEM 1305** Introductory Chemistry  
3 Semester Credit Hours (3 Lecture Hours)  
A one-semester principles course for students in non-science related majors covering the major concepts of chemistry (atomic structure, bonding, stoichiometry, elementary thermodynamics) and the role of chemistry in contemporary society (polymers, energy, pollution, etc.). Will not substitute for CHEM 1411.  
TCCNS: CHEM 1305

**CHEM 1411** General Chemistry I  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
The foundation course in chemistry. Stoichiometry, chemical equilibria, atomic structure, chemical bonding, periodic properties, thermodynamics, chemical kinetics, and descriptive chemistry of the elements. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum. Either CHEM 1305 - Introductory Chemistry or CHEM 1411, but not both, may be applied towards the core requirement. This course is offered in Fall, Spring and typically during both Summer sessions.  
Co-requisite: SMTE 0093.  
TCCNS: CHEM 1411

**CHEM 1412** General Chemistry II  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
The continuation of CHEM 1411 - General Chemistry I*, the foundation course in chemistry with emphasis on quantitative aspects. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum.  
Prerequisite: CHEM 1411 and MATH 1314.  
Co-requisite: SMTE 0093.  
TCCNS: CHEM 1412

**CHEM 2490** Special Topics  
4 Semester Credit Hours (1-4 Lecture Hours, 3 Lab Hours)  
May be repeated for credit. Subject materials variable. Offered on sufficient demand.

**CHEM 3411** Organic Chemistry I  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
The structure, nomenclature, synthesis, reactions, and reaction mechanisms of the principal classes of organic compounds. Stereochemistry and spectroscopy of organic compounds. Laboratory involves separation and synthetic techniques and development of basic skills. This course is offered in Fall, Spring and typically during the Summer I session.  
Prerequisite: CHEM 1411.  
Co-requisite: SMTE 0093.

**CHEM 3412** Organic Chemistry II  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
A continuation of CHEM 3411 . The course concludes with a survey of the structures of biomolecules. Laboratory involves spectroscopy and qualitative analysis techniques. This course is offered in Fall, Spring and typically during the Summer II session.  
Prerequisite: CHEM 3411.  
Co-requisite: SMTE 0093.

**CHEM 3417** Quantitative Analysis  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
A course in quantitative analysis, which includes chemical statistics and the use of acid-base, complexation, precipitation, and redox reactions to perform analyses and separations. Laboratory includes standard volumetric and gravimetric methods and development of basic quantitative techniques. This course is typically offered in Spring.  
Prerequisite: CHEM 1412.  
Co-requisite: SMTE 0093.

**CHEM 3418** Instrumental Analysis  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
An introduction to instrumental methods of analysis: spectroscopy, chromatography, and electrochemical methods. Laboratory involves use of instrumentation in chemical analysis. This course is typically offered in Fall and Spring.  
Prerequisite: CHEM 1412.  
Co-requisite: SMTE 0093.

**CHEM 4085** Major Field Test in Chemistry  
0 Semester Credit Hours  
The Major Field Test (MFT) in Chemistry is a national examination given in the Fall and Spring semesters only. It is a graduation requirement for all Chemistry students. Students enroll in this course during the semester that they plan to take the MFT. There is no cost to the student for either this course or for the MFT.

**CHEM 4292** Senior Chemistry Seminar  
2 Semester Credit Hours (2 Lecture Hours)  
Presentation and discussion of selected topics in chemistry. Includes literature searches and reviews, paper presentations, survey of professional opportunities and requirements, career guidance and job searching skills.
CHEM 4320  Drugs, Toxins and Natural Products Chemistry
3 Semester Credit Hours (3 Lecture Hours)
The chemistry and biological activity of pharmaceuticals, toxins and
selected natural products. Examines how chemical structure relates to
biological activity. Also examines action of antibiotics, chemotherapy
agents, analgesics, steroids, and compounds targeting the central and
peripheral nervous system. This course is typically offered in Fall and
Spring.
Prerequisite: CHEM 4401.

CHEM 4344  Chemical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
The study of the oceans and seas as a chemical system, including
interactions with both the biota and the solid earth. This course is
typically offered in Spring.
Prerequisite: CHEM 1412.

CHEM 4350  Polymer Chemistry
3 Semester Credit Hours (3 Lecture Hours)
An advanced lecture course in organic chemistry. Characterization of
polymers. Polymerization mechanisms. Current research directions such
as biomedical applications and electroactive polymers. This course is
offered on an irregular basis.
Prerequisite: CHEM 3412.

CHEM 4401  Biochemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The structure and function of carbohydrates, lipids, proteins, and nucleic
acids. An introduction to enzyme kinetics, cell membrane structure and
biochemical signaling. Laboratory exercises demonstrate the basic
principles and techniques used in Biochemistry. This course is typically
offered in Fall, Spring and Summer.
Prerequisite: CHEM 3412 and (BIOL 1406 and 1407).
Co-requisite: SMTE 0093.

CHEM 4402  Biochemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 4401. Biochemical energetics, including
glycolysis, fatty acid oxidation, amino acid oxidation, citric acid cycle,
oxidative phosphorylation, photophosphorylation and photosynthesis.
Carbohydrate, fatty acid and amino acid biosynthesis. Laboratory is a
continuation of biochemical techniques. This course is typically offered
in Fall and Spring.
Prerequisite: CHEM 4401.
Co-requisite: SMTE 0093.

CHEM 4407  Advanced Inorganic Chemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A survey of inorganic chemistry. Theories of atomic structure, covalent
bonding, ionic solids, metallic solids, and coordination compounds.
Modern acid?base concepts. Laboratory involves the synthesis of
inorganic compounds.
Prerequisite: CHEM 3412.
Co-requisite: SMTE 0093.

CHEM 4420  Physical Biochemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A fundamental approach to the study of physical and chemical
phenomena, including the study of thermodynamics, gases and phase
equilibria. This course is typically offered on an irregular basis.
Prerequisite: CHEM 1412 and (PHYS 1402 or 2426) and MATH 2414.
Co-requisite: SMTE 0093.

CHEM 4423  Physical Chemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A fundamental approach to the study of physical and chemical
phenomena, including the study of thermodynamics, gases and phase
equilibria. This course is typically offered in Fall.
Prerequisite: CHEM 1412 and (PHYS 1402 or 2426) and MATH 2414.
Co-requisite: SMTE 0093.

CHEM 4424  Physical Chemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 4423, including the study of chemical kinetics,
electrochemistry, molecular structure, and quantum mechanics. This
course is typically offered in Spring.
Prerequisite: CHEM 4423.
Co-requisite: SMTE 0093.

CHEM 4443  Environmental Chemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A study of the impact of chemistry on the environment, including
topics of air pollution, water pollution, and beneficial chemical
modifications of the environment. Laboratory devoted to field techniques
of sampling, sample preservation, and analytical techniques applied to
the environment. This course is typically offered in Spring.
Prerequisite: CHEM 1412 and 3411.
Co-requisite: SMTE 0093.

CHEM 4490  Special Topics
4 Semester Credit Hours (1 Lecture Hour, 3 Lab Hours)
May be repeated for credit. Subject materials variable.

CHEM 4696  Directed Independent Study
1-6 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of
registration, to be approved by the supervising faculty, the chairperson
and the dean of the College.

Environmental Science, BS - Grades
4-8 Science Education Concentration

Program Description

Introduction
The College of Science and Engineering is committed to the support
of students seeking to become science, mathematics and technology
educators at all levels. The Science, Mathematics and Technology
Education (SMTE) program offers content courses for students seeking
K-12 science, mathematics and technology education. SMTE classes are
also an integral part of the course work for degrees preparing students
for Teacher Certifications. The SMTE program does not offer a degree;
rather, degrees leading to Teacher Certification are offered by other
Science and Technology programs and by the College of Education
and Human Development. Students seeking to teach in the elementary
and secondary schools of Texas must meet degree requirements as well as
certification requirements. The requirements and procedure to become
a science, mathematics or technology teacher in Texas are outlined
below. Undergraduate students who are graduating from the College
of Science & Engineering or the College of Liberal Arts who are seeking
initial teacher certification at the 4-8, 7-12 and EC-12 levels prior to
graduation, automatically qualify for the Minor in Education.
How to Become a Science, Mathematics or Technology Teacher in Texas

In order to be recommended for teacher certification at this university, a candidate must fulfill three basic requirements:

1. have a bachelor's degree from an accredited college or university that includes an academic major and teacher training courses,
2. complete teacher training through an approved program, and
3. successfully complete the appropriate teacher certification tests for the subject and grade level that the candidate wishes to teach.

Additional information on the requirements to become a teacher in Texas can be obtained at the State Board of Educator Certification (SBEC) website: http://www.sbec.state.tx.us/SBECOnline/certinfo/becometeacher.asp. This website also provides information on the resources available to help students pay for a teacher training program.

SBEC has approved three levels of teacher certification for regular educators:

1. Early childhood to grade 6 which includes foundation subjects and enrichment areas such as art, PE, and music,
2. Grade 4-8 which includes the foundation areas only, and
3. Grade 7-12 certification.

Students can find information on the different certifications at the official Texas Examinations of Educator Standards (TExES) Web site: http://www.texas.ets.org. Texas A&M University-Corpus Christi offers several bachelor's degrees leading to teacher certification in the sciences, mathematics and technology at the 4-8 and the 7-12 levels. These bachelor's degrees are the following:

- Biology, BS - Grades 7-12 Life Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/biology-bs-grades-7-12-life-science-education-concentration/) (120-122 sem. hrs.)
- Chemistry, BS - Grades 7-12 Physical Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/chemistry-bs-grades-7-12-physical-science-education-concentration/) (126-128 sem. hrs.)
- Environmental Science, BS - Grades 4-8 Science Education Concentration (125-130 sem. hrs.) Details immediately follow below.
- Elementary Education, BS - Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/) (College of Education and Human Development)
- Mathematics, BS - Grades 7-12 Mathematics Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/mathematics-bs-grades-7-12-education-concentration/) (120 sem. hrs.)

Mathematics 7-12 teacher certification is also possible with an undergraduate major other than mathematics. Details can be found in the Mathematics, Grades 7-12 Teacher Certification Without a Mathematics Major (p. 476) section.

The individual programs, Biology, Chemistry, Environmental Science, and Mathematics offer these degrees and courses.

Students seeking Teacher Certification are also strongly urged to contact the Certification Officer in the College of Education and Human Development about current requirements and procedures that must be met to obtain the certificate. In particular, students following a degree plan leading to teacher certification must be admitted to the Teacher Education Program at Texas A&M University-Corpus Christi prior to enrolling in any 4000 level EDCI or EDUC courses. Application forms for admission to the teacher education program may be obtained from the Undergraduate or Certification Office, room FC 201. The students are referred to the College of Education and Human Development section of this catalog for more information on the Teacher Education Program.

Grade Point Average for Admission to Teacher Education

A minimum grade point average of 2.75 (4.0 = A) in all work attempted, a minimum grade point average of 2.75 in all science, math, or specialization areas, and no grade below "C" in any science or mathematics course on a student's degree plan and/or education courses within the professional block of courses are required. (See College of Education and Human Development, “Admission to Teacher Education” and “Admission to Student Teaching” for other requirements.)

Alteration of a Certification Plan

Any amendment to a degree plan originally filed must be approved by the student’s academic advisor, the Department Chair, the Dean of the College of Science and Engineering, and the Certification Officer of the College of Education and Human Development for the degree to be granted.

General Requirements

The minimum requirement for a Bachelor of Science Degree in Environmental Science with a science education concentration is a total of 120 hours. The concentration is designed for those students who plan on obtaining a 4-8 Science certificate. The degree requirements are divided among the following areas:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
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<tr>
<td>First-Year Seminars (when applicable)</td>
<td>0-2</td>
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<tr>
<td>Science Content Courses</td>
<td>38</td>
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<tr>
<td>Mathematics Courses</td>
<td>3</td>
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<tr>
<td>Professional Development and Reading Sequence</td>
<td>30</td>
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<tr>
<td>Electives as Required</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>120-122</strong></td>
</tr>
</tbody>
</table>

1. Full-time, first time in college students are required to take the first-year seminars.
   - UNIV 1101 First-Year Seminar I (1 sch)
   - UNIV 1102 First-Year Seminar II (1 sch)

<table>
<thead>
<tr>
<th>Program Requirements</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Code</td>
<td>Title</td>
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<tr>
<td><strong>Full-time, First-year Students</strong></td>
<td></td>
</tr>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I</td>
</tr>
</tbody>
</table>

|
UNIV 1102 First-Year Seminar II * 1

Core Curriculum Program
University Core Curriculum 42
Science Education Concentration must take:
MATH 1442 Statistics for Life 
BIOL 1406 Biology I
CHEM 1411 General Chemistry I *
ESCI 1401 Environmental Science I: Intro to Environmental Science
PSYC 2301 General Psychology

Science Content Courses
PHYS 1304 Introduction to Astronomy: Solar System 3
BIOL 1406 Biology I (included in University Core) 1
BIOL 1407 Biology II 4
CHEM 1411 General Chemistry I (included in University Core) 1
ESCI 1401 Environmental Science I: Intro to Environmental Science (included in University Core) 1
ESCI 4202 Issues in Environmental Science 2
GEOL 1403 Physical Geology 4
GEOL 1404 Historical Geology 4
PHYS 1401 General Physics I 4
SMTE 4217 Secondary Approaches to the Life Sciences 2
SMTE 4270 Science Education Topics I * 2
SMTE 4320 Secondary Science Laboratory Techniques 3
ESCI 3351 Oceanography 3
or ESCI 3403 Introduction to Meteorology
SMTE 3315 Foundational Approaches to the Physical Sciences 3-4
or PHYS 1402 General Physics II

Select one of the following: 2-4
ESCI 3443 Environmental Biology
CHEM 4443 Environmental Chemistry
ESCI 3351 Oceanography
ESCI 3403 Introduction to Meteorology
ESCI 4230 Oil Spill Prevention and Response Theory
ESCI 4335 Climate and Climate Variability
ESCI 4360 Physical Oceanography
GEOL 3443 Environmental Geology

Mathematics Courses
MATH 1442 Statistics for Life (included in University Core) **

Select one of the following: 3
MATH 1316 Trigonometry
MATH 2312 Precalculus
MATH 2413 Calculus I

Professional Development Sequence

Preliminary Courses
EDUC 3311 School and Society * 3
READ 3320 Principles and Practices of Reading Instruction 3
READ 3351 Reading Assessment and Intervention 3

Field-Based Semester
EDUC 4605 Planning, Teaching, Assessment and Technology 6
EDUC 4321 Instructional Design for Special Populations 3

Student Teaching Semester
EDUC 4995 Clinical Teaching 9
EDUC 4311 Classroom Management 3

Electives as Required
Electives as needed to fulfill university graduation requirements 7

Total Hours 121-124

* Only BIOL 1406 Biology I (4 sch) (4 hours), CHEM 1411 General Chemistry I (4 sch) (4 hours) and ESCI 1401 Environmental Science I: Intro to Environmental Science (4 sch) (3 hours) are counted in the University Core. The 1-hour laboratory component of ESCI 1401 Environmental Science I: Intro to Environmental Science (4 sch) will be counted in the major requirements rather than the University Core.

** Blended offering

Professional Development Sequence
Students who seek a 4-8 level Science teaching certificate should contact a Certification Officer in the College of Education and Human Development about requirements and procedures that must be met to obtain the certificate. The professional development sequence must be taken in a specific order and it is recommended that students contact the College of Education and Human Development early in their academic careers for specific details on these courses.

Courses
ESCI 1401 Environmental Science I: Intro to Environmental Science 4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Principles of the scientific method and critical thinking provide a foundation for subsequent consideration of environmental issues through a multidisciplinary approach. Laboratory exercises and local field experiences reinforce concepts introduced in the lectures. Fall, Spring.
Co-requisite: ESCI 0096.

ESCI 1490 Selected Topics 1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject materials variable. May be repeated for credit when topics are significantly different. Faculty approval required. Offered on sufficient demand.
ESCI 3202 Professional Skills 2 Semester Credit Hours (2 Lecture Hours)
Presentation and discussion of selected topics relating to the professional skills of practicing environmental scientists including literature searches, reviews, paper presentation, professional and career opportunities, professional ethics. Fall, Spring.

ESCI 3351 Oceanography 3 Semester Credit Hours (3 Lecture Hours)
Methods and principles of oceanography. A survey of oceanography with emphasis placed on the physical processes affecting water and water masses of the world oceans. Fall (on sufficient demand), Spring.
Prerequisite: CHEM 1412, ESCI 1401 or GEOL 1403.

ESCI 3403 Introduction to Meteorology 4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course is an introduction to meteorology and the dynamics of planetary atmospheres. Emphasis on atmospheric accretion, composition, evolution, structure, and dynamics. Lab exercises cover basic measurement techniques, weather maps, and forecasting. Fall, Spring (on sufficient demand).
Co-requisite: ESCI 0096.
ESCI 4433 Environmental Biology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Historical, contemporary, and projected concerns of human activities on biological aspects of ecosystem functioning.
Prerequisite: BIOL 1407.
ESCI 4130 Oil Spill Prevention and Response Lab
1 Semester Credit Hour (2 Lab Hours)
Practical techniques for control, containment, countermeasures, removal, and disposal of oil spills in an environmentally safe manner. Field exercises will include use of boats, booms and skimmers. Fall, Spring, Summer (on sufficient demand).
Prerequisite: ESCI 4270.
ESCI 4270 Hazardous Waste Operations and Emergency Response Lab
1 Semester Credit Hour (2 Lab Hours)
Practical techniques for handling, reducing, and disposing of hazardous wastes in an environmentally safe manner. Lab exercises in use of personal protective gear and safe handling of hazardous substances. Fall, Spring, Summer (on sufficient demand).
Prerequisite: ESCI 4270, SMTE 0096.
ESCI 4201 Scientific Diving Techniques
2 Semester Credit Hours (2 Lecture Hours)
Theory, science, and art of underwater diving technology and its application to scientific objectives. Course helps fulfill some training requirements of the Texas A&M University-Corpus Christi Guidelines for scientific diving.
ESCI 4202 Issues in Environmental Science
2 Semester Credit Hours (2 Lecture Hours)
Exploration of major issues in environmental science posing past, present and future challenges. Selected readings, student presentations and papers.
Prerequisite: ESCI 1401.
ESCI 4230 Oil Spill Prevention and Response Theory
2 Semester Credit Hours (2 Lecture Hours)
Historical perspective of laws and regulations governing oil spill prevention and response. Current methods for control, containment, countermeasures, removal, and disposal of oil spills in an environmentally safe manner. Fall, Spring, Summer (on sufficient demand).
Co-requisite: ESCI 4130.
ESCI 4270 Hazardous Waste Operations and Emergency Response Theory
2 Semester Credit Hours (2 Lecture Hours)
Study of the laws and regulations of hazardous waste management from an historical perspective followed by current techniques for handling, reducing, and disposing of hazardous wastes in an environmentally safe manner. Fall, Spring, Summer (on sufficient demand).
Co-requisite: ESCI 4230.
ESCI 4301 Environmental Regulations
3 Semester Credit Hours (3 Lecture Hours)
A survey of state and federal environmental laws and regulations, and their impact on the environment. Case studies of environmental issues and legislated regulations.
Prerequisite: POLS 2305 and 2306.
ESCI 4320 Environmental Health
3 Semester Credit Hours (3 Lecture Hours)
Overview of the toxicology and epidemiology of pollutants in the air, water and soil. Associations of environmental exposure with adverse health effects such as cancer, cardiovascular disease, and reproductive outcomes; also chemical markers and symptoms of disease. Pollutants studied include lead, asbestos, radiation, radon, noise, metals, halogenated hydrocarbons, aromatic hydrocarbons, silica, indoor air quality, formaldehyde, and outdoor air pollutants. Offered on sufficient demand.
ESCI 4321 Introduction to Soil and Groundwater Restoration
3 Semester Credit Hours (3 Lecture Hours)
Introduction to methods for restoring contaminated soil and groundwater by examining the factors and processes influencing the efficacy of remediation systems. An emphasis will be placed on the scientific principles upon which soil and groundwater remediation is based. Cross listed with GEOL 4321.
ESCI 4322 Introduction to Industrial Hygiene
3 Semester Credit Hours (3 Lecture Hours)
Introduction to health protection practices in the industrial environment. Health basis for OSHA laws, regulations. Sampling and testing procedures.
ESCI 4324 Introduction to Industrial Toxicology
3 Semester Credit Hours (3 Lecture Hours)
Review of human physiology, general concepts of toxicology: dose-response relationship, interactions between the host and the agents, risk assessment, to provide an introductory understanding of toxicology related to the chemicals in the workplace.
ESCI 4332 Wetlands and Water Quality
3 Semester Credit Hours (3 Lecture Hours)
Introduction to wetland ecosystems (natural, constructed and restored) with an emphasis on the role of wetlands in water quality. Topics include wetland systems, their history and role in society, relationships between biology, geology, ecology, hydrology and chemistry in wetland environments.
Prerequisite: BIOL 3428 and CHEM 4443 or ESCI 3443.
ESCI 4335 Climate and Climate Variability
3 Semester Credit Hours (3 Lecture Hours)
Course intended to guide environmental science majors in developing a conceptual understanding of Earth’s global climate and its variability. Review of past climates, present mean state of the climate system, climate variability from seasonal to multidecadal time scales, and climate change. Special attention given to climates of the Gulf of Mexico, Caribbean Sea and surrounding land regions. Plausible climate-change scenarios, as well as mitigation and adaptation strategies are also discussed. Cross listed with ATSC 4335. Spring.
Prerequisite: (ESCI 3351 or 3403) and (PHYS 1401 or 2425).
ESCI 4340 Severe Weather
3 Semester Credit Hours (3 Lecture Hours)
Introduction to mesoscale weather systems including thunderstorms, squall lines and hurricanes, as well as the mechanisms of tornado and lightning. Methods of observing, analyzing, and predicting these severe weather systems with the interpretation of satellite and radar images will also be introduced in this class.
Prerequisite: ESCI 3403.
ESCI 4344  Air Pollution and the Clean Air Act
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the chemistry and physics of air pollution and regulations. Topics include photochemistry, acid rain, air pollution meteorology and dispersion, global change, and the Clean Air Act.

ESCI 4360  Physical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
Physical description of the sea, physical properties of seawater and sea ice, methods and measurements, wind-driven ocean circulation, thermohaline ocean circulation, boundary processes, waves, tides and mixing. Seasonal and interannual variability such as El Niño/Southern Oscillation phenomena. Implications for marine biology, marine geology, human impacts, other topics. Fall.
Prerequisite: PHYS 1401 or 2425.

ESCI 4365  Occupational Safety and Accident Prevention
3 Semester Credit Hours (3 Lecture Hours)
This course provides students with fundamental knowledge of regulatory requirements on occupational safety and practical techniques on accident prevention in the work environment. Offered on sufficient demand.

ESCI 4408  Environmental Microbiology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Relationships between microorganisms and their biotic and abiotic environment. Current topics such as air quality (i.e., molds), water quality and bioremediation will be discussed. Laboratory will include techniques for sampling from soil, air and water. Offered on sufficient demand.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0996.

ESCI 4480  Environmental Site Assessment
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Interdisciplinary application of environmental regulations, risk assessment to specific examples. Knowledge of United States environmental regulations assumed; ESCI 4301 Environmental Regulations recommended.

ESCI 4490  Selected Topics
4 Semester Credit Hours (4 Lecture Hours, 4 Lab Hours)
Subject materials variable. May be repeated for credit when topics are significantly different. Faculty approval required. Offered on sufficient demand.

ESCI 4496  Directed Independent Study
1-4 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College. Fall, Spring, Summer.

ESCI 4498  Internship in Environmental Science
1-4 Semester Credit Hours (4 Lecture Hours)
Two to four semester hours of credit may be earned by working in an internship position in a governmental agency or industry.

Mathematics, BS - Grades 7-12 Mathematics Education Concentration

Program Description
Introduction
The College of Science and Engineering is committed to the support of students seeking to become science, mathematics and technology educators at all levels. The Science, Mathematics and Technology Education (SMTE) program offers content courses for students seeking K-12 science, mathematics and technology education. SMTE classes are also an integral part of the course work for degrees preparing students for Teacher Certifications. The SMTE program does not offer a degree; rather, degrees leading to Teacher Certification are offered by other Science and Technology programs and by the College of Education and Human Development. Students seeking to teach in the elementary and secondary schools of Texas must meet degree requirements as well as certification requirements. The requirements and procedure to become a science, mathematics or technology teacher in Texas are outlined below. Undergraduate students who are graduating from the College of Science & Engineering or the College of Liberal Arts who are seeking initial teacher certification at the 4-8, 7-12 and EC-12 levels prior to graduation, automatically qualify for the Minor in Education.

How to Become a Science, Mathematics or Technology Teacher in Texas

In order to be recommended for teacher certification at this university, a candidate must fulfill three basic requirements:

1. have a bachelor's degree from an accredited college or university that includes an academic major and teacher training courses,
2. complete teacher training through an approved program, and
3. successfully complete the appropriate teacher certification tests for the subject and grade level that the candidate wishes to teach.

Additional information on the requirements to become a teacher in Texas can be obtained at the State Board of Educator Certification (SBEC) website: http://www.sbec.state.tx.us/SBECOnline/certinfo/becometeacher.asp. This website also provides information on the resources available to help students pay for a teacher training program.

SBEC has approved three levels of teacher certification for regular educators:

1. Early childhood to grade 6 which includes foundation subjects and enrichment areas such as art, PE, and music,
2. Grade 4-8 which includes the foundation areas only, and
3. Grade 7-12 certification.

Students can find information on the different certifications at the official Texas Examinations of Educator Standards (TExES) Web site: http://www.texes.ets.org. Texas A&M University-Corpus Christi offers several degrees leading to a number of these teacher certifications. The College of Education and Human Development offers several degrees leading to teacher certification. The College of Science and Engineering offers bachelor's degrees leading to teacher certification in the sciences, mathematics and technology at the 4-8 and the 7-12 levels:

- Biology, BS - Grades 7-12 Life Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/biology-bs-grades-7-12-life-science-education-concentration/) (120-122 sem. hrs.)
- Chemistry, BS - Grades 7-12 Physical Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/chemistry-bs-grades-7-12-physical-science-education-concentration/) (126-128 sem. hrs.)
- Environmental Science, BS - Grades 4-8 Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/environmental-science-bs-grades-4-8-science-education-concentration/) (125-130 sem. hrs.)
• Elementary Education, BS - Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/) (College of Education and Human Development)

• Mathematics, BS — Grades 7-12 Mathematics Education Concentration (120 sem. hrs.) Details immediately follow below.

Mathematics 7-12 teacher certification is also possible with an undergraduate major other than mathematics. Details can be found in the Mathematics, Grades 7-12 Teacher Certification Without a Mathematics Major (p. 476) section.

The individual programs, Biology, Chemistry, Environmental Science, and Mathematics offer these degrees and courses.

Students seeking Teacher Certification are also strongly urged to contact the Certification Officer in the College of Education and Human Development about current requirements and procedures that must be met to obtain the certificate. In particular, students following a degree plan leading to teacher certification must be admitted to the Teacher Education Program at Texas A&M University-Corpus Christi prior to enrolling in any 4000 level EDCI or EDUC courses. Application forms for admission to the teacher education program may be obtained from the Undergraduate or Certification Office, room FC 201. The students are referred to the College of Education and Human Development section of this catalog for more information on the Teacher Education Program.

Grade Point Average for Admission to Teacher Education
A minimum grade point average of 2.75 (4.0 = A) in all work attempted, a minimum grade point average of 2.75 in all science, math, or specialization areas, and no grade below "C" in any science or mathematics course on a student’s degree plan and/or education courses within the professional block of courses are required. (See College of Education and Human Development, "Admission to Teacher Education" and "Admission to Student Teaching" for other requirements.)

Alteration of a Certification Plan
Any amendment to a degree plan originally filed must be approved by the student’s academic advisor, the Department Chair, the Dean of the College of Science and Engineering, and the Certification Officer of the College of Education and Human Development for the degree to be granted.

General Requirements
This plan is designed for those students who desire a Bachelor of Science Degree in Mathematics and a secondary teaching certificate in mathematics. The requirements for a Bachelor of Science in Mathematics degree are a minimum of 120 semester hours. Forty-two are designated University core curriculum courses; 38 are mathematics courses. All students must take the Major Field Test in Mathematics their senior year, prior to graduation.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Program (p. 556)</td>
<td>42</td>
</tr>
<tr>
<td>First-Year Seminars (when applicable)^1</td>
<td>0-2</td>
</tr>
<tr>
<td>Mathematics Core</td>
<td>33</td>
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<tr>
<td>Mathematics Electives</td>
<td>6</td>
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<tr>
<td>Supporting Courses</td>
<td>10</td>
</tr>
<tr>
<td>Psychology Course (hours counted in Core Curriculum Program)</td>
<td>(3)</td>
</tr>
</tbody>
</table>

Professional Development and Reading Sequence
Electives (as needed to fulfill University graduation requirements)

Total Credit Hours: 118-122

^ Full-time, first time in college students are required to take the first-year seminars.

1. • UNIV 1101 First-Year Seminar I (1 sch)
   • UNIV 1102 First-Year Seminar II (1 sch)

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
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</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
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</tr>
<tr>
<td></td>
<td>University Core Curriculum</td>
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<th>Hours</th>
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<tbody>
<tr>
<td>MATH 2413</td>
<td>Calculus I (1 hour laboratory component) 2,3</td>
<td>1</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3311</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3313</td>
<td>Foundations of Number Theory</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2415</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1330</td>
<td>Programming for Scientists, Engineers, and Mathematicians</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3315</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3312</td>
<td>College Geometry</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
<td>3</td>
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<tr>
<td>MATH 4315</td>
<td>Partial Differential Equations</td>
<td></td>
</tr>
<tr>
<td>MATH 4328</td>
<td>Discrete Mathematics II</td>
<td></td>
</tr>
<tr>
<td>MATH 4342</td>
<td>Introduction to Mathematical Statistics</td>
<td></td>
</tr>
<tr>
<td>SMTE 4370</td>
<td>Mathematics Education Topics I</td>
<td></td>
</tr>
<tr>
<td>COSC 1435</td>
<td>Introduction to Problem Solving with Computers I</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1436</td>
<td>INTRODUCTION TO PROBLEM SOLVING WITH COMPUTERS II</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 2301</td>
<td>General Psychology (hours counted in Core Curriculum Program)^2</td>
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Psychology

<table>
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<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1101</td>
<td>First-Year Seminar I *</td>
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</tr>
<tr>
<td>UNIV 1102</td>
<td>First-Year Seminar II *</td>
<td>1</td>
</tr>
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</table>

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<td>Linear Algebra</td>
<td>3</td>
</tr>
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<td>MATH 3313</td>
<td>Foundations of Number Theory</td>
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<td>MATH 2415</td>
<td>Calculus III</td>
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<td>COSC 1330</td>
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</tr>
<tr>
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<td>General Psychology (hours counted in Core Curriculum Program)^2</td>
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Professional Development and Reading Sequence

Preliminary Courses

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<tr>
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<td>READ 3353</td>
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</tr>
<tr>
<td>EDUC 3311</td>
<td>School and Society</td>
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Field-Based Semester

<table>
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<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>EDUC 4605</td>
<td>Planning, Teaching, Assessment and Technology</td>
<td>6</td>
</tr>
<tr>
<td>EDUC 4321</td>
<td>Instructional Design for Special Populations</td>
<td>3</td>
</tr>
</tbody>
</table>

Student Teaching Semester
Supporting Courses

Supporting courses are chosen to provide a context in which to apply mathematics, to provide important career skills for the mathematician, and to motivate many of the important problems studied in mathematics.

Professional Development and Reading Sequence

Students who seek a 7-12 level Mathematics teaching certificate should contact a Certification Officer in the College of Education and Human Development about requirements and procedures that must be met to obtain the certificate. The professional development sequence must be taken in a specific order and it is recommended that students contact the College of Education and Human Development early in their academic careers for specific details on these courses.

Courses

MATH 0099  Math Non-Course Based Development
0 Semester Credit Hours
Preparation workshop to help students achieve College Readiness in mathematics under the Texas Success Initiative. Topics include five general areas: fundamental mathematics, algebra, geometry, statistics, and problem solving.

MATH 0200  Brief Developmental Mathematics
1-2 Semester Credit Hours (1-2 Lecture Hours)
Topics as in MATH 0300. For students who have completed most topics in MATH 0300. Requires permission of MATH department. (Not counted toward graduation) Fall, Spring, Maymester, Summer.
Co-requisite: MATH 1314, MATH 1442.

MATH 0214  Brief Developmental Mathematics-Algebra
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1314. Support will focus on essential skills required for success in College Algebra (MATH 1314). Supporting topics include review of intermediate algebra, polynomial equations, graphing techniques, and applications. Course provides the necessary academic support for TSI liable students concurrently enrolled in MATH 1314 as the co-requisite with MATH 0214. Students who register for MATH 0214 must co-register in MATH 1314. Math 0214 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1314.

MATH 0224  Brief Developmental Mathematics-Business Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is the co-requisite course supporting for MATH 1324. Support will focus on essential skills required for success in Business Math (MATH 1324). Supporting topics include the use of calculators and technology. Topics focus on basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and financial management, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1324 as the co-requisite with MATH 0224. Students who register for MATH 0224 must co-register in MATH 1324. Math 0224 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1324.

MATH 0232  Brief Developmental Mathematics-Contemporary Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1332. Support will focus on essential skills required for success in Contemporary Mathematics (MATH 1332). Supporting topics include a basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and descriptive statistics, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1332 as the co-requisite with MATH 0232. Students who register for MATH 0232 must co-register in MATH 1332. Math 0232 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1332.

MATH 0242  Brief Developmental Mathematics-Statistics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1442. Support will focus on essential skills required for success in Statistics for Life (MATH 1442). Supporting topics include the use of calculators and technology. Topics focus on descriptive and inferential statistics, probabilities including notation, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1442 as the co-requisite with MATH 0242. Students who register for MATH 0242 must co-register in MATH 1442. Math 0242 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1442.

MATH 0300  Developmental Mathematics
3 Semester Credit Hours (3 Lecture Hours)
Topics include number concepts, computation, elementary algebra, geometry, and mathematical reasoning. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0310  Development Mathematics-Algebra
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
3 sem. hrs. (2:2) Topics include number concepts, computation, elementary algebra, and geometry. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0398  Introduction to Algebra
3 Semester Credit Hours (3 Lecture Hours)
Number concepts, computation, elementary algebra, geometry, and mathematical reasoning.
MATH 0399 Intermediate Algebra
3 Semester Credit Hours (3 Lecture Hours)
Topics include linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems.
Prerequisite: MATH 0398.

MATH 1314 College Algebra
3 Semester Credit Hours (3 Lecture Hours)
Quadratic equations, inequalities, graphs, logarithms and exponents, theory of polynomial equations, systems of equations.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT1 Math', MATH 0320 or minimum score of 350 in 'TSI Math'.
Co-requisite: MATH 0214.
TCCNS: MATH 1314

MATH 1316 Trigonometry
3 Semester Credit Hours (3 Lecture Hours)
Trigonometric functions, identities, equations involving trigonometric functions, solutions of right and oblique triangles.
Prerequisite: (MATH 1314, minimum score of 550 in 'SAT MATH SECTION' or minimum score of 21 in 'ACT1 Math') or minimum score of 21 in 'ACT Math'.
TCCNS: MATH 1316

MATH 1324 Mathematics for Business and Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will learn how the properties and language of mathematics can be used in business and real-world problem solving and understand the techniques and applications of finance problems, basic matrix operation, basic counting principles, and probability analysis in modeling real-world scenarios.
Prerequisite: minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
Co-requisite: MATH 0224.
TCCNS: MATH 1324

MATH 1325 Calculus for Business & Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will develop and combine the concepts in and relationships between Mathematics and Business from the fundamentals of calculus and optimization in all Business fields. Students are expected to learn the materials algebraically with technology. Students will combine the concepts of limits, continuation, differentiation and integration techniques to solve problems in business, economics, and social sciences.
Prerequisite: MATH 1324, minimum score of 550 in 'SAT Math', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 1325

MATH 1332 Contemporary Mathematics
3 Semester Credit Hours (3 Lecture Hours)
This course serves as a terminal course and supplies a brief overview of several topics in mathematics. Topics may include introductory treatments of sets, logic, number systems, number theory, relations, functions, probability and statistics. Appropriate applications are included. This course emphasizes using critical thinking to make decisions based on information.
Co-requisite: MATH 0232.
TCCNS: MATH 1332

MATH 1390 Introduction to Mathematical Topics
1-3 Semester Credit Hours (1-3 Lab Hours)
A course to introduce students to mathematical topics in a formal setting. The course may support problem solving, or systematic investigations of topics outside the current mathematical catalog. May not be substituted for regularly scheduled offerings.

MATH 1442 Statistics for Life
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
An introduction to statistical concepts and methods used in all disciplines to enhance decision making based on data analysis, including: basic experimental design models, measurement and data collection through sampling; display and summary of information, and assessment of relationship through descriptive techniques; probability concepts leading to estimation and hypothesis testing of means, variance and proportions, regression analysis, one-factor ANOVA and chi-square test of independence; and applications through case studies. The laboratory component of the course offers applications of the theory presented during the classroom sessions.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT Math', MATH 0310, 0320, minimum score of 350 in 'TSI Math' or minimum score of 19 in 'ACT Math'.
Co-requisite: MATH 0242.
TCCNS: MATH 1442

MATH 2305 Discrete Mathematics I
3 Semester Credit Hours (3 Lecture Hours)
An introduction to topics in Discrete Mathematics with an emphasis on applications in Mathematics and Computer Science. Topics include formal logic, graphs, trees and related algorithms, and combinatorics and discrete probability.
Prerequisite: MATH 2413, minimum score of 620 in 'SAT Math', minimum score of 620 in 'SAT1 Mathematics', minimum score of 640 in 'SAT MATH SECTION', minimum score of 27 in 'ACT Math' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2305

MATH 2312 Precalculus
3 Semester Credit Hours (3 Lecture Hours)
A more rapid treatment of the material in MATH 1314 and MATH 1316, this course is designed for students who wish a review of the above material, or who are very well prepared. Functions, graphs, trigonometry, and analytic geometry.
Prerequisite: MATH 1314, minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 2312

MATH 2413 Calculus I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Limits, continuity, derivatives, applications of the derivative, and an introduction to integrals. Contains a laboratory component.
Prerequisite: MATH 1316, 2312, minimum score of 640 in 'SAT MATH SECTION' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2413

MATH 2414 Calculus II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Prerequisite: MATH 2413.
TCCNS: MATH 2414
MATH 2415  Calculus III
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component. Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component.
Prerequisite: MATH 2414.
TCCNS: MATH 2415

MATH 3300  Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications. Students may not receive credit for both MATH 3300 and GISC 3300.
Prerequisite: MATH 2413 and 2414.

MATH 3301  Introduction to Complex Analysis
3 Semester Credit Hours (3 Lecture Hours)
This course introduces functions of a complex variable and their applications. Contents include differentiation and integration; zeros, poles and residues; conformal mappings.
Prerequisite: (MATH 2415) or (MATH 2414 and 3314).

MATH 3310  Mathematical Analysis for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming and probability and statistics into mechanical engineering. May not count towards the MATH major. Students may not receive credit for both MATH 3310 and MEEN 3310.
Prerequisite: MATH 3315.

MATH 3311  Linear Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of linear algebra and matrix theory. Topics include vectors, matrix operations, linear transformations, fundamental properties of vector spaces, systems of linear equations, eigenvalues and eigenvectors. Applications.
Prerequisite: MATH 2413.

MATH 3312  College Geometry
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
A careful study of the foundations of Euclidean geometry by synthetic methods with an introduction to non-Euclidean geometries. An introduction to transformational geometry.
Prerequisite: MATH 2413.

MATH 3313  Foundations of Number Theory
3 Semester Credit Hours (3 Lecture Hours)
This course assists a student's transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to topics from elementary number theory.
Prerequisite: MATH 2305 and 2414.

MATH 3314  Foundations of Real Numbers
3 Semester Credit Hours (3 Lecture Hours)
This course assists a student's transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to development of the real number line.
Prerequisite: MATH 2414 and 2305.

MATH 3315  Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
An introduction to both theoretical and applied aspects of ordinary differential equations. Topics include: first order equations, linear second order equations, elementary numerical methods, and the Laplace transform.
Prerequisite: MATH 2414.

MATH 3342  Applied Probability and Statistics
3 Semester Credit Hours (3 Lecture Hours)
A calculus based introduction to probability and statistics. Emphasis will be on development of statistical thinking and working with data. Topics include probability theory, descriptive statistics, common distributions, and statistical inference.
Prerequisite: MATH 2413.

MATH 3345  Statistical Modeling and Data Analysis
3 Semester Credit Hours (3 Lecture Hours)
An introduction to probability/statistical modeling and data analysis techniques to investigate data. Topics include: exploratory data analysis, probability models and simulation, sampling distributions, statistical inference. Applications to real world problems. Students will be expected to present and justify results orally and in writing.
Prerequisite: MATH 2413 and (COSC 1330 or 1435).

MATH 3347  Introduction to Probability
3 Semester Credit Hours (3 Lecture Hours)
This is an introduction to probability. In the course, key fundamental concepts of probability, random variables and their distributions, expectations, and conditional probabilities will be covered. Topics include counting rules, combinatorial analysis, sample spaces, axioms of probability, conditional probability and independence, discrete and continuous random variables, jointly distributed random variables, characteristics of random variables, law of large numbers and central limit theorem, random processes, Markov chains, Markov chain-Monte Carlo, Poisson Process and Entropy.
Prerequisite: MATH 2415.

MATH 3385  Linear Optimization and Decisions
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the linear programming and optimization problems arising in many applications. Contents include linear programming models with solutions, the simplex method, duality theory and its use for management decision making, dual simplex method and sensitivity analysis.
Prerequisite: MATH 3311 and 2413.

MATH 3390  Problem Solving in Mathematics
1-3 Semester Credit Hours (1-3 Lecture Hours)
A problem solving course for students who want to participate in math problem solving competitions, train for the actuarial or other professional examinations, work on research aimed at conference presentations, or perform research projects at the junior level that are not at the level of directed independent study material.
Prerequisite: MATH 2414.

MATH 4185  Senior Mathematics Seminar
1 Semester Credit Hour (1 Lecture Hour)
This course introduces a weekly mathematics seminar. Students will generate a viable project for the capstone course.
MATH 4285 Mathematics Major Capstone
2 Semester Credit Hours (2 Lecture Hours)
Development of projects as proposed in MATH 4185, as well as mathematics communication skills. Students will present their projects, and take a national level assessment.
Prerequisite: MATH 4185.

MATH 4301 Introduction to Analysis
3 Semester Credit Hours (3 Lecture Hours)
An advanced treatment of the foundations of calculus stressing rigorous proofs of theorems. Topics include: elements of propositional and predicate logic, topology of the real numbers, sequences, limits, the derivative, and the Riemann integral.
Prerequisite: MATH 2415 and 3314.

MATH 4306 Modern Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of set operations, maps and relations, groups, rings and field theory. Topics include permutation groups, cosets, homomorphisms and isomorphisms, direct product of groups and rings, integral domains field of quotients, fundamental properties of integers, the ring of integers modulo n, and rings of polynomials. Applications.
Prerequisite: MATH 3311 and 3313.

MATH 4312 Differential Geometry
3 Semester Credit Hours (3 Lecture Hours)
Differential forms on R1, R2, R3, and Rn; Integration and differentiation of differential forms; Stokes' Theorem; manifolds; Gaussian curvature and the Gauss-Bonnet Theorem.
Prerequisite: MATH 2415.

MATH 4315 Partial Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
An introduction to partial differential equations emphasizing the wave, diffusion and potential (Laplace) equations. A focus on understanding the physical meaning and mathematical properties of solutions of partial differential equations. Methods include fundamental solutions and transform methods for problems on the line, and separation of variables using orthogonal series for problems in regions with boundary. Additional topics include higher dimensional problems and special topics like harmonic functions, the maximum principle, Green's functions etc.
Prerequisite: MATH 3315 and 2415.

MATH 4321 Applied Regression Analysis
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the formulation of linear models and the estimation of the parameters of such models, with primary emphasis on least squares. Application of multiple regression and curve fitting and the design of experiments for fitting regression models.
Prerequisite: MATH 1342, 2342 or 1470.

MATH 4328 Discrete Mathematics II
3 Semester Credit Hours (3 Lecture Hours)
A continued study of topics from Discrete Mathematics I with additional topics from discrete mathematics that have strong application to the field of computer science. Additional topics include: recurrence relations, formal languages, and finite-state machines.
Prerequisite: MATH 2305 and COSC 2437.

MATH 4342 Introduction to Mathematical Statistics
3 Semester Credit Hours (3 Lecture Hours)
This is a first course in mathematical statistics, topics include: moment-generating functions, functions of random variables, sampling distributions, methods of estimation including Bayesian estimation, characteristics of estimators, interval estimation, hypothesis testing, Neyman-Pearson Lemma, likelihood ratio test, tests involving means and variances, regression and correlation, multiple linear regression, introduction to ANOVA, non-parametric tests.
Prerequisite: MATH 2415.

MATH 4385 Applied Modeling
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for mathematics majors. The construction of mathematical models from areas such as economics, refining, biology and mariculture, etc. Where possible, local phenomena will be modeled with the assistance of outside consultants.
Prerequisite: MATH 3315 and 3342 or MATH 3345.

MATH 4390 Selected Topics
3 Semester Credit Hours (3 Lecture Hours)
Offered on sufficient demand.

MATH 4696 Directed Independent Study
1-6 Semester Credit Hours
See college description.

Mathematics, Grades 7-12, Teacher Certification Without a Mathematics Major

Program Description

Introduction
The College of Science and Engineering is committed to the support of students seeking to become science, mathematics and technology educators at all levels. The Science, Mathematics and Technology Education (SMTE) program offers content courses for students seeking to become science, mathematics and technology educators at all levels. The SMTE program does not offer a degree; rather, degrees leading to Teacher Certification are offered by other Science and Technology programs and by the College of Education and Human Development. Students seeking to teach in the elementary and secondary schools of Texas must meet degree requirements as well as certification requirements. The requirements and procedure to become a science, mathematics or technology teacher in Texas are outlined below. Undergraduate students who are graduating from the College of Science & Engineering or the College of Liberal Arts who are seeking initial teacher certification at the 4-8, 8-12 and EC-12 levels prior to graduation, automatically qualify for the Minor in Education.

How to Become a Science, Mathematics or Technology Teacher in Texas
In order to be recommended for teacher certification at this university, a candidate must fulfill three basic requirements:

1. have a bachelor's degree from an accredited college or university that includes an academic major and teacher training courses,
2. complete teacher training through an approved program, and
3. successfully complete the appropriate teacher certification tests for the subject and grade level that the candidate wishes to teach.

Additional information on the requirements to become a teacher in Texas can be obtained at the State Board of Educator Certification (SBEC) website: http://www.sbec.state.tx.us/SBECOnline/certinfo/becometeacher.asp. This website also provides information on the resources available to help students pay for a teacher training program.

SBEC has approved three levels of teacher certification for regular educators:

1. Early childhood to grade 6 which includes foundation subjects and enrichment areas such as art, PE, and music,
2. Grade 4-8 which includes the foundation areas only, and (3) Grade 7-12 certification.

Students can find information on the different certifications at the official Texas Examinations of Educator Standards (TXES) Web site: http://www.texas.ets.org. Texas A&M University-Corpus Christi offers several degrees leading to a number of these teacher certifications. The College of Education and Human Development offers several degrees leading to teacher certification. The College of Science and Engineering offers bachelor’s degrees leading to teacher certification in the sciences, mathematics and technology at the 4-8 and the 8-12 levels. These bachelor’s degrees are the following:

- Biology, BS - Grades 7-12 Life Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/biology-bs-grades-7-12-life-science-education-concentration/) (120-122 sem. hrs.)
- Chemistry, BS - Grades 7-12 Physical Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/chemistry-bs-grades-7-12-physical-science-education-concentration/) (126-128 sem. hrs.)
- Environmental Science, BS - Grades 4-8 Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/environmental-science-bs-grades-4-8-science-education-concentration/) (125-130 sem. hrs.)
- Elementary Education, BS - Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/) (College of Education and Human Development)
- Mathematics, BS - Grades 7-12 Mathematics Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/mathematics-bs-grades-7-12-education-concentration/) (120 sem. hrs.)

Mathematics 7-12 teacher certification is also possible with an undergraduate major other than mathematics. Details immediately follow below.

The individual programs, Biology, Chemistry, Environmental Science, and Mathematics offer these degrees and courses.

Students seeking Teacher Certification are also strongly urged to contact the Certification Officer in the College of Education and Human Development about current requirements and procedures that must be met to obtain the certificate. In particular, students following a degree plan leading to teacher certification must be admitted to the Teacher Education Program at Texas A&M University-Corpus Christi prior to enrolling in any 4000 level EDCI or EDUC courses. Application forms for admission to the teacher education program may be obtained from the Undergraduate or Certification Office, room FC 201. The students are referred to the College of Education and Human Development section of this catalog for more information on the Teacher Education Program.

**Grade Point Average for Admission to Teacher Education**

A minimum grade point average of 2.75 (4.0 = A) in all work attempted, a minimum grade point average of 2.75 in all science, math, or specialization areas, and no grade below “C” in any science or mathematics course on a student’s degree plan and/or education courses within the professional block of courses are required. (See College of Education and Human Development (p. 97), “Admission to Teacher Education” and “Admission to Student Teaching” for other requirements.)

**Alteration of a Certification Plan**

Any amendment to a degree plan originally filed must be approved by the student’s academic advisor, the Department Chair, the Dean of the College of Science and Engineering, and the Certification Officer of the College of Education and Human Development for the degree to be granted.

**Program Requirements**

Mathematics 7-12 teacher certification without a mathematics major requires at least 26 hours of mathematics and 27 hours of professional development and reading courses. The required mathematics courses are listed in the Mathematics, BS - Grades 7-12 Mathematics Education Concentration. Students seeking certification through this route should contact a Certification Officer in the College of Education and Human Development. The mathematics major as described includes all required courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3311</td>
<td>Linear Algebra</td>
<td>3</td>
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<td>MATH 3313</td>
<td>Foundations of Number Theory</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2415</td>
<td>Calculus III</td>
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<tr>
<td>COSC 1330</td>
<td>Programming for Scientists, Engineers, and Mathematicians</td>
<td>3</td>
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<tr>
<td>MATH 3315</td>
<td>Differential Equations</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

* Online offering
^ Blended offering

**Courses**

**MATH 0099 Math Non-Course Based Development**

0 Semester Credit Hours

Preparation workshop to help students achieve College Readiness in mathematics under the Texas Success Initiative. Topics include five general areas: fundamental mathematics, algebra, geometry, statistics, and problem solving.
MATH 0200  Brief Developmental Mathematics  
1-2 Semester Credit Hours (1-2 Lecture Hours)  
Topics as in MATH 0300. For students who have completed most topics in MATH 0300. Requires permission of MATH department. (Not counted toward graduation) Fall, Spring, Maymester, Summer.  
Co-requisite: MATH 1314, MATH 1442.

MATH 0214  Brief Developmental Mathematics-Algebra  
2 Semester Credit Hours (2 Lecture Hours)  
This course is co-requisite course supporting for MATH 1314. Support will focus on essential skills required for success in Business Math (Math 1324). Supporting topics include the use of calculators and technology. Topics focus on basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and financial management, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1324 as the co-requisite with MATH 0214. Students who register for MATH 0214 must co-register in MATH 1314. Math 0214 is not counted toward graduation. Fall, Spring, Summer.  
Co-requisite: MATH 1314.

MATH 0224  Brief Developmental Mathematics-Business Mathematics  
2 Semester Credit Hours (2 Lecture Hours)  
This course is the co-requisite course supporting for MATH 1324. Support will focus on essential skills required for success in Business Math (Math 1324). Supporting topics include the use of calculators and technology. Topics focus on basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and financial management, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1324 as the co-requisite with MATH 0224. Students who register for MATH 0224 must co-register in MATH 1324. Math 0224 is not counted toward graduation. Fall, Spring, Summer.  
Co-requisite: MATH 1324.

MATH 0232  Brief Developmental Mathematics-Contemporary Mathematics  
2 Semester Credit Hours (2 Lecture Hours)  
This course is co-requisite course supporting for MATH 1332. Support will focus on essential skills required for success in Contemporary Mathematics (Math 1332). Supporting topics include a basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and descriptive statistics, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1332 as the co-requisite with MATH 0232. Students who register for MATH 0232 must co-register in MATH 1332. Math 0232 is not counted toward graduation. Fall, Spring, Summer.  
Co-requisite: MATH 1332.

MATH 0242  Brief Developmental Mathematics-Statistics  
2 Semester Credit Hours (2 Lecture Hours)  
This course is co-requisite course supporting for MATH 1442. Support will focus on essential skills required for success in Statistics for Life (Math 1442). Supporting topics include the use of calculators and technology. Topics focus on descriptive and inferential statistics, probabilities including notation, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1442 as the co-requisite with MATH 0242. Students who register for MATH 0242 must co-register in MATH 1442. Math 0242 is not counted toward graduation. Fall, Spring, Summer.  
Co-requisite: MATH 1442.

MATH 0300  Developmental Mathematics  
3 Semester Credit Hours (3 Lecture Hours)  
Topics include number concepts, computation, elementary algebra, geometry, and mathematical reasoning. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0310  Development Mathematics-Algebra  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
3 sem. hrs. (2:2) Topics include number concepts, computation, elementary algebra, and geometry. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0398  Introduction to Algebra  
3 Semester Credit Hours (3 Lecture Hours)  
Number concepts, computation, elementary algebra, geometry, and mathematical reasoning.

MATH 0399  Intermediate Algebra  
3 Semester Credit Hours (3 Lecture Hours)  
Topics include linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems.  
Prerequisite: MATH 0398.

MATH 1314  College Algebra  
3 Semester Credit Hours (3 Lecture Hours)  
Quadratic equations, inequalities, graphs, logarithms and exponentials, theory of polynomial equations, systems of equations.  
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT Math', MATH 0320 or minimum score of 350 in 'TSI Math'.  
Co-requisite: MATH 0214.  
TCCNS: MATH 1314

MATH 1316  Trigonometry  
3 Semester Credit Hours (3 Lecture Hours)  
Trigonometric functions, identities, equations involving trigonometric functions, solutions of right and oblique triangles.  
Prerequisite: (MATH 1314, minimum score of 550 in 'SAT MATH SECTION' or minimum score of 21 in 'ACT1 Math') or minimum score of 21 in 'ACT Math'.  
TCCNS: MATH 1316

MATH 1324  Mathematics for Business and Social Sciences  
3 Semester Credit Hours (3 Lecture Hours)  
Students will learn how the properties and language of mathematics can be used in business and real-world problem solving and understand the techniques and applications of finance problems, basic matrix operation, basic counting principles, and probability analysis in modeling real-world scenarios.  
Prerequisite: minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.  
Co-requisite: MATH 0224.  
TCCNS: MATH 1324
MATH 1325 Calculus for Business & Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will develop and combine the concepts in and relationships between Mathematics and Business from the fundamentals of calculus and optimization in all Business fields. Students are expected to learn the materials algebraically with technology. Students will combine the concepts of limits, continuation, differentiation and integration techniques to solve problems in business, economics, and social sciences.
Prerequisite: MATH 1324, minimum score of 550 in 'SAT Math', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 1325

MATH 1332 Contemporary Mathematics
3 Semester Credit Hours (3 Lecture Hours)
This course serves as a terminal course and supplies a brief overview of several topics in mathematics. Topics may include introductory treatments of sets, logic, number systems, number theory, relations, functions, probability and statistics. Appropriate applications are included. This course emphasizes using critical thinking to make decisions based on information.
Co-requisite: MATH 0232.
TCCNS: MATH 1332

MATH 1390 Introduction to Mathematical Topics
1-3 Semester Credit Hours (1-3 Lab Hours)
A course to introduce students to mathematical topics in a formal setting. The course may support problem solving, or systematic investigations of topics outside the current mathematical catalog. May not be substituted for regularly scheduled offerings.

MATH 1442 Statistics for Life
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
An introduction to statistical concepts and methods used in all disciplines to enhance decision making based on data analysis, including: basic experimental design models, measurement and data collection through sampling; display and summary of information, and assessment of relationship through descriptive techniques; probability concepts leading to estimation and hypothesis testing of means, variance and proportions, regression analysis, one-factor ANOVA and chi-square test of independence; and applications through case studies. The laboratory component of the course offers applications of the theory presented during the classroom sessions.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT1 Math', MATH 0310, 0320, minimum score of 350 in 'TSI Math' or minimum score of 19 in 'ACT Math'.
Co-requisite: MATH 0242.
TCCNS: MATH 1442

MATH 2305 Discrete Mathematics I
3 Semester Credit Hours (3 Lecture Hours)
An introduction to topics in Discrete Mathematics with an emphasis on applications in Mathematics and Computer Science. Topics include formal logic, graphs, trees and related algorithms, and combinatorics and discrete probability.
Prerequisite: MATH 2413, minimum score of 620 in 'SAT Math', minimum score of 620 in 'SAT1 Mathematics', minimum score of 640 in 'SAT MATH SECTION', minimum score of 27 in 'ACT Math' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2305

MATH 2312 Precalculus
3 Semester Credit Hours (3 Lecture Hours)
A more rapid treatment of the material in MATH 1314 and MATH 1316, this course is designed for students who wish a review of the above material, or who are very well prepared. Functions, graphs, trigonometry, and analytic geometry.
Prerequisite: MATH 1314, minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 2312

MATH 2413 Calculus I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Limits, continuity, derivatives, applications of the derivative, and an introduction to integrals. Contains a laboratory component.
Prerequisite: MATH 1316, 2312, minimum score of 640 in 'SAT MATH SECTION' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2413

MATH 2414 Calculus II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Prerequisite: MATH 2413.
TCCNS: MATH 2414

MATH 2415 Calculus III
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component. Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component.
Prerequisite: MATH 2414.
TCCNS: MATH 2415

MATH 3300 Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications. Students may not receive credit for both MATH 3300 and GISC 3300.
Prerequisite: MATH 2413 and 2414.

MATH 3301 Introduction to Complex Analysis
3 Semester Credit Hours (3 Lecture Hours)
This course introduces functions of a complex variable and their applications. Contents include differentiation and integration; zeros, poles and residues; conformal mappings.
Prerequisite: (MATH 2415) or (MATH 2414 and 3314).

MATH 3310 Mathematical Analysis for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming and probability and statistics into mechanical engineering. May not count towards the MATH major. Students may not receive credit for both MATH 3310 and MEEN 3310.
Prerequisite: MATH 3315.
MATH 3311 Linear Algebra  
3 Semester Credit Hours (3 Lecture Hours)  
Fundamentals of linear algebra and matrix theory. Topics include vectors, matrix operations, linear transformations, fundamental properties of vector spaces, systems of linear equations, eigenvalues and eigenvectors. Applications.  
Prerequisite: MATH 2413.

MATH 3312 College Geometry  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
A careful study of the foundations of Euclidean geometry by synthetic methods with an introduction to non-Euclidean geometries. An introduction to transformational geometry.  
Prerequisite: MATH 2413.

MATH 3313 Foundations of Number Theory  
3 Semester Credit Hours (3 Lecture Hours)  
This course assists a student's transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to topics from elementary number theory.  
Prerequisite: MATH 2305 and 2414.

MATH 3314 Foundations of Real Numbers  
3 Semester Credit Hours (3 Lecture Hours)  
This course assists a student's transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to development of the real number line.  
Prerequisite: MATH 2414 and 2305.

MATH 3315 Differential Equations  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to both theoretical and applied aspects of ordinary differential equations. Topics include: first order equations, linear second order equations, elementary numerical methods, and the Laplace transform.  
Prerequisite: MATH 2414.

MATH 3342 Applied Probability and Statistics  
3 Semester Credit Hours (3 Lecture Hours)  
A calculus based introduction to probability and statistics. Emphasis will be on development of statistical thinking and working with data. Topics include probability theory, descriptive statistics, common distributions, and statistical inference.  
Prerequisite: MATH 2413.

MATH 3345 Statistical Modeling and Data Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to probability/statistical modeling and data analysis techniques to investigate data. Topics include: exploratory data analysis, probability models and simulation, sampling distributions, statistical inference. Applications to real world problems. Students will be expected to present and justify results orally and in writing.  
Prerequisite: MATH 2413 and (COSC 1330 or 1435).

MATH 3347 Introduction to Probability  
3 Semester Credit Hours (3 Lecture Hours)  
This is an introduction to probability. In the course, key fundamental concepts of probability, random variables and their distributions, expectations, and conditional probabilities will be covered. Topics include counting rules, combinatorial analysis, sample spaces, axioms of probability, conditional probability and independence, discrete and continuous random variables, jointly distributed random variables, characteristics of random variables, law of large numbers and central limit theorem, random processes, Markov chains, Markov chain-Monte Carlo, Poisson Process and Entropy.  
Prerequisite: MATH 2415.

MATH 3385 Linear Optimization and Decisions  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces the linear programming and optimization problems arising in many applications. Contents include linear programming models with solutions, the simplex method, duality theory and its use for management decision making, dual simplex method and sensitivity analysis.  
Prerequisite: MATH 3311 and 2413.

MATH 3390 Problem Solving in Mathematics  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
A problem solving course for students who want to participate in math problem solving competitions, train for the actuarial or other professional examinations, work on research aimed at conference presentations, or perform research projects at the junior level that are not at the level of directed independent study material.  
Prerequisite: MATH 2414.

MATH 4185 Senior Mathematics Seminar  
1 Semester Credit Hour (1 Lecture Hour)  
This course introduces a weekly mathematics seminar. Students will generate a viable project for the capstone course.

MATH 4285 Mathematics Major Capstone  
2 Semester Credit Hours (2 Lecture Hours)  
Development of projects as proposed in MATH 4185, as well as mathematics communication skills. Students will present their projects, and take a national level assessment.  
Prerequisite: MATH 4185.

MATH 4301 Introduction to Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
An advanced treatment of the foundations of calculus stressing rigorous proofs of theorems. Topics include: elements of propositional and predicate logic, topology of the real numbers, sequences, limits, the derivative, and the Riemann integral.  
Prerequisite: MATH 2415 and 3314.

MATH 4306 Modern Algebra  
3 Semester Credit Hours (3 Lecture Hours)  
Fundamentals of set operations, maps and relations, groups, rings and field theory. Topics include permutation groups, cosets, homomorphisms and isomorphisms, direct product of groups and rings, integral domains, field of quotients, fundamental properties of integers, the ring of integers modulo n, and rings of polynomials. Applications.  
Prerequisite: MATH 3311 and 3313.

MATH 4312 Differential Geometry  
3 Semester Credit Hours (3 Lecture Hours)  
Differential forms on R1, R2, R3, and Rn; Integration and differentiation of differential forms; Stokes’ Theorem; manifolds; Gaussian curvature and the Gauss-Bonnet Theorem.  
Prerequisite: MATH 2415.

MATH 4315 Partial Differential Equations  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to partial differential equations emphasizing the wave, diffusion and potential (Laplace) equations. A focus on understanding the physical meaning and mathematical properties of solutions of partial differential equations. Methods include fundamental solutions and transform methods for problems on the line, and separation of variables using orthogonal series for problems in regions with boundary. Additional topics include higher dimensional problems and special topics like Harmonic functions, the maximum principle, Green’s functions etc.  
Prerequisite: MATH 3315 and 2415.
Science, Mathematics and Technology Education, Teacher Certificate

Program Description

Introduction

The College of Science and Engineering is committed to the support of students seeking to become science, mathematics and technology educators at all levels. The Science, Mathematics and Technology Education (SMTE) program offers content courses for students seeking K-12 science, mathematics and technology education. SMTE classes are also an integral part of the course work for degrees preparing students for Teacher Certifications. The SMTE program does not offer a degree; rather, degrees leading to Teacher Certification are offered by other Science and Technology programs and by the College of Education and Human Development. Students seeking to teach in the elementary and secondary schools of Texas must meet degree requirements as well as certification requirements. The requirements and procedure to become a science, mathematics or technology teacher in Texas are outlined below; presentation of such details about multiple programs in a single catalog section is intended for clarity and ease of readers in locating information.

How to Become a Science, Mathematics or Technology Teacher in Texas

In order to be recommended for teacher certification at this university, a candidate must fulfill three basic requirements:

1. have a bachelor’s degree from an accredited college or university that includes an academic major and teacher training courses,
2. complete teacher training through an approved program, and
3. successfully complete the appropriate teacher certification tests for the subject and grade level that the candidate wishes to teach.

Additional information on the requirements to become a teacher in Texas can be obtained at the State Board of Educator Certification (SBEC) website: http://www.sbec.state.tx.us/SBECOnline/certinfo/becometeacher.asp. This website also provides information on the resources available to help students pay for a teacher training program.

SBEC has approved three levels of teacher certification for regular educators:

1. Early childhood to grade 6 which includes foundation subjects and enrichment areas such as art, PE, and music,
2. Grade 4-8 which includes the foundation areas only, and
3. Grade 7-12 certification.

Students can find information on the different certifications at the official Texas Examinations of Educator Standards (TExES) Web site: http://www.texas.ets.org. Texas A&M University-Corpus Christi offers several degrees leading to a number of these teacher certifications. The College of Education and Human Development offers several degrees leading to teacher certification. The College of Science and Engineering offers bachelor’s degrees leading to teacher certification in the sciences, mathematics and technology at the 4-8 and the 7-12 levels. These bachelor’s degrees are the following; they are described in Section V below, in the order listed:

- Biology, BS - Grades 7-12 Life Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/biology-bs-grades-7-12-life-science-education-concentration/) (120-122 sem. hrs.)
- Chemistry, BS - Grades 7-12 Physical Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/chemistry-bs-grades-7-12-physical-science-education-concentration/) (126-128 sem. hrs.)
- Environmental Science, BS - Grades 4-8 Science Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/environmental-science-bs-grades-4-8-science-education-concentration/) (125-130 sem. hrs.)
- Elementary Education, BS - Grades 4-8 with Mathematics Certification (http://catalog.tamucc.edu/undergraduate/science-engineering/teaching-certificates/elementary-education-bs-grades-4-8-mathematics-certification/) (College of Education and Human Development)
- Mathematics, BS - Grades 7-12 Mathematics Education Concentration (http://catalog.tamucc.edu/undergraduate/science-engineering/bachelors/mathematics-bs-grades-7-12-education-concentration/) (120 sem. hrs.)
Mathematics 7-12 teacher certification is also possible with an undergraduate major other than mathematics. Details immediately follow the BS in Mathematics listing.

The individual programs, Biology, Chemistry, Environmental Science, and Mathematics offer these degrees and courses.

Students seeking Teacher Certification are also strongly urged to contact the Certification Officer in the College of Education and Human Development about current requirements and procedures that must be met to obtain the certificate. In particular, students following a degree plan leading to teacher certification must be admitted to the Teacher Education Program at Texas A&M University-Corpus Christi prior to enrolling in any 4000 level EDCI or EDUC courses. Application forms for admission to the teacher education program may be obtained from the Undergraduate or Certification Office, room FC 201. The students are referred to the College of Education and Human Development section of this catalog for more information on the Teacher Education Program.

### Grade Point Average for Admission to Teacher Education

A minimum grade point average of 2.75 (4.0 = A) in all work attempted, a minimum grade point average of 2.75 in all science, math, or specialization areas, and no grade below "C" in any science or mathematics course on a student's degree plan and/or education courses within the professional block of courses are required. (See College of Education and Human Development (p. 97), "Admission to Teacher Education" and "Admission to Student Teaching" for other requirements.)

### Alteration of a Certification Plan

Any amendment to a degree plan originally filed must be approved by the student's academic advisor, the Department Chair, the Dean of the College of Science and Engineering, and the Certification Officer of the College of Education and Human Development for the degree to be granted.

### Post-Baccalaureate Certificates


### Post-Baccalaureate Certificates - School of Engineering & Computing Sciences

- Geographic Information Systems, Post-Baccalaureate Certificate (p. 482)
- Geomatics, Post-Baccalaureate Certificate (p. 485)

### Geographic Information Systems, Post-Baccalaureate Certificate

#### Program Description

The Post-Baccalaureate Certificate in Geographic Information Systems (GIS) is designed for students who hold a bachelor's degree or master's degree in fields other than GIS and desire to continue their education in Geographic Information Systems. Candidates for the certificate are required to complete 32 or 33 credit hours of GIS-related courses; 20 of these credit hours must be taken at Texas A&M University-Corpus Christi. Students are required to meet all other academic standards. The Coordinator of the Geographic Information Science program or a designee may waive certain courses if a student has previously completed appropriate GIS courses. Students must apply for the certificate and complete a Certificate Plan approved by the Coordinator of the Geographic Information science program or a designee.

#### Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<td>GISC 1336</td>
<td>Digital Drafting and Design</td>
<td>3</td>
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<tr>
<td>GISC 1470</td>
<td>Geospatial Systems I</td>
<td>4</td>
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<tr>
<td>GISC 2301</td>
<td>Geospatial Systems II</td>
<td>3</td>
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<td>GISC 2438</td>
<td>Geospatial Software Systems I</td>
<td>4</td>
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<tr>
<td>GISC 3300</td>
<td>Geospatial Mathematical Techniques ¹</td>
<td>3</td>
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<tr>
<td>GISC 3420</td>
<td>Geospatial Software Systems II</td>
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<tr>
<td>GISC 3421</td>
<td>Visualization for GIS</td>
<td>4</td>
</tr>
<tr>
<td>GISC 4431</td>
<td>Remote Sensing ¹</td>
<td>4</td>
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<tr>
<td>COSC 1330</td>
<td>Programming for Scientists, Engineers, and Mathematicians</td>
<td>3-4</td>
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<tr>
<td>COSC 1435</td>
<td>Introduction to Problem Solving with Computers I</td>
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</table>

**Total Hours**: 32-33

¹ It is assumed that the student has completed all prerequisites and corequisites for the required courses.

#### Note:

Students must earn at least a 2.5 overall grade point average in all GISC courses.

### Course Sequencing

Certificate Coordinator: Dr. Hongzhi Song

Students should take the courses in the following sequence to complete in the most timely manner:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>GISC 1470</td>
<td>Geospatial Systems I</td>
<td>4</td>
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</tbody>
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Courses

GISC 1301 Physical Geography
3 Semester Credit Hours (3 Lecture Hours)
The goal of this course is to encourage you to think geographically, examining the interactions between physical systems and human activities. Introduction to topics covered include elements of Physical Geography (studies of atmosphere, ocean and land surface environments), Geographic Information Systems (computer systems that capture, analysis, and display of geographic information), and human environmental interactions. Cross listed with GEOG 1301.

TCCNS: GEOG 1301

GISC 1336 Digital Drafting and Design
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
An introduction to graphic and drafting principles and practices in surveying and mapping science. This course includes the development of the basic drafting skills needed to produce surveying plats and graphical presentations. The elements of descriptive geometry are addressed. A major component of the course is an introduction to the fundamentals of computer-aided drafting and design (CADD). Spring.

GISC 1470 Geospatial Systems I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to geographic information systems (GIS) and its theoretical foundations. Topics covered include vector and raster data models, acquisition and manipulation of data, cartography, current topics, data quality, and basic spatial analysis. Principles and uses of GIS software also covered. Fall and Spring.

GISC 2250 Field Camp I
2 Semester Credit Hours (6 Lab Hours)
a one-week field camp with intensive field data collection and computations. Traversing between control points. Digital contour data and leveling control. Detail spatial data by total station. Construction set out using total station and steel band. Taken during the sophomore or junior year. Spring.
Prerequisite: GISC 2470.

GISC 2301 Geospatial Systems II
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
An intermediate level course in the concepts and applications of geographic information systems (GIS). Topics covered include spatial database design and management, raster analysis, terrain mapping, analysis, and applications. Spring.
Prerequisite: (GISC 1470).

GISC 2438 Geospatial Software Systems I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the design and development of GIS software to solve spatial problems. Topics covered include programming basics, design and implementation common tasks in GIS applications. Fall.
Prerequisite: GISC 1470 and COSC 1435 or COSC 1330.

GISC 2470 Geospatial Plane Measurement I
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Historical introduction to field measurement and mapping; distance measurement using electronic distance meters; calibration and reduction. Leveling instruments; principles, construction, testing and adjustment; ancillary equipment. Optical and electronic theodolites. Traverse computations and adjustment. Coordinate systems. Map projections. Fall.
Prerequisite: MATH 1316 or 2413.

GISC 3300 Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications.
Prerequisite: MATH 2413 and 3342.

GISC 3325 Geodetic Science
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Prerequisite: GISC 2470.

GISC 3412 Geospatial Plane Measurement II
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Principles and reduction of observations and errors in spatial measurement. Techniques of horizontal and vertical angle measurement for precise positioning. Trigonometric heighting and vertical staff tacheometry. Setting out of structures. Design and computation of horizontal and vertical curves. Spring.
Prerequisite: (GISC 2470 and 1336).
*May be taken concurrently.

GISC 3420 Geospatial Software Systems II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced programming course focusing on the design and implementation of GIS scripts and GIS web applications. Topics covered include GIS web applications, web mashups, GIS scripts, GIS tool creation, and advanced user interface design and implementation. Spring.
Prerequisite: GISC 2438.
GISC 3421  Visualization for GIS
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Basic elements of thematic cartography, cartographic theory, and cartographic projections. Integration of cartographic principles with GIS visualization. Principles of map design with GIS data. Spring.
Prerequisite: GISC 2301.

GISC 4180  Geospatial Systems Internship
1 Semester Credit Hour (1 Lecture Hour)
Internship education requires work with approved Geospatial Systems related industry employer. Students provide weekly written reports and final presentation to program at the end of internship. Must have completed 60 semester hours before attempting. Fall, Spring, and Summer.

GISC 4305  Legal Aspects of Spatial Information
3 Semester Credit Hours (3 Lecture Hours)
Legal ownership of spatial data and information collected in the public sector. Public access to large digital databases. Copyright law as applied to spatial data. Legal issues related to property boundaries, statutory boundaries, voter district boundaries, and jurisdictional boundaries. Government fees and charges for access to spatial data. Social and economic value of spatial data. Spring.
Prerequisite: GISC 2470.

GISC 4315  Satellite Positioning
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Prerequisite: GISC 2470 and MATH 2413.

GISC 4318  Cadastral Systems
3 Semester Credit Hours (3 Lecture Hours)
Land ownership recording systems used in Texas and U.S. Investigation and research for artificial and natural boundaries. Title searches at the county courthouse, title plants, and other sources for cadastral research. Riparian and littoral boundaries. Boundary marking and preparation of cadastral plans. Metes and bounds descriptions. Writing field notes. Urban and rural cadastral issues. Use of coordinate systems in cadastral mapping. Fall.
Prerequisite: GISC 2470.

GISC 4320  Hydrography
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Introduction to offshore and inshore hydrographic mapping. Tidal datums and their computation. Review of hydrographic and nautical charts. Electronic position finding and bathymetric data collection. Echo sounding, side scan sonar. Seafloor mapping and underwater locating. Beach (combined land and hydrographic) mapping. Spring even years.
Prerequisite: GISC 2470 and MATH 2413.

GISC 4326  Geomatics Professional Practice
3 Semester Credit Hours (3 Lecture Hours)
An intensive one-week summer course presented by practicing geomatics professionals covering many of the aspects of operating a professional surveying practice in the State of Texas. Topics cover surveyor responsibility and liability, the surveyor in court, standards of practice, surveying mathematics, Texas coordinate system, celestial observations, and project control.
Prerequisite: GISC 2250.

GISC 4335  Geospatial Systems III
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Advanced spatial analysis and modeling in GIS. Topics covered include exploratory analysis of spatial data, network analysis, spatial point patterns, area objects and spatial autocorrelation, and spatial interpolation. Also covers new approaches to spatial analysis. Fall.
Prerequisite: GISC 2301, 3421 and MATH 3342.

GISC 4340  Geospatial Computations and Adjustment
3 Semester Credit Hours (3 Lecture Hours)
Prerequisite: GISC 2470, MATH 3342 and GISC 3300.

GISC 4350  Field Camp II
3 Semester Credit Hours (6 Lab Hours)
A one-week field camp undertaking projects in cadastral, engineering, hydrographic, and geodetic positioning. Reduction of digital field data to produce final plans and reports. Taken during the senior year. Spring.
Prerequisite: GISC 3412, 4318 and 2250.

GISC 4351  Geospatial Systems Project
3 Semester Credit Hours
This course allows students to employ knowledge attained in other courses to create a project to spatially analyze information of interest to you and your field of study. Students will either undertake a GIS project to manage, analyze, and visualize spatial data, or a survey project in cadastral, topographic, engineering, hydrographic, or geodetic positioning survey. Spring.
Prerequisite: GISC 4350 or 4335.

GISC 4371  History of Land Ownership
3 Semester Credit Hours (3 Lecture Hours)
This course prepares students by providing proper knowledge of how land transferred throughout history and techniques for researching land ownership in the present. Students receive an overview of legal aspects and other topics relative to land issues applicable for Land Surveyors, Civil Engineers, and GIS professionals, among others. Spring.
Prerequisite: GISC 3412.

GISC 4431  Remote Sensing
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Provides the foundations to interpret, process, and apply remotely sensed data acquired by satellites and sub-orbital platforms (aircraft, UAVs) for mapping and analysis of our natural and built environment. Principles of electromagnetic energy-matter interaction, remote sensing systems and data characteristics, digital image processing, and information extraction methods will be covered. Included is treatment of: aerial photogrammetry; multispectral, thermal, and hyperspectral sensing; earth observation satellites; radar and lidar; emergent topics. Emphasis will be on their use for geospatial and environmental applications. Fall.
Prerequisite: (PHYS 2425, MATH 3342 and GISC 3300) or (MEEN 3310 and PHYS 2425).

GISC 4590  Selected Topics
1-5 Semester Credit Hours (1-5 Lecture Hours)
May be repeated for credit depending on topic. Variable content.

GISC 4596  Directed Independent Study
1-5 Semester Credit Hours
See College description. Offered on request. May be repeated for credit.
GISC 4690 Co-operative Education
1 Semester Credit Hour (1 Lecture Hour)
Co-op education allows students to take time off their full-time studies to gain valuable experience-based learning with employers willing to put on students for a semester (14 weeks), six months, or over the summer. The Co-op program allows students to maintain their full-time status as a student (continue health insurance coverage with parents, not effect student loan repayment, access to college activities, etc.) while undertaking work in their field of interest. The Co-op program is a partnership between the employer, the student, and the university.

Geomatics, Post-Baccalaureate Certificate

Program Descriptions
The Post-Baccalaureate Certificate in Geomatics is designed for students who hold a bachelor's degree or master's degree in fields other than Geomatics or Geographic Information Science and desire to continue their education to prepare for the Texas Board of Professional Land Surveying examination to become a Registered Professional Land Surveyor in Texas. Candidates for the certificate are required to complete 33 credit hours of surveying related courses; 20 of these credit hours must be taken at Texas A&M University-Corpus Christi. The Coordinator of the Geographic Information Science program or a designee may waive certain courses if a student has previously completed appropriate surveying courses. Students must apply for the certificate and complete a Certificate Plan approved by the Coordinator of the Geographic Information Science program or a designee.

For Additional Information
Website:
http://gisc.tamucc.edu/

Mailing Address:
Geographic Information Science Program, Unit 5868
College of Science and Engineering
Texas A&M University-Corpus Christi
6300 Ocean Drive
Corpus Christi, Texas 78412-5868

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>GISC 1336</td>
<td>Digital Drafting and Design</td>
<td>3</td>
</tr>
<tr>
<td>GISC 1470</td>
<td>Geospatial Systems I</td>
<td>4</td>
</tr>
<tr>
<td>GISC 2470</td>
<td>Geospatial Plane Measurement I</td>
<td>4</td>
</tr>
<tr>
<td>GISC 3325</td>
<td>Geodetic Science</td>
<td>3</td>
</tr>
<tr>
<td>GISC 3412</td>
<td>Geospatial Plane Measurement II</td>
<td>4</td>
</tr>
<tr>
<td>GISC 4315</td>
<td>Satellite Positioning</td>
<td>3</td>
</tr>
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<td>GISC 4318</td>
<td>Cadastral Systems</td>
<td>3</td>
</tr>
<tr>
<td>GISC 4340</td>
<td>Geospatial Computations and Adjustment</td>
<td>3</td>
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<tr>
<td>GISC 4350</td>
<td>Field Camp I (Prerequisite for GISC 4350)</td>
<td>3</td>
</tr>
<tr>
<td>GISC 4371</td>
<td>History of Land Ownership</td>
<td>3</td>
</tr>
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<td>Total Hours</td>
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</tbody>
</table>

1 It is assumed that the student has completed all prerequisites and corequisites for the required courses.

Note:
Students must earn at least a 2.5 overall grade point average in all GISC courses.

Course Sequencing
Certificate Coordinator: Dr. Hongzhi Song
Students should take the courses in the following sequence to complete in the most timely manner:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tr>
<td>Fall</td>
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<tr>
<td>GISC 2470</td>
<td>Geospatial Plane Measurement I</td>
<td>4</td>
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<tr>
<td>GISC 3300 or MATH 3342</td>
<td>Geospatial Mathematical Techniques or Applied Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>GISC 1470</td>
<td>Geospatial Systems I</td>
<td>4</td>
</tr>
<tr>
<td>Hours</td>
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<td>Spring</td>
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<td></td>
</tr>
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<td>GISC 1336</td>
<td>Digital Drafting and Design</td>
<td>3</td>
</tr>
<tr>
<td>GISC 2250</td>
<td>Field Camp I (Prerequisite for GISC 4350)</td>
<td>2</td>
</tr>
<tr>
<td>GISC 3412</td>
<td>Geospatial Plane Measurement II</td>
<td>4</td>
</tr>
<tr>
<td>Hours</td>
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<tr>
<td>Second Year</td>
<td></td>
<td></td>
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<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GISC 3325</td>
<td>Geodetic Science</td>
<td>3</td>
</tr>
<tr>
<td>GISC 4315</td>
<td>Satellite Positioning</td>
<td>3</td>
</tr>
<tr>
<td>GISC 4318</td>
<td>Cadastral Systems</td>
<td>3</td>
</tr>
<tr>
<td>Hours</td>
<td></td>
<td>9</td>
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<tr>
<td>Spring</td>
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<td></td>
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<tr>
<td>GISC 4350</td>
<td>Field Camp II</td>
<td>3</td>
</tr>
<tr>
<td>GISC 4340</td>
<td>Geospatial Computations and Adjustment</td>
<td>3</td>
</tr>
<tr>
<td>GISC 4371</td>
<td>History of Land Ownership</td>
<td>3</td>
</tr>
<tr>
<td>Hours</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Total Hours</td>
<td></td>
<td>38</td>
</tr>
</tbody>
</table>

Courses
GISC 1301 Physical Geography
3 Semester Credit Hours (3 Lecture Hours)
The goal of this course is to encourage you to think geographically, examining the interactions between physical systems and human activities. Introduction to topics covered include elements of Physical Geography (studies of atmosphere, ocean and land surface environments), Geographic Information Systems (computer systems that capture, analysis, and display of geographic information), and human environmental interactions. Cross listed with GEOG 1301.
TCNNS: GEOG 1301
GISC 1336 Digital Drafting and Design
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
An introduction to graphic and drafting principles and practices in surveying and mapping science. This course includes the development of the basic drafting skills needed to produce surveying plats and graphical presentations. The elements of descriptive geometry are addressed. A major component of the course is an introduction to the fundamentals of computer-aided drafting and design (CADD). Spring.

GISC 1470 Geospatial Systems I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to geographic information systems (GIS) and its theoretical foundations. Topics covered include vector and raster data models, acquisition and manipulation of data, cartography, current topics, data quality, and basic spatial analysis. Principles and uses of GIS software also covered. Fall and Spring.

GISC 2250 Field Camp I
2 Semester Credit Hours (6 Lab Hours)
A one-week field camp with intensive field data collection and computations. Traversing between control points. Digital contour data and leveling control. Detail spatial data by total station. Construction set out using total station and steel band. Taken during the sophomore or junior year. Spring. Prerequisite: GISC 2470.

GISC 2301 Geospatial Systems II
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
An intermediate level course in the concepts and applications of geographic information systems (GIS). Topics covered include spatial database design and management, raster analysis, terrain mapping, analysis, and applications. Spring. Prerequisite: (GISC 1470).

GISC 2438 Geospatial Software Systems I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the design and development of GIS software to solve spatial problems. Topics covered include programming basics, design and implementation common tasks in GIS applications. Fall. Prerequisite: GISC 2470 and COSC 1435 or COSC 1330.

GISC 2470 Geospatial Plane Measurement I
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Historical introduction to field measurement and mapping; distance measurement using electronic distance meters; calibration and reduction. Leveling instruments; principles, construction, testing and adjustment; ancillary equipment. Optical and electronic theodolites. Traverse computations and adjustment. Coordinate systems. Map projections. Fall. Prerequisite: MATH 1316 or 2413.

GISC 3300 Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications. Prerequisite: MATH 2413 and 3342.

GISC 3325 Geodetic Science
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)

GISC 3412 Geospatial Plane Measurement II
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Principles and reduction of observations and errors in spatial measurement. Techniques of horizontal and vertical angle measurement for precise positioning. Trigonometric heighting and vertical staff tacheometry. Setting out of structures. Design and computation of horizontal and vertical curves. Spring. Prerequisite: GISC 2470 or 1336. May be taken concurrently.

GISC 3420 Geospatial Software Systems II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced programming course focusing on the design and implementation of GIS scripts and GIS web applications. Topics covered include GIS web applications, web mashups, GIS scripts, GIS tool creation, and advanced user interface design and implementation. Spring. Prerequisite: GISC 2438.

GISC 3421 Visualization for GIS
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Basic elements of thematic cartography, cartographic theory, and cartographic projections. Integration of cartographic principles with GIS visualization. Principles of map design with GIS data. Spring. Prerequisite: GISC 2301.

GISC 4180 Geospatial Systems Internship
1 Semester Credit Hour (1 Lecture Hour)
Internship education requires work with approved Geospatial Systems related industry employer. Students provide weekly written reports and final presentation to program at the end of internship. Must have completed 60 semester hours before attempting. Fall, Spring, and Summer.

GISC 4305 Legal Aspects of Spatial Information
3 Semester Credit Hours (3 Lecture Hours)
Legal ownership of spatial data and information collected in the public sector. Public access to large digital databases. Copyright law as applied to spatial data. Legal issues related to property boundaries, statutory boundaries, voter district boundaries, and jurisdictional boundaries. Government fees and charges for access to spatial data. Social and economic value of spatial data. Spring. Prerequisite: GISC 2470.

GISC 4315 Satellite Positioning
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
GISC 4318 Cadastral Systems
3 Semester Credit Hours (3 Lecture Hours)
Land ownership recording systems used in Texas and U.S. Investigation and research for artificial and natural boundaries. Title searches at the county courthouse, title plants, and other sources for cadastral research. Riparian and littoral boundaries. Boundary marking and preparation of cadastral plans. Metes and bounds descriptions. Writing field notes. Urban and rural cadastral issues. Use of coordinate systems in cadastral mapping. Fall.
Prerequisite: GISC 2470.

GISC 4320 Hydrography
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Introduction to offshore and inshore hydrographic mapping. Tidal datums and their computation. Review of hydrographic and nautical charts. Electronic position finding and bathymetric data collection. Echo sounding, side scan sonar. Seafloor mapping and underwater locating. Beach (combined land and hydrographic) mapping. Spring even years.
Prerequisite: GISC 2470 and MATH 2413.

GISC 4326 Geomatics Professional Practice
3 Semester Credit Hours (3 Lecture Hours)
An intensive one-week summer course presented by practicing geomatics professionals covering many of the aspects of operating a professional surveying practice in the State of Texas. Topics cover surveyor responsibility and liability, the surveyor in court, standards of practice, surveying mathematics, Texas coordinate system, celestial observations, and project control.
Prerequisite: GISC 2250.

GISC 4335 Geospatial Systems III
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Advanced spatial analysis and modeling in GIS. Topics covered include exploratory analysis of spatial data, network analysis, spatial point patterns, area objects and spatial autocorrelation, and spatial interpolation. Also covers new approaches to spatial analysis. Fall.
Prerequisite: GISC 2301, 3421 and MATH 3342.

GISC 4340 Geospatial Computations and Adjustment
3 Semester Credit Hours (3 Lecture Hours)
Prerequisite: GISC 2470, MATH 3342 and GISC 3300.

GISC 4350 Field Camp II
3 Semester Credit Hours (6 Lab Hours)
A one-week field camp undertaking projects in cadastral, engineering, hydrographic, and geodetic positioning. Reduction of digital field data to produce final plans and reports. Taken during the senior year. Spring.
Prerequisite: GISC 3412, 4318 and 2250.

GISC 4351 Geospatial Systems Project
3 Semester Credit Hours
This course allows students to employ knowledge attained in other courses to create a project to spatially analyze information of interest to you and your field of study. Students will either undertake a GIS project to manage, analyze, and visualize spatial data, or a survey project in cadastral, topographic, engineering, hydrographic, or geodetic positioning survey. Spring.
Prerequisite: GISC 4350 or 4335.

GISC 4371 History of Land Ownership
3 Semester Credit Hours (3 Lecture Hours)
This course prepares students by providing proper knowledge of how land transferred through history and techniques for researching land ownership in the present. Students receive an overview of legal aspects and other topics relative to land issues applicable for Land Surveyors, Civil Engineers, and GIS professionals, among others. Spring.
Prerequisite: GISC 3412.

GISC 4431 Remote Sensing
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Provides the foundations to interpret, process, and apply remotely sensed data acquired by satellites and sub-orbital platforms (aircraft, UAVs) for mapping and analysis of our natural and built environment. Principles of electromagnetic energy-matter interaction, remote sensing systems and data characteristics, digital image processing, and information extraction methods will be covered. Included is treatment of: aerial photogrammetry; multispectral, thermal, and hyperspectral sensing; earth observation satellites; radar and lidar; emergent topics. Emphasis will be on their use for geospatial and environmental applications. Fall.
Prerequisite: (PHYS 2425, MATH 3342 and GISC 3300) or (MEEN 3310 and PHYS 2425).

GISC 4590 Selected Topics
1-5 Semester Credit Hours (1-5 Lecture Hours)
May be repeated for credit depending on topic. Variable content.

GISC 4596 Directed Independent Study
1-5 Semester Credit Hours
See College description. Offered on request. May be repeated for credit.

GISC 4690 Co-operative Education
1 Semester Credit Hour (1 Lecture Hour)
Co-op education allows students to take time off their full-time studies to gain valuable experience-based learning with employers willing to put on students for a semester (14 weeks), six months, or over the summer. The Co-op program allows students to maintain their full-time status as a student (continue health insurance coverage with parents, not effect student loan repayment, access to college activities, etc.) while undertaking work in their field of interest. The Co-op program is a partnership between the employer, the student, and the university.

Certificates - School of Engineering & Computing Sciences
- Unmanned Aircraft Systems Applications, Certificate (p. 487)

Unmanned Aircraft Systems Applications, Certificate
Program Description
The Certificate in Unmanned Aircraft Systems Applications is designed to provide students with a basic background in the technologies and applications of unmanned aircraft systems that will prepare them to work in various fields related to unmanned aircraft. Candidates are required to complete 16 credit hours, including 10 hours of required courses and 6 hours chosen from a list of designated electives. All students admitted into the UAS certificate program must meet the undergraduate admission requirements for TAMU-CC and must satisfy all prerequisites for courses in the certificate program. Students working toward an undergraduate degree in engineering, computer science, or geospatial information science may obtain this certificate while completing their degrees, but
this may require completing more credit hours than those required for the undergraduate degree. Transfer credit for some required courses may be considered, as may credit for previous experience. Students are expected to meet all other academic standards. Students must apply for the certificate and complete a Certificate Plan approved by the Director of the School of Engineering and Computing Sciences or a designee.

For Additional Information

Website: http://encs.tamucc.edu

Mailing Address:
School of Engineering and Computing Sciences, Unit 5797
College of Science and Engineering
Texas A&M University - Corpus Christi
6300 Ocean Drive
Corpus Christi, TX 78412-5797

Program Requirements

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<tbody>
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<td>MEEN 3335</td>
<td>Introduction to Unmanned Aircraft Systems</td>
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<tr>
<td>COSC 3335</td>
<td>Programming for Unmanned Aircraft Systems</td>
<td>3</td>
</tr>
<tr>
<td>GISC 4431</td>
<td>Remote Sensing</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>Select two of the following:</td>
<td>6</td>
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<tr>
<td>MEEN 4335</td>
<td>Introduction to Aircraft Aerodynamics and Performance</td>
<td></td>
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<tr>
<td>MEEN 4345</td>
<td>Sensors and Systems</td>
<td></td>
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<tr>
<td>EEEEN 3330</td>
<td>Control Systems I</td>
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<td>COSC 3360</td>
<td>Human-computer Interaction</td>
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<td>COSC 4330</td>
<td>Introduction to Artificial Intelligence</td>
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<td>Human Computer Interface</td>
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<td>IEEN 4324</td>
<td>Human Factors and Autonomous Systems</td>
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<tr>
<td>IEEN 4326</td>
<td>Airborne Design of Experiments</td>
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Note: Nothing prevents a student from taking elective courses whenever they are offered, in semesters other than the ones listed above.

Courses

MEEN 3230 Solid Mechanics Laboratory
2 Semester Credit Hours (4 Lab Hours)
Prerequisite: MEEN 3330 or 3330*.
* May be taken concurrently.
Co-requisite: SMTE 0099.

MEEN 3310 Engineering Analysis for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming, and probability and statistics for mechanical engineering. (Cross-listed with MATH 3310 - Mathematical Analysis for Mechanical Engineering )
Prerequisite: MATH 3315.

MEEN 3330 Solid Mechanics for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Stress analysis of deformable bodies and mechanical elements; stress transformation; combined loading; failure modes; material failure theories; fracture and fatigue; deflections and instabilities; thick cylinders; curved beams; design of structural/mechanical members; design processes for shafts, bearings, springs, fasteners, and mechanical joints.
Prerequisite: ENGR 3320.

MEEN 3335 Introduction to Unmanned Aircraft Systems
3 Semester Credit Hours (3 Lecture Hours)
Overview of unmanned aerial systems: history, platforms, operations, command and control, sensor systems, payloads, regulations, policy. Current developments in unmanned aerial systems.

MEEN 3340 Solid Modeling and Finite Elements
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Use of computer aided design and solid modeling tools in engineering design, and analysis, and manufacturing including: solid modeling, stress, flow, and heat transfer analysis using finite element methods.
Prerequisite: MEEN 3310 and ENGR 3320.
MEEN 3345  Heat Transfer
3 Semester Credit Hours (3 Lecture Hours)
Steady and unsteady conduction in one- and two-dimensions; forced convection, internal and external flows; heat exchangers; introduction to radiation; elements of thermal system design.
Prerequisite: (ENGR 3316 and 3315).

MEEN 4325  Energy Conversion
3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Natural resources: fuels, solar, wind, geothermal, wave, and ocean thermal; thermodynamics of power cycles and processes: Rankine, Brayton, gas turbine, IC engines, fuel cell; nuclear power; direct energy conversion: photovoltaic, thermoelectric, thermionic; magnetohydrodynamics; non-reactive processes: wind, wave/tidal, ocean thermal energy, solar thermal; concept of life cycle assessments of carbon footprint. Student teamwork of a class term paper is expected.
Prerequisite: ENGR 3316.

MEEN 4330  Introduction to Plasma Engineering and Applications
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Principles of remote sensing, digital image processing, and geospatial analysis will be covered. Emphasis will be on the use of UAS remote sensing technology and its applications in agricultural applications. Principles of remote sensing, digital image processing, and geospatial analysis will be covered. Emphasis will be on the use of UAS remote sensing technology and its applications in agricultural applications.
Prerequisite: ENGR 2322 and (ENGR 2460 or PHYS 2426).
Co-requisite: SMTE 0099.

MEEN 4335  Introduction to Aircraft Aerodynamics and Performance
3 Semester Credit Hours (3 Lecture Hours)
Forces on aircraft; standard atmosphere; steady-state cruise, climb, and turn performance; performance optimization; introduction to aircraft longitudinal stability.
Prerequisite: ENGR 2326 and COSC 1330. 

MEEN 4336  Introduction to UAS for Agricultural Applications
3 Semester Credit Hours (3 Lecture Hours)
Provides the foundations to acquire remote sensing data using Unmanned Aircraft Systems (UAS) and to interpret, process, and apply remotely sensed data for agricultural applications. Principles of remote sensing, digital image processing, and geospatial analysis will be covered. Emphasis will be on the use of UAS remote sensing technology for various disciplines in agricultural sciences including plant breeding, plant physiology, crop scouting, pest management and entomology. Offered Spring.
Prerequisite: MEEN 3335.

MEEN 4345  Sensors and Systems
3 Semester Credit Hours (3 Lecture Hours)
This course covers sensors and sensing systems where sensing modalities, analysis of sensed data, data transmission and reception are discussed. Filtering and estimation in sensing systems are considered. The course covers sensors at component level to develop subsystems and more complex sensing systems that monitor physical phenomena in laboratory or marine/terrestrial environments. Other topics include multidimensional signal and image processing, object tracking, multisensory data fusion, applications in environmental monitoring, remote sensing and surveillance.
Prerequisite: MATH 2414, PHYS 2426 and ENGR 2460.

MEEN 4350  Controls, Automation and Robotics
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Automation in a manufacturing and assembly setting for ocean and marine environments, material handling systems, remote guided vehicles, automated storage and retrieval systems, computer numerical machine tools, robotics.
Prerequisite: MATH 3315, ENGR 2326 and 2460.
Co-requisite: SMTE 0099.

MEEN 4351  Dynamical Systems Analysis and Modeling
3 Semester Credit Hours (3 Lecture Hours)
Modeling and analysis of systems that have a time-based response. Transient as well as steady state solutions for SDOF and MDOF systems and computational solutions including time response, Bode plots, phase plots, and other plots relevant to the system. Linear and non-linear modeling of systems will be studied. Modeling of mechanical systems (vibrations), electrical circuits, and thermal/fluid systems will be covered.
Prerequisite: COSC 1330, ENGR 2460 and MEEN 3345.

MEEN 4355  Marine Fabrication
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Advanced topics in manufacturing and fabrication related to ships and offshore platforms and construction.
Prerequisite: ENGR 3350.
Co-requisite: SMTE 0099.

MEEN 4360  Thermal Systems Design
3 Semester Credit Hours (3 Lecture Hours)
Analysis, management and cost, optimal design, and computer simulation of thermal systems and components; Applications in fluid flow and heat transfer, pumps, turbines and heat exchangers. Selected course topics are assigned as projects.
Prerequisite: MEEN 3345.

MEEN 4365  Mechanical Systems Design
3 Semester Credit Hours (3 Lecture Hours)
Analysis, management and cost, optimal design, and computer simulation of mechanical systems and components; machine elements, and stress analysis. Selected course topics are assigned as projects.
Prerequisite: (MEEN 3330 and ENGR 3350).

MEEN 4375  Fuel Cells
3 Semester Credit Hours (3 Lecture Hours)
Students will acquire an understanding of thermodynamics, transport phenomena and reaction fundamentals that are required to understand the processes and phenomena that pose limits on fuel cell performance.
Prerequisite: ENGR 3316, MEEN 3345 and CHEM 1411.

MEEN 4380  Renewable Energy
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Renewable and alternative energy sources and fuels; modern energy conversion devices, such as offshore wind farms, marine current turbines, fuel cells, photovoltaic cells, and micro-power turbines. Cost and environmental analysis of renewable sources. Installation, design characteristics, operational performance, and maintenance of motors, turbines, pumps and compressors. Introduction to global energy concerns; fossil and nuclear fuels; energy consumption analysis; energy management and conservation techniques.
Prerequisite: ENGR 3316, 2460 and MEEN 4325.
Co-requisite: SMTE 0099.
MEEN 4385 Offshore Energy Management
3 Semester Credit Hours (3 Lecture Hours)
Topics related to the design and energy management of ships and offshore platforms will be covered. Such topics may include oil and gas exploration, wind and marine energy systems, and environmental protection.
Prerequisite: MEEN 3345.

MEEN 4390 Introduction to Computational Fluid Dynamics
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to numerical, computational, modeling and simulation of thermo-fluid systems. Applications related to ships and offshore platforms and structures will be presented.
Prerequisite: MEEN 3345.

MEEN 4395 Offshore Water Exploration and Desalination Systems
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Advanced and future applications of sea floor mapping, under-water acoustics and GIS for fresh water exploration and mining. Renewable energy driven coastal, near-shore, and offshore desalination systems.
Prerequisite: ENGR 2316.

MEEN 4396 Directed Independent Study
3 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration, approval of supervising faculty and chairperson.

Fast Track Programs

- Fast Track Biology, BS to Biology, MS (p. 490)
- Fast Track Environmental Science, BS and Environmental Science, MS (p. 498)
- Fast Track Geology, BS and Environmental Science, MS (p. 502)
- Fast Track Mathematics, BS and Mathematics, MS (p. 507)

Fast Track Biology, BS to Biology, MS

Program Description

The university allows the opportunity for high-achieving students to count a select number of graduate credits toward their undergraduate degree and thereby obtain a graduate degree at an accelerated pace. Students interested in the Fast Track in Biology must meet the following application criteria:

- Currently seeking a BS in Biology at A&M-Corpus Christi.
- Minimum of a 3.0 GPA (with 3.4 GPA in math and science courses) in the last 60 SCH at the time of Fast Track application.
- Classified as a Senior with successful completion of at least 90 SCH, including

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOL 1406</td>
<td>Biology I</td>
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<tr>
<td>BIOL 1407</td>
<td>Biology II</td>
<td>4</td>
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<tr>
<td>BIOL 2371</td>
<td>Principles of Evolution</td>
<td>3</td>
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<tr>
<td>BIOL 2416</td>
<td>Genetics</td>
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<td>BIOL 2421</td>
<td>Microbiology</td>
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<tr>
<td>BIOL 3428</td>
<td>Principles of Ecology</td>
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<tr>
<td>CHEM 1411</td>
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<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td>4</td>
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Select one of the following:

- UNIV 1101 First-Year Seminar I
- UNIV 1102 and First-Year Seminar II
- BIMS 2200 Professional Skills

Students accepted into the Fast Track program will be given permission to enroll in up to six hours of prescribed graduate courses during their last semester of undergraduate studies. The hours for these graduate courses will “double-count” toward both the (120-hour) undergraduate and (36-hour) graduate programs. The BS and MS degrees will be awarded sequentially (i.e., upon completion of each degree) and not simultaneously. Students will be allowed to continue enrollment in the graduate program upon successful completion of the 120-hour undergraduate degree.

Admissions Requirements

Applicants must provide the following at the time of application:

- A completed application form. Application fees are waived for Fast Track applicants.
- Official transcripts of all college and university coursework.
- A faculty member must be willing to serve as the chair of the applicant’s Graduate Advisory Committee and the applicant must include a summary of discussions with faculty members in their essay. Students must contact potential advisors prior to and during the application process to discuss research opportunities in faculty member labs.
- An essay (not more than 1000 words) describing educational and career goals and interests as they relate to program faculty.
- Applicants who do not have a faculty member willing to serve as their committee chair at the time of the transition from BS to MS cannot remain in the program.
- Official GRE scores by the time the student is reclassified to MS.

No criterion is weighted more heavily than any other criterion. Applications received or completed after the deadline for admission during one semester may be considered for admission in the following semester at the applicant’s request. Applicants will be notified of the outcome of their application by email.

Academic Preparation

A degree candidate who lacks adequate academic preparation may be required by his or her Graduate Advisory Committee to complete undergraduate course work prior to the completion of the MS degree. Such course work (4000-sequence or lower) will be regarded as foundation or prerequisite work and will not count as credit towards the total required for completion of the degree.

Fast Track Curriculum in the Senior Year

During their last semester of undergraduate studies, BS Biology students accepted into the Fast Track will take up to six hours of approved graduate courses. The hours for these graduate courses will “double-count” toward both the (120-hour) undergraduate and (36-hour) graduate programs.

See the Graduate Catalog for a complete description of the degree requirements for the MS in Biology.
Courses

BIOL 1308  Science for Life I (Non-Majors Biology)
3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A non-majors science course in which students will learn basic biological principles, identify the relevance of science in everyday life, and will understand the scientific method. Hands-on lab activities will reinforce course concepts. This course does not substitute for BIOL 1406 - Biology I or BIOL 1407 - Biology II for science majors.
Co-requisite: SMTE 0091.
TCCNS: BIOL 1308

BIOL 1406  Biology I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Presentation of basic biological concepts including scientific method, cytology, energetics, nucleic acids and genetics. This course is suitable for all majors.
Prerequisite: (MATH 1314, 1316, 2305, 2413, minimum score of 21 in 'ACT Math' or minimum score of 550 in 'SAT Math').
Co-requisite: SMTE 0091.
TCCNS: BIOL 1406

BIOL 1407  Biology II
4 Semester Credit Hours (4 Lecture Hours)
This course is an overview of the major concepts in biological diversity and plant and animal biology. Laboratory work will include individual/team activities as well as technology-related assignments.
Prerequisite: BIOL 1406.
Co-requisite: SMTE 0091.
TCCNS: BIOL 1407

BIOL 2300  Science Communication
3 Semester Credit Hours (3 Lecture Hours)
This course involves presentation and discussion of selected topics relating to the professional skills of practicing biological scientists, including basic software instruction, a review of library services pertinent to science, the application of scientific literature research skills, hypothesis generation and statistical tests, critical reviews of scientific articles, and an introduction to ethical issues in science.

BIOL 2371  Principles of Evolution
3 Semester Credit Hours (3 Lecture Hours)
An overview of the mechanisms by which heritable information changes, adaptations develop, and species diversify. Provides a foundation for molecular, cellular, and organismal studies in the biological sciences.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 2401  Anatomy and Physiology I
4 Semester Credit Hours (4 Lecture Hours)
Structure and function of the human body emphasizing biological chemistry, cell biology, tissues, and the integumentary, skeletal, muscular, and nervous systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his or her career track and obtain approval for a substitution from his or her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.
Prerequisite: BIOL 1407 and CHEM 1411.
TCCNS: BIOL 2401

BIOL 2402  Anatomy and Physiology II
4 Semester Credit Hours (4 Lecture Hours)
Structure and function of the human body emphasizing blood, growth, development, genetics, and the endocrine, digestive, respiratory, cardiovascular, lymphatic, immune and urogenital systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his or her career track and obtain approval for a substitution from his or her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.
Prerequisite: BIOL 2401.
TCCNS: BIOL 2402

BIOL 2416  Genetics
4 Semester Credit Hours (3 Lecture Hours)
Principles of genetic transmissions and molecular basis of heredity and variation. Weekly recitation periods will involve team assignments, problem solving activities, and seminars.
Prerequisite: BIOL 1406 and 1407.
TCCNS: BIOL 2416

BIOL 2420  Principles of Microbiology
4 Semester Credit Hours (4 Lecture Hours)
Introduction to microorganisms with emphasis on those of importance in patient care. Principles of disinfection, sterilization, immunity. This class is intended for nursing majors; it cannot substitute for BIOL 2421 - Microbiology.
Prerequisite: BIOL 1406, 1407, CHEM 1411 and 1412.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2420

BIOL 2421  Microbiology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An introduction to microorganisms including the bacteria, fungi, and viruses. Laboratory involves microbiological techniques and development of basic laboratory skills.
Prerequisite: BIOL 1406, 1407, CHEM 1411 and 1412.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2421

BIOL 2427  Principles of Botany
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the structure, function, diversity and application of plants. Laboratory focus on anatomical features, physiological adaptations, classification, and life cycles.
Prerequisite: BIOL 1407 and CHEM 1411.
Co-requisite: SMTE 0091.

BIOL 3300  Animal Nutrition
3 Semester Credit Hours (3 Lecture Hours)
Examines the dietary requirements of both companion animals and livestock. Includes the anatomy, physiology and biochemistry of the gastrointestinal system, nutrient procurement and use, feed additives, growth stimulants, metabolic diseases, and diet therapy. Cross listed with BIMS 3300.
Prerequisite: BIOL 1407 and CHEM 3411 and (CHEM 3412 or 3412*).

* May be taken concurrently.
BIOL 3325 Biostatistics
3 Semester Credit Hours (3 Lecture Hours)
The application of statistical analyses to biological data. Students will gain an understanding of how to apply statistical analyses to biological data through study of the principles of experimental design including how to frame informative research questions. At a fundamental level, these concepts are linked to the philosophy of science and our understanding of the way the world works.

BIOL 3345 Cell Physiology
3 Semester Credit Hours (3 Lecture Hours)
Emphasis on cellular functions that underlie physiological processes, transport across membranes, membrane potential and excitability, the cell nucleus, and organelles and their relationship to energy, metabolism, and transport mechanisms within the cell. Offered during Spring semester of odd-numbered years.
Prerequisite: BIOL 2200 or BIMS 2200 and BIOL 3410.

BIOL 3403 Molecular Biology
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
Principles of molecular biology including advanced concepts of gene structure, expression and regulation, chromatin structure, recombination, and current molecular biology techniques. Laboratory emphasis is on basic skills for nucleic acid analyses, including extraction, PCR amplification, quantification, restriction, and electrophoresis. DNA sequencing-based approaches are covered including bioinformatics for sequence comparisons, polymorphisms, and molecular identification. Cross listed with BIMS 3403.
Prerequisite: BIOL 2416 and 2421.
Co-requisite: SMTE 0092.

BIOL 3410 Cell Biology
4 Semester Credit Hours (3 Lecture Hours)
Study of cellular architecture and function. Topics include membranes, transport, organelles, cytoskeleton, and signaling mechanisms. Interrelationships of structure, function, energy and metabolism are explored. Laboratory will emphasize basic techniques of cell biology.
Prerequisite: BIOL 2416 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 3413 Invertebrate Zoology
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
Structure, life history, and evolution of the invertebrates with special emphasis on the phylogeny and ecological relationships of the major phyla. Laboratory will involve field trips and survey collections. Offered fall semester every year.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3414 Vertebrate Zoology
4 Semester Credit Hours (4 Lecture Hours)
Structure, life history, and evolution of the vertebrates with special emphasis on the phylogeny and ecological relationships of the classes. Laboratory will involve field trips and survey collections. Offered only in Spring semester.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3425 Functional Anatomy
4 Semester Credit Hours (4 Lecture Hours)
General trends in morphological development and adaptation as demonstrated by the anatomy and embryology of living and extinct chordates. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3428 Principles of Ecology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the interrelationships of organisms and their environment. Population structure, community classification and regulation, and energy flow in ecosystems will also be covered. Laboratory sections will focus on experimental design and field techniques in ecology.
Prerequisite: BIOL 1407 and (BIOL 2200, 2300, BIMS 2200 or UNIV 1101 and UNIV 1102) and CHEM 1411 and (MATH 2413 or 2413).
* May be taken concurrently.
Co-requisite: SMTE 0091.

BIOL 3430 Physiology
4 Semester Credit Hours (4 Lecture Hours)
The study of physiological processes that are the product of complex interactions between tissues, organs and organ systems, with emphasis on the circulatory, respiratory, endocrine, muscular, digestive, and urogenital systems. Particular focus on homeostasis, and the role of the environment and evolution on organ systems. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3455 Plant form and Function
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Anatomy of vegetative and reproductive organs of plants, unique cellular features, development and differentiation of cell and tissue types. Emphasis on physiological mechanisms of response and adaptation to the environment.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3479 Plant Ecology
4 Semester Credit Hours (4 Lecture Hours)
Structure, physiology, life cycles, and economic impact of plants. Factors influencing diversity, succession and ecological distribution of plants.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4100 Research Ethics and Professionalism
1 Semester Credit Hour (1 Lecture Hour)
A course designed to enhance the professionalism of undergraduate researchers. This course discusses the codified aspects of research ethics, including fabrication, falsification and plagiarism of data; assigning authorship, submitting manuscripts to more than one journal and management of lab teams. It also addresses careers in science, resume writing, producing the successful application and interviewing skills.

BIOL 4301 Embryology
3 Semester Credit Hours (3 Lecture Hours)
Studies the events that occur just prior to and during gestation. Includes gametogenesis, chromosomal and single gene aberrations, teratology, and the development of the body systems.
Prerequisite: BIOL 2416.
BIOL 4302 Coral Reef Conservation
3 Semester Credit Hours (3 Lecture Hours)
Survey of challenges and threats facing coral reef ecosystems in the 21st century and discussion of conservation and management strategies. Topics include biology and ecology of reef ecosystems, climate change impacts, coral bleaching, over-fishing and the effectiveness and design of marine protected areas.

BIOL 4304 Biology of Viruses
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the study of viruses, including viral life cycles, replication schemes and Baltimore classification of representative bacteriophages, plant and animal viruses. Emphasis on analysis and review of primary literature on viruses.
Prerequisite: BIOL 2416, 2421 and CHEM 1411.

BIOL 4308 Biogeography
3 Semester Credit Hours (3 Lecture Hours)
This course offers an overview of the theories, methods, and current directions in modern biogeography, emphasizing marine and terrestrial plant and animal species and communities.

BIOL 4311 Biological Bases of Behavior
3 Semester Credit Hours (3 Lecture Hours)
This lecture-based course examines the processes by which neuronal circuits generate behaviors and the mechanisms by which experience modulates the activity of these circuits.
Prerequisite: BIMS 4323.

BIOL 4312 Mariculture Techniques
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
The study and hands-on application of biological, mechanical, and other concepts required to develop the skills and techniques necessary for efficient operation and management of public and private aquaculture facilities. Offered in Fall of odd-numbered years.
Prerequisite: BIOL 4370.

BIOL 4319 Biology of Marine Mammals
3 Semester Credit Hours (3 Lecture Hours)
Introduction to marine mammals, with a focus on their interactions with their biotic and abiotic environment
Prerequisite: BIOL 1407.

BIOL 4323 Global Change Ecology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the effects of climatic and anthropogenic change on terrestrial and aquatic structure and function. Includes readings from the current literature and discussion of controversial articles.
Prerequisite: BIOL 3428.

BIOL 4328 Fisheries
3 Semester Credit Hours (3 Lecture Hours)
A study of theory and techniques in fisheries science, including practical fisheries sampling designs and techniques, behavior of fisheries populations and application to resource management with emphasis in tide-influenced waters. Includes readings in the current literature.
Prerequisite: BIOL 1407.

BIOL 4329 Fisheries Techniques
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
This class is designed to provide practical experience in the theory and application of traditional and modern fisheries sampling and analytical techniques used in Fisheries Science and Management. This is a hands-on field- and laboratory-based course that will develop skills that are most commonly used by fisheries biologists and technicians. Offered in Fall of even-numbered years.
Prerequisite: BIOL 4328.

BIOL 4334 Biology and Ecology of Coral Reefs
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the biology of corals, describe the abiotic and biotic interactions among coral reef ecosystem inhabitants, identify the threats of climate change, and discuss the conservation and management of reefs for the future. Offered every spring.
Prerequisite: BIOL 3428.

BIOL 4335 Conservation Biology
3 Semester Credit Hours (3 Lecture Hours)
Principles and theories relating to the conservation of biological diversity, including patterns and processes creating biological diversity, estimates of extinction rates, consequences of losses of biodiversity and causes of diversity loss.
Prerequisite: BIOL 3428.

BIOL 4336 Marine Ecology
3 Semester Credit Hours (3 Lecture Hours)
Habitats and community structure in marine environments; biotic and abiotic factors governing the distribution of marine organisms.

BIOL 4340 Genomics, Proteomics and Bioinformatics
3 Semester Credit Hours (3 Lecture Hours)
An introduction to integrative biological study using genome-wide approaches and bioinformatics. The "-omics" technologies (Genomics, Proteomics, Metabolomics, etc.) will be surveyed for current and potential contributions to understanding biological function at molecular, cellular, organismal and ecosystem levels.
Prerequisite: BIOL 2416 and 3410 or CHEM 4401.

BIOL 4343 Oceans and Human Health
3 Semester Credit Hours (3 Lecture Hours)
Healthy oceans are essential to the habitability of our planet – for humans and all other forms of life. Students will explore links between oceans, pollution, human well-being, ecosystem services, resource management, and the science and legislation governing the enforcement of water quality standards.

BIOL 4350 Research and Design
1-3 Semester Credit Hours (1-3 Lecture Hours)
Course will include experimental design, literature review of a research topic and laboratory work on the research topic.

BIOL 4353 Down the River: Biology of Gulf Coast Fishes
3 Semester Credit Hours (3 Lecture Hours)
This course covers aspects of ecology and biogeography of riverine and estuarine fishes while exposing students to field sampling techniques and museum preparation of specimens. This will be a unique opportunity for students to gain an in-depth understanding of the biological complexity of Texas Gulf Coast river systems while gaining hands-on experience in field and museum ichthyological techniques that are employed by state, federal and academic researchers alike.
Co-requisite: SMTE 0091.
BIOL 4355  Public Aquarium and Animal Care Operations  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines the unique requirements needed for public aquariums and zoos to balance animal care and health with public display for general education and conservation research.  
Co-requisite: SMTE 0091.

BIOL 4370  Mariculture  
3 Semester Credit Hours (3 Lecture Hours)  
Survey of the physiological, behavioral, environmental, and economic parameters governing the culture of selected aquatic species. Included are techniques employed worldwide to produce aquatic products.  
Prerequisite: BIOL 1407.

BIOL 4371  Population Genetics  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to evolutionary processes and their genetic basis, this course focuses on theoretical and experimental approaches to the study of population genetics, quantitative genetics, evolutionary ecology, and molecular evolution.  
Prerequisite: BIOL 2416 and MATH 2413.

BIOL 4396  Directed Independent Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Research in areas of current interest. Written report required. May be repeated for a maximum of 6 semester hours.  
Prerequisite: BIOL 1407 and CHEM 1412.

BIOL 4399  Directed Independent Research  
3-6 Semester Credit Hours (3-6 Lecture Hours)  
Independent laboratory- or field-based research project on topic of current interest. Project developed in conjunction with a faculty advisor. Written report required. May be repeated once for a total of 6 semester credit hours.

BIOL 4405  Limnology  
4 Semester Credit Hours (4 Lecture Hours)  
The study of the functional relationships and productivity of aquatic communities as they are affected by their physical, chemical, and biotic environment. The influence of man's activities on these systems will be the focus of the course.  
Prerequisite: BIOL 3428.  
Co-requisite: SMTE 0091.

BIOL 4406  Immunology  
4 Semester Credit Hours (4 Lecture Hours)  
An overview of immunology with emphasis on current knowledge of the immune system. Detailed examination of the specific cells, cytokines, antibodies, and molecules that comprise the immune system. Laboratory exercises demonstrate the basic principles and techniques used in immunologic studies. Cross listed with BIMS 4406.  
Prerequisite: BIOL 2421.  
Co-requisite: SMTE 0092.

BIOL 4408  Microbial Diversity and Ecology  
4 Semester Credit Hours (4 Lecture Hours)  
Biodiversity and roles of microorganisms in natural environments. Interactions with other micro- and macro-organisms (humans, animals and plants) and with abiotic factors. Unique abilities of microorganisms such as nitrogen fixation and adaptation to extreme environments.  
Prerequisite: (BIOL 2421 or 4328).  
Co-requisite: SMTE 0092.

BIOL 4410  Mammalogy  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Systematics and ecology of mammals. Offered in even Fall semesters.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.

BIOL 4411  Animal Behavior  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
An understanding of why animals behave in the manner they do, through examination of both invertebrate and vertebrate species.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.

BIOL 4413  Entomology  
4 Semester Credit Hours (4 Lecture Hours)  
A broad overview of the natural history, classification, phylogeny, ecology, behavior, development and physiology of insects and their kin. The lab will involve field work, collection and curation.  
Prerequisite: BIOL 3413.  
Co-requisite: SMTE 0091.

BIOL 4417  Field Biology  
4 Semester Credit Hours (1 Lecture Hour, 6 Lab Hours)  
is a hands-on course designed to teach students key concepts by immersing them in nature. Topics include adaptations of plants and animals in different habitats, food web interactions, and how biotic and abiotic forces interact to structure natural communities including spatial and temporal variation in communities.  
Prerequisite: BIOL 3428.  
Co-requisite: SMTE 0091.

BIOL 4422  Plant Taxonomy  
4 Semester Credit Hours (4 Lecture Hours)  
Principles and practice in the classification of flowering plants. Field trips are required.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.

BIOL 4425  Ornithology  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Systematics, anatomy, physiology, ecology, behavior, and field identification of birds. Offered in odd Fall semester.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.

BIOL 4429  Marine Botany  
4 Semester Credit Hours (4 Lecture Hours)  
The ecology of marine plants with emphasis on identification, life histories, and environmental factors of distribution.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.

BIOL 4430  Marine Plankton  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
In this class we will investigate the systematics, distribution, and ecology of major marine plankton groups and introduce major concepts in biological oceanography. Offered in Spring of odd-numbered years.  
BIOL 4432  Ichthyology  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Systematics, evolution, biology, and ecology of fishes. Laboratory identification of marine and freshwater fishes collected during field excursions.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.
BIOL 4433 Parasitology  
4 Semester Credit Hours (4 Lecture Hours)  
An introduction to parasitology with emphasis on internal parasites and appropriate references to human endoparasites and parasites of veterinary importance.  
**Prerequisite:** BIOL 2421.  
**Co-requisite:** SMTE 0092.

BIOL 4435 Biological Microtechniques  
4 Semester Credit Hours (4 Lecture Hours)  
Theory and techniques of processing specimens for histochemistry and microscopic examination. Laboratory includes preparation of tissues and small specimens for analysis and display.  
**Prerequisite:** BIOL 1407 and CHEM 3411.  
**Co-requisite:** SMTE 0092.

BIOL 4442 Herpetology  
4 Semester Credit Hours (4 Lecture Hours)  
Systematics, ecology, and behavior of amphibians and reptiles.  
**Prerequisite:** BIOL 1407.  
**Co-requisite:** SMTE 0091.

BIOL 4444 Estuarine Organisms  
4 Semester Credit Hours (4 Lecture Hours)  
Systematics, distribution, and ecology of estuarine macrofauna and macroflora. Weekend field trips and individual study required.  
**Prerequisite:** BIOL 3413.  
**Co-requisite:** SMTE 0091.

BIOL 4446 Tropical Ecosystems & Conservation  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Survey of the ecology and conservation issues of the major ecosystems in the tropics and field techniques used to study tropical forest ecology.  
**Prerequisite:** BIOL 3428.  
**Co-requisite:** SMTE 0091.

BIOL 4452 Ecology and Evolution of Fishes  
4 Semester Credit Hours (4 Lecture Hours, 4 Lab Hours)  
This course covers aspects of fish ecology from individual, population, community, and ecosystem levels. We discuss the role of the environment on fish physiology and behavior, food-web dynamics, community assembly and diversity, ecosystem interactions, and anthropogenic impacts on fishes with a focus on conservation.  
**Prerequisite:** BIOL 4432.  
**Co-requisite:** SMTE 0091.

BIOL 4547 Marine Science Field Camp  
5 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)  
Students learn techniques required to properly conduct marine science field research. Practical, hands-on experience is gained in a variety of topics including biotic and abiotic sample collection and processing, quantitative analysis of field data, evaluation of environmental factors, survival and distribution of living organisms, and the structure of biotic communities.

**BIOL 4590 Selected Topics**  
5 Semester Credit Hours (5 Lecture Hours)  
Variable content. May be repeated for credit.

BIOL 4598 Biology Internship  
2-6 Semester Credit Hours  
Two to six semester credit hours may be earned by working in an internship position in a governmental agency, private industry, or other appropriate venue.

BIOL 4609 Field and Sampling Techniques  
3,9 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)  
The study of techniques required for proper field work in the biological sciences. The course includes ecological sampling methods, safety, logistics, equipment operation and maintenance and travel concerns.  
**Co-requisite:** SMTE 0091.

BIOL 5102 Graduate Defense Seminar  
1 Semester Credit Hour  
Presentation of research conducted for MS degree. Should be taken the last semester of resident graduate study. Open only to MS Thesis and Non-thesis Degree Candidates in Biology. Students can enroll in any semester with the approval of their graduate advisory committee chair.

BIOL 5301 Coral Reef Systems  
3 Semester Credit Hours (3 Lecture Hours)

BIOL 5304 Virology  
3 Semester Credit Hours (3 Lecture Hours)  
Survey of bacteriophages and major pathogenic plant and animal viruses including Baltimore classification, viral replication, and emerging viral diseases. Emphasis on analysis and review of primary literature on viruses.  
**Prerequisite:** BIOL 2416, 2421 and CHEM 3412.

BIOL 5308 Biogeography  
3 Semester Credit Hours (3 Lecture Hours)  
Selected reading, discussion and projects concerning the geographic distribution of plants and animals.  
**Prerequisite:** BIOL 3428 and 3414.

BIOL 5309 Systematics  
3 Semester Credit Hours (3 Lecture Hours)  
Theories, methods, molecular and evolutionary basis of systematic biology; and rules and relationships of nomenclature used in classification.

BIOL 5310 Physiological Adaptations in Animals  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the physiological adaptations of animals to their environment, including osmoregulatory and temperature regulatory mechanisms.  
**Prerequisite:** BIOL 3430.

BIOL 5311 Cellular Bases of Behavior  
3 Semester Credit Hours (3 Lecture Hours)  
Using vertebrate and invertebrate animal models, this graduate-level course explores how behaviors emerge from the activity of neural circuits and how experience modulates these circuits.

BIOL 5319 Biology of Marine Mammals  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to marine mammals, with a focus on their interactions with their biotic and abiotic environment.

BIOL 5322 Molecular Genetics  
3 Semester Credit Hours (3 Lecture Hours)  
In-depth study of the molecular basis of genetic interactions; focus on molecular mechanisms of mutation, suppression and recombination.  
**Prerequisite:** CHEM 3412, BIOL 2416 and 3403.

BIOL 5329 Plant Adaptations  
3 Semester Credit Hours (3 Lecture Hours)  
Emphasis on living gymnosperms and angiosperms and their adaptive significance.
BIOL 5334  Biology and Ecology of Coral Reefs
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the biology of corals, describe the abiotic and biotic interactions among coral reef ecosystem inhabitants, identify the threats of climate change, and discuss the conservation and management of reefs for the future. Offered every spring.

BIOL 5335  Aquatic Microbiology
3 Semester Credit Hours (3 Lecture Hours)
Types and distribution of microorganisms in aquatic environments. Interactions with other organisms. Role in nutrient cycling, degradation of organic substances, pollution, water purification.
Prerequisite: BIOL 2421.
Co-requisite: BIOL 2416 and 3410 or CHEM 4301.

BIOL 5340  Genomics, Proteomics and Bioinformatics
3 Semester Credit Hours (3 Lecture Hours)
Integrative biological study using genome-wide approaches and bioinformatics. The “-omics” technologies (Genomics, Proteomics, Metabolomics, etc) will be reviewed. Applications to understanding biological function in various biological disciplines will be emphasized. Offered during fall. Cross listed with MARB 6342.
Prerequisite: BIOL 2416 and 3410 or CHEM 4301.

BIOL 5355  Public Aquarium and Animal Care Operations
3 Semester Credit Hours (3 Lecture Hours)
This course examines the unique requirements needed for aquariums and zoos to balance animal care and health with public display for general education and conservation research.
Co-requisite: SMTE 0091.

BIOL 5371  Evolutionary Genetics
3 Semester Credit Hours (3 Lecture Hours)
EVOLUTIONARY GENETICS An advanced introduction to evolutionary processes and their genetic basis, focusing on theoretical and experimental approaches to the study of population genetics, phylogeography, coalescence theory, evolutionary ecology, and molecular evolution.

BIOL 5392  Thesis Proposal
3 Semester Credit Hours
Thesis track students must complete a proposal for their thesis project. A proposal is considered complete when it is approved and signed by all members of the student’s graduate advisory committee. Open only to thesis track students in the MS Biology program. Qualified students can enroll in any semester with the approval of their graduate advisory committee chair.

BIOL 5393  Thesis Research
3 Semester Credit Hours
Implementation of the Thesis Proposal, and the production of a rough draft of the thesis submitted for initial editing and comment. A course section will be created for the student to enroll. Students can enroll in any semester with the approval of their graduate advisory committee chair.
Prerequisite: BIOL 5392.

BIOL 5394  Thesis Submission
3 Semester Credit Hours
The final draft of the thesis is completed, approved by the graduate advisory committee, and is readied for distribution. Students can enroll in any semester with the approval of their graduate advisory committee chair.
Prerequisite: (BIOL 5392 and 5393).

BIOL 5396  Directed Independent Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
Study in areas of current interest. Credit is not given for research on the thesis project. A total of six semester hours of Directed Independent Study may be counted toward the MS degree.

BIOL 5397  Directed Research
3 Semester Credit Hours
For students in the MS Biology Professional track. Field, laboratory, and/or library research that results in the production of the professional paper, its approval by the graduate advisory committee, and its final submission. Students can enroll in any semester with the approval of their graduate advisory committee chair. This course must be successfully completed for the professional track student to complete the MS degree.

BIOL 5406  Immunology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An in-depth study of immunology. Emphasizes function and interaction of specific cells, cytokines, lymphokines, antibodies and molecules that are the essential components of the immune system. The course includes up-to-date coverage of both innate and adaptive immunity, and the immune system in health and disease.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

BIOL 5408  Microbial Ecology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Relationships between microorganisms and their biotic and abiotic environments. Role of microorganisms in biogeochemical cycling. Methodology in microbial ecology. Biotechnological aspects.
Co-requisite: SMTE 0092.

BIOL 5410  Mammalogy
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The course is designed for graduate students in biology wanting to acquire a more detailed working knowledge and appreciation of mammalian diversity in structure, function, ethology, and ecology. Knowledge and skills acquired in this course will be useful to field and laboratory studies in ecology, evolution, animal behavior, biogeography, wildlife management, and related disciplines. Offered in even Fall semester.
Co-requisite: SMTE 0091.

BIOL 5411  Ethology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Adaptive aspects of animal behavior.
Co-requisite: SMTE 0091.

BIOL 5412  Ecology of Fresh Waters
4 Semester Credit Hours (4 Lecture Hours)
ECOLOGY OF FRESH WATERS Ecological relationships and productivity of freshwater communities, including rivers, lakes and wetlands. Focus is on interactions of the physical, chemical and biotic environment and influence of human activities on systems.
Co-requisite: SMTE 0091.

BIOL 5414  Growth and Development
4 Semester Credit Hours (4 Lecture Hours)
Special topics involving growth and development in plants and animals.
Co-requisite: SMTE 0092.
BIOL 5415  Biology of Estuarine Organisms
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics, distribution, and ecology of estuarine macrofauna and macroflora. Weekend field trips and individual study required.
Prerequisite: BIOL 3413.
Co-requisite: SMTE 0091.

BIOL 5417  Field Biology
4 Semester Credit Hours (1 Lecture Hour, 6 Lab Hours)
is a hands-on course designed to teach students key concepts by immersing them in nature. Topics include adaptations of plants and animals in different habitats, food web interactions, and how abiotic and biotic forces interact to structure natural communities including spatial and temporal variation in communities.
Prerequisite: BIOL 3428.
Co-requisite: SMTE 0091.

BIOL 5420  Application of Molecular Techniques
4 Semester Credit Hours (4 Lecture Hours)
Application of DNA-RNA technology to selected scientific problems. Emphasis on current research techniques.
Prerequisite: BIOL 3403 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 5422  Plant Taxonomy
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Experimental and analytical approaches to plant variation and evolution, breeding systems, cyto- and molecular genetics, hybridization and phylogeny. The course will present a foundational approach to the methods, research and terminology of plant systematics and summarize information on the most recent knowledge of evolutionary relationships as well as practical information vital to field work.
Co-requisite: SMTE 0091.

BIOL 5425  Ornithology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The course is designed for graduate students in biology wanting to acquire a more detailed working knowledge and appreciation of avian diversity in structure, function, ethology, and ecology. Knowledge and skills acquired in this course will be useful to field and laboratory studies in ecology, evolution, animal behavior, biogeography, wildlife management, and related disciplines. Offered in odd Fall semesters.
Co-requisite: SMTE 0091.

BIOL 5426  Avian Biology
4 Semester Credit Hours (4 Lecture Hours)
NCD
Co-requisite: SMTE 0091.

BIOL 5427  Coastal Ecology of Texas
4 Semester Credit Hours (4 Lecture Hours)
COASTAL ECOLOGY OF TEXAS Study of the ecology and environmental issues of the Texas coast. Includes field trips along the entire Texas coastline.
Co-requisite: SMTE 0091.

BIOL 5428  Fisheries Biology
4 Semester Credit Hours (4 Lecture Hours)
FISHERIES BIOLOGY Advanced study of theory and techniques in fisheries science including behavior of fisheries populations and applications to resource management with emphasis in tidal-influenced waters. Includes readings in the current literature and a research project. The laboratory will emphasize practical sampling design and data interpretation.

BIOL 5429  Marine Botany
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Marine plants are a diverse group that includes unicellular algae, seaweeds, seagrasses, salt marshes, and mangrove forests. The goal is to present taxonomic, physiological, chemical, and ecological aspects of marine plants, their adaptations, and how abiotic and biotic factors interact in their communities. The use of recent journals and original scientific research will allow the student to evaluate anthropogenic effects to these communities and develop methods of restoration and management.
Co-requisite: SMTE 0091.

BIOL 5430  Marine Plankton
4 Semester Credit Hours (4 Lecture Hours)
Investigation of the systematics, distribution, and ecology of marine plankton. Cross listed with MARB 6430.
Co-requisite: SMTE 0091.

BIOL 5431  Phycology
4 Semester Credit Hours (4 Lecture Hours)
Study of the major groups of freshwater and marine algae; morphology, ecology, systematics, life cycles, and physiology. Laboratories emphasize collection, identification, and culturing techniques.
Co-requisite: SMTE 0092.

BIOL 5432  Ichthyology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The study of fish encompassing species diversity, natural history, and evolutionary and ecological relationships of fishes. This course will consist of four major parts: (1) Evolution, (2) Systematics, (3) Biology, and (4) Ecology of fish. Laboratory identification of marine and freshwater fishes from the University archives and collected during field excursions.
Co-requisite: SMTE 0091.

BIOL 5435  Biological Microtechniques
4 Semester Credit Hours (2 Lecture Hours, 4 Lab Hours)
The theory and practice of using histochemical and microscopic techniques to prepare tissues and small specimens for research analysis.
Prerequisite: CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 5436  Marine Ecological Processes
4 Semester Credit Hours (4 Lecture Hours)
Advanced studies in structure and habitats of marine environments. Emphasis on factors influencing distribution of marine organisms, including field trips to areas along the Texas coast.
Prerequisite: BIOL 3428.
Co-requisite: SMTE 0091.

BIOL 5437  Ecology of Marine Plants
4 Semester Credit Hours (4 Lecture Hours)
Co-requisite: SMTE 0091.

BIOL 5442  Herpetology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A global perspective and current research topics on the biology of amphibians and reptiles.
Co-requisite: SMTE 0091.
BIOL 5446  Tropical Ecology and Conservation  
4 Semester Credit Hours (4 Lecture Hours, 3 Lab Hours)  
This is an overview course in major ecosystems in both the New and Old World tropics, the ecological principles at work in these systems, and the current threats and conservation approaches being used. It will be a hybrid course including lectures and journal readings/discussion (seminar-style).  
Prerequisite: BIOL 3428.  

BIOL 5452  Ecology and Evolution of Fishes  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
This course covers aspects of fish ecology from individual, population, community, and ecosystem levels. We discuss the role of the environment on fish physiology and behavior; food-web dynamics, community assembly and diversity, ecosystem interactions, and anthropogenic impacts on fishes with a focus on conservation.  
Co-requisite: SMTE 0091.  

BIOL 5590  Special Topics  
5 Semester Credit Hours (5 Lecture Hours)  
An advanced study of a biological topic. May be repeated with full credit in another area of biology. Topics vary by semester.  

BIOL 5609  Field and Sampling Techniques  
6 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)  
Experience in field studies, organizing field notes, collecting and methods of preserving organisms for teaching and museum purposes. The course includes field ecological sampling methods, environmental data collection, safety, logistics, and proper scientific equipment operation.  
Co-requisite: SMTE 0091.  

BIOL 5940  Project Research  
1-9 Semester Credit Hours (1-9 Lecture Hours)  
Research related to the MS project. Open only to degree candidates in biology with consent of the graduate advisor. This course may be repeated as needed but a maximum of 4 hours can be applied to the MS degree in biology. Course is taken as credit/non-credit. Students can enroll in any semester with the approval of their graduate advisory committee chair.  

BIOL 6371  Evolutionary Genetics  
3 Semester Credit Hours (3 Lecture Hours)  

BIOL 6446  Tropical Ecology and Conservation  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
TROPICAL ECOLOGY AND CONSERVATION Ecological processes and conservation issues in the tropics. Laboratory focuses on field techniques used to study tropical forest ecology. Principals of Ecology (BIOL 3428) or equivalent, or permission of instructor. SMTE 0091 is a co-requisite for this course. Documented completion of this safety training is required early in the semester for continued participation in this course.  
Co-requisite: SMTE 0091.  

Fast Track Environmental Science, BS and Environmental Science, MS  
Program Description  
The university allows the opportunity for high-achieving students to count a select number of graduate credits toward their undergraduate degree and thereby obtain a graduate degree at an accelerated pace. Students interested in the Fast Track in Environmental Science must meet the following application criteria:  
• Currently seeking a BS in Environmental Science at A&M-Corpus Christi.  
• Minimum of a 3.0 GPA in the last 60 SCH (and a 3.0 GPA in all science and math courses) at the time of Fast Track application.  
• Classified as a Senior with successful completion of at least 90 SCH, including  

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>BIOL 1406</td>
<td>Biology I</td>
<td>4</td>
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<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
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<td>CHEM 1412</td>
<td>General Chemistry II</td>
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<tr>
<td>ESCI 1401</td>
<td>Environmental Science I: Intro to Environmental Science</td>
<td>4</td>
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<tr>
<td>ESCI 3202</td>
<td>Professional Skills</td>
<td>2</td>
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<tr>
<td>GEOL 1403</td>
<td>Physical Geology</td>
<td>4</td>
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<tr>
<td>MATH 1442</td>
<td>Statistics for Life</td>
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<td>or MATH 2413</td>
<td>Calculus I</td>
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<td>PHYS 1401</td>
<td>General Physics I</td>
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<td>or PHYS 2425</td>
<td>University Physics I</td>
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Students accepted into the Fast Track program will be given permission to enroll in up to six hours of prescribed graduate courses during their last semester of undergraduate studies. The hours for these graduate courses will "double-count" toward both the undergraduate and graduate programs. The BS and MS degrees will be awarded sequentially (i.e., upon completion of each degree) and not simultaneously. Students will be allowed to continue enrollment in the graduate program upon successful completion of the undergraduate degree.  

Admissions Requirements  
Applicants must provide the following at the time of application:  
• A completed application form. Application fees are waived for Fast Track applicants.  
• Official transcripts of all college and university coursework.  
• An essay of at least 300 words describing their educational and career interests, goals, and challenges.  
• Three letters of evaluation from persons knowledgeable about their potential for success in graduate studies.  
• Identify a faculty member willing to serve as their graduate advisor. Applicants will not be admitted to the program without a graduate advisor.  
• Official GRE scores by the time the student is reclassified to MS.  

No criterion is weighted more heavily than any other criterion. Applications received or completed after the deadline for admission during one semester may be considered for admission in the following semester at the applicant’s request. Applicants will be notified of the outcome of their application by email.  

Academic Preparation  
Students accepted to the degree program with insufficient background in science, computer science, mathematics, or communication skills will be required to take undergraduate or graduate prerequisite courses prescribed by their advisory committees. These courses may or may not apply towards the total required for the master’s degree.
Fast Track Curriculum in the Senior Year

BS, Environmental Science students accepted in the Fast Track will have up to six hours of undergraduate elective credit replaced with six hours of graduate credit during the final semester of the senior year. A Fast Track student, in consultation with the faculty advisor, will be able to substitute six hours of undergraduate courses from BIOL, CHEM, COSC, ESCI GEOL, GISC, MATH, PHYS, or other disciplines as approved.

In place of the six hours of undergraduate courses, the student will take the following graduate courses instead:

- ESCI 5302 (sch) or ESCI 5360 (sch) or BLAW 5330 Environmental Law and Policy (3 sch)

and

- An approved graduate elective.

See the Graduate Catalog for a complete description of the degree requirements for the MS in Environmental Science.

Courses

ESCI 1401 Environmental Science I: Intro to Environmental Science
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Principles of the scientific method and critical thinking provide a foundation for subsequent consideration of environmental issues through a multidisciplinary approach. Laboratory exercises and local field experiences reinforce concepts introduced in the lectures. Fall, Spring.
Co-requisite: SMTE 0096.
TCCNS: ENVR 1401

ESCI 1490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject materials variable. May be repeated for credit when topics are significantly different. Faculty approval required. Offered on sufficient demand.

ESCI 3202 Professional Skills
2 Semester Credit Hours (2 Lecture Hours)
Presentation and discussion of selected topics relating to the professional skills of practicing environmental scientists including literature searches, reviews, paper presentation, professional and career opportunities, professional ethics. Fall, Spring.

ESCI 3351 Oceanography
3 Semester Credit Hours (3 Lecture Hours)
Methods and principles of oceanography. A survey of oceanography with emphasis placed on the physical processes affecting water and water masses of the world oceans. Fall (on sufficient demand), Spring.
Prerequisite: CHEM 1412, ESCI 1401 or GEOL 1403.

ESCI 3403 Introduction to Meteorology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course is an introduction to meteorology and the dynamics of planetary atmospheres. Emphasis on atmospheric accretion, composition, evolution, structure, and dynamics. Lab exercises cover basic measurement techniques, weather maps, and forecasting. Fall, Spring (on sufficient demand).
Co-requisite: SMTE 0096.

ESCI 3443 Environmental Biology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Historical, contemporary, and projected concerns of human activities on biological aspects of ecosystem functioning.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0096.

ESCI 4130 Oil Spill Prevention and Response Lab
1 Semester Credit Hour (2 Lab Hours)
Practical techniques for control, containment, countermeasures, removal, and disposal of oil spills in an environmentally safe manner. Field exercises will include use of boats, booms and skimmers. Fall, Spring, Summer (on sufficient demand).
Prerequisite: ESCI 4270.

ESCI 4170 Hazardous Waste Operations and Emergency Response Lab
1 Semester Credit Hour (2 Lab Hours)
Practical techniques for handling, reducing, and disposing of hazardous wastes in an environmentally safe manner. Lab exercises in use of personal protective gear and safe handling of hazardous substances. Fall, Spring, Summer (on sufficient demand).
Prerequisite: ESCI 4270.

ESCI 4201 Scientific Diving Techniques
2 Semester Credit Hours (2 Lecture Hours)
Theory, science, and art of underwater diving technology and its application to scientific objectives. Course helps fulfill some training requirements of the Texas A&M University-Corpus Christi Guidelines for scientific diving.

ESCI 4202 Issues in Environmental Science
2 Semester Credit Hours (2 Lecture Hours)
Exploration of major issues in environmental science posing past, present and future challenges. Selected readings, student presentations and papers.
Prerequisite: ESCI 1401.

ESCI 4230 Oil Spill Prevention and Response Theory
2 Semester Credit Hours (2 Lecture Hours)
Historical perspective of laws and regulations governing oil spill prevention and response. Current methods for control, containment, countermeasures, removal, and disposal of oil spills in an environmentally safe manner. Fall, Spring, Summer (on sufficient demand).
Co-requisite: ESCI 4130.

ESCI 4270 Hazardous Waste Operations and Emergency Response Theory
2 Semester Credit Hours (2 Lecture Hours)
Study of the laws and regulations of hazardous waste management from an historical perspective followed by current techniques for handling, reducing, and disposing of hazardous wastes in an environmentally safe manner. Fall, Spring, Summer (on sufficient demand).
Co-requisite: ESCI 4230.

ESCI 4301 Environmental Regulations
3 Semester Credit Hours (3 Lecture Hours)
A survey of state and federal environmental laws and regulations, and their impact on the environment. Case studies of environmental issues and legislated regulations.
Prerequisite: POLS 2305 and 2306.
ESCI 4320 Environmental Health
3 Semester Credit Hours (3 Lecture Hours)
Overview of the toxicology and epidemiology of pollutants in the air, water and soil. Associations of environmental exposure with adverse health effects such as cancer, cardiovascular disease, and reproductive outcomes; also chemical markers and symptoms of disease. Pollutants studied include lead, asbestos, radiation, radon, noise, metals, halogenated hydrocarbons, aromatic hydrocarbons, silica, indoor air quality, formaldehyde, and outdoor air pollutants. Offered on sufficient demand.

ESCI 4321 Introduction to Soil and Groundwater Restoration
3 Semester Credit Hours (3 Lecture Hours)
Introduction to methods for restoring contaminated soil and groundwater by examining the factors and processes influencing the efficacy of remediation systems. An emphasis will be placed on the scientific principles upon which soil and groundwater remediation is based. Cross listed with GEOL 4321.

ESCI 4322 Introduction to Industrial Hygiene
3 Semester Credit Hours (3 Lecture Hours)
Introduction to health protection practices in the industrial environment. Health basis for OSHA laws, regulations. Sampling and testing procedures.

ESCI 4324 Introduction to Industrial Toxicology
3 Semester Credit Hours (3 Lecture Hours)
Review of human physiology, general concepts of toxicology: dose-response relationship, interactions between the host and the agents, risk assessment, to provide an introductory understanding of toxicology related to the chemicals in the workplace.

ESCI 4332 Wetlands and Water Quality
3 Semester Credit Hours (3 Lecture Hours)
Introduction to wetland ecosystems (natural, constructed and restored) with an emphasis on the role of wetlands in water quality. Topics include wetland systems, their history and role in society, relationships between biology, geology, ecology, hydrology and chemistry in wetland environments.
Prerequisite: BIOL 3428 and CHEM 4443 or ESCI 3443.

ESCI 4335 Climate and Climate Variability
3 Semester Credit Hours (3 Lecture Hours)
Course intended to guide environmental science majors in developing a conceptual understanding of Earth's global climate and its variability. Review of past climates, present mean state of the climate system, climate variability from seasonal to multidecadal time scales, and climate change. Special attention given to climates of the Gulf of Mexico, Caribbean Sea and surrounding land regions. Plausible climate-change scenarios, as well as mitigation and adaptation strategies are also discussed. Cross listed with ATSC 4335. Spring.
Prerequisite: (ESCI 3351 or 3403) and (PHYS 1401 or 2425).

ESCI 4340 Severe Weather
3 Semester Credit Hours (3 Lecture Hours)
Introduction to mesoscale weather systems including thunderstorms, squall lines and hurricanes, as well as the mechanisms of tornado and lightning. Methods of observing, analyzing, and predicting these severe weather systems with the interpretation of satellite and radar images will also be introduced in this class.
Prerequisite: ESCI 3403.

ESCI 4344 Air Pollution and the Clean Air Act
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the chemistry and physics of air pollution and regulations. Topics include photochemistry, acid rain, air pollution meteorology and dispersion, global change, and the Clean Air Act.

ESCI 4360 Physical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
Physical description of the sea, physical properties of seawater and sea ice, methods and measurements, wind-driven ocean circulation, thermohaline ocean circulation, boundary processes, waves, tides and mixing. Seasonal and interannual variability such as El Niño/Southern Oscillation phenomena. Implications for marine biology, marine geology, human impacts, other topics. Fall.
Prerequisite: PHYS 1401 or 2425.

ESCI 4365 Occupational Safety and Accident Prevention
3 Semester Credit Hours (3 Lecture Hours)
This course provides students with fundamental knowledge of regulatory requirements on occupational safety and practical techniques on accident prevention in the work environment. Offered on sufficient demand.

ESCI 4408 Environmental Microbiology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Relationships between microorganisms and their biotic and abiotic environment. Current topics such as air quality (i.e., molds), water quality and bioremediation will be discussed. Laboratory will include techniques for sampling from soil, air and water. Offered on sufficient demand.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0096.

ESCI 4480 Environmental Site Assessment
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Interdisciplinary application of environmental regulations, risk assessment to specific examples. Knowledge of United States environmental regulations assumed; ESCI 4301 Environmental Regulations recommended.

ESCI 4490 Selected Topics
4 Semester Credit Hours (4 Lecture Hours, 4 Lab Hours)
Subject materials variable. May be repeated for credit when topics are significantly different. Faculty approval required. Offered on sufficient demand.

ESCI 4496 Directed Independent Study
1-4 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College. Fall, Spring, Summer.

ESCI 4498 Internship in Environmental Science
1-4 Semester Credit Hours (4 Lecture Hours)
Two to four semester hours of credit may be earned by working in an internship position in a governmental agency or industry.

ESCI 5350 Fundamentals of Physical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
Principles that rule water motions and associated transport and dispersion of natural and man-made substances in the sea including a review of the mean ocean circulation and its spatial and temporal variability, observational methods, ocean circulation theories and air-sea interactions.
ESCI 5392 Thesis I: Thesis Proposal
3 Semester Credit Hours (3 Lecture Hours)
Review of the literature on a thesis topic. Completion of a written research proposal including proposed experimental design. If the thesis proposal is not completed by the end of the semester, a mark of "IP" will be awarded. An "IP" is a permanent, non-punitive grade notation. In order to receive a qualitative grade in the course, the student must enroll in and complete this course in a subsequent semester.

ESCI 5393 Thesis II: Thesis Research
3 Semester Credit Hours (3 Lecture Hours)
Collection and organization of research data and presentation of research proposal to the thesis advisor. May be repeated; no more than three hours may be taken per semester. If the thesis is not completed by the end of the semester, a mark of "IP" will be awarded. An "IP" is a permanent, non-punitive grade notation. In order to receive a qualitative grade in the course, the student must enroll in and complete this course in a subsequent semester.
Prerequisite: ESCI 5392.

ESCI 5394 Thesis III: Thesis Submission
3 Semester Credit Hours (3 Lecture Hours)
The thesis defense and completion of the thesis manuscript including acceptance of the final copy by the advisory committee. May be repeated; no more than three hours may be taken per semester. If the thesis is not completed by the end of the semester, a mark of "IP" will be awarded. An "IP" is a permanent, non-punitive grade notation. In order to receive a qualitative grade in the course, the student must enroll in and complete this course in a subsequent semester.
Prerequisite: ESCI 5392.

ESCI 5397 Directed Research
3 Semester Credit Hours (3 Lecture Hours)
Emphasis on experimental design as related to environmental science. For students selecting the professional (non-thesis) option. Only three semester hours will count towards the non-thesis degree. Requires presentation of results in a written paper and seminar. If the professional paper is not completed by the end of the semester, a mark of "IP" will be awarded. An "IP" is a permanent, non-punitive grade notation. In order to receive a qualitative grade in the course, the student must enroll in and complete this course in a subsequent semester.

ESCI 5398 Directed Independent Study
1-5 Semester Credit Hours (1-5 Lecture Hours)
Study in areas of current interest. (A total of six hours of Directed Independent Study may be counted toward the MS degree.)

ESCI 5940 Project Research
1-9 Semester Credit Hours
Research related to the MS project. Requires consent of graduate advisor. Does not count as credit toward the MS degree in Environmental Science. Course is taken as credit/no credit.

ESCI 6101 Environmental Research Seminar
1 Semester Credit Hour (1 Lecture Hour)
Studies and analysis of pertinent literature. May be repeated for credit, but credit may count only once towards the degree plan. Course is taken as credit/no credit.

ESCI 6130 Oil Spill Management Lab
1 Semester Credit Hour (1 Lab Hour)
FIELD EXERCISES IN OIL SPILL RESPONSE, UTILIZING A SPILL MANAGEMENT TEAM INCORPORATING THE ELEMENTS OF INCIDENT COMMAND.
Prerequisite: ESCI 6320.
*May be taken concurrently.
Co-requisite: ESCI 6230, SMTE 0096.

ESCI 6170 Hazardous Waste Treatment Technologies Lab
1 Semester Credit Hour (1 Lab Hour)
REVIEW OF PRACTICAL TECHNIQUES FOR HANDLING, REDUCING, AND DISPOSING OF HAZARDOUS WASTES IN AN ENVIRONMENTALLY SAFE MANNER.
Co-requisite: SMTE 0096.

ESCI 6201 Advanced Scientific Diving Techniques
2 Semester Credit Hours
Advanced study of the theory, science, and art of underwater diving technology and its application to scientific objectives. Course helps fulfill some training requirements of the Texas A&M University-Corpus Christi guidelines for scientific diving.

ESCI 6203 Professional Skills for Scientists
2 Semester Credit Hours
Presentation and discussion of professional skills of practicing scientists including literature searches, evaluation of information sources, oral and written communication skills, lifelong learning, careers and professional opportunities.

ESCI 6230 Oil Spill Management Theory
2 Semester Credit Hours (2 Lab Hours)
REVIEW OF LAWS AND REGULATIONS GOVERNING OIL SPILL PREVENTION AND RESPONSE. CURRENT METHODS FOR CONTROL, CONTAINMENT, COUNTERMEASURES, REMOVAL, AND DISPOSAL OF OIL SPILLS IN AN ENVIRONMENTALLY SAFE MANNER. DEVELOPMENT OF A SPILL MANAGEMENT TEAM INCORPORATING THE ELEMENTS OF INCIDENT COMMAND.

ESCI 6270 Hazardous Waste Treatment Technologies Theory
2 Semester Credit Hours (2 Lecture Hours)
REVIEW OF THE LAWS AND REGULATIONS OF HAZARDOUS WASTE MANAGEMENT FROM AN HISTORICAL PERSPECTIVE FOLLOWED BY REPORTS ON CURRENT TECHNIQUES FOR HANDLING, REDUCING, AND DISPOSING OF HAZARDOUS WASTES IN AN ENVIRONMENTALLY SAFE MANNER.

ESCI 6302 Federal Environmental Laws and Regulations
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of case histories involving the application of state and federal environmental laws and regulations. Review of permits, waste registrations, manifests, self-reporting and inspection reports.

ESCI 6310 Fundamentals of Remote Sensing
3 Semester Credit Hours (3 Lecture Hours)
Fundamental theory of satellite/airborne remote sensing techniques, sensor performance and calibration, and the scientific applications for land, ocean and atmosphere observations. Topics include physical principles of remote sensing, radiometry, sensors and sensor technology from infrared to microwave sensing, and scientific applications for land, ocean and atmosphere observations.
ESCI 6314 Biogeochemical Processes
3 Semester Credit Hours
Water and element cycling in the atmosphere, hydrosphere and geosphere. Microbial interactions and physical processes will be emphasized. 
Prerequisite: CHEM 1311, 1312 and GEOL 1403 or ESCI 1401 or 3351.

ESCI 6320 Advanced Environmental Health
3 Semester Credit Hours
Advanced study of the toxicology and epidemiology of pollutants in the air, water and soil. Associations of environmental exposure with adverse health effects such as cancer, cardiovascular disease and reproductive outcomes, also chemical markers and symptoms of disease. Pollutants studied include lead, asbestos, radiation, radon, noise, metals, halogenated hydrocarbons, aromatic hydrocarbons, silica, indoor air quality, formaldehyde, and outdoor air pollutants.

ESCI 6321 Advanced Soil and Groundwater Restoration
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of methods for restoring contaminated soil and groundwater by examining the factors and processes influencing the efficacy of remediation systems. An emphasis will be placed on the scientific principles upon which soil and groundwater remediation is based.

ESCI 6322 Industrial Hygiene
3 Semester Credit Hours
Health protection practices in the industrial environment. Health basis for OSHA laws, regulations. Sampling and testing procedures.

ESCI 6324 Advanced Industrial Toxicology
3 Semester Credit Hours (3 Lecture Hours)
Advanced review of human physiology, general concepts of toxicology: dose-response relationship, interactions between the host and the agents, risk assessment, to provide a fundamental understanding of toxicology related to the chemicals in the workplace.

ESCI 6332 Advanced Wetlands and Water Quality
3 Semester Credit Hours (3 Lecture Hours)
Introduction to wetland ecosystems (natural, constructed and restored) with an emphasis on the role of wetlands in water quality. Topics include wetland systems, their history and role in society, relationships between biology, geology, ecology, hydrology and chemistry in wetland environments. 
Prerequisite: BIOL 3428 and CHEM 4443 or ESCI 3443.

ESCI 6340 Ocean Resources
3 Semester Credit Hours (3 Lecture Hours)
Investigation of topics related to the discovery, distribution, and exploitation of marine resources of the ocean with a focus on the Gulf of Mexico, including the impact of resource exploitation on biological systems, and the development of marine policy.

ESCI 6345 Living with Coastal Hazards
3 Semester Credit Hours (3 Lecture Hours)
Study of how coastal processes, such as hurricanes, sea-level rise, and erosion, intersect with human activities to create hazardous conditions and how society responds to these conditions, presented through discussion, case studies, and field trips.

ESCI 6359 Ecosystem Dynamics
3 Semester Credit Hours (3 Lecture Hours)
Investigation of the interactions between organisms and physical processes that regulate marine ecosystem functions.

ESCI 6360 Coastal Management and Ocean Law
3 Semester Credit Hours (3 Lecture Hours)
The legal and policy framework associated with the coastal zone and ocean environment. Public access to coastal lands and waters, public trust, wetlands regulation; international law of the sea, fisheries law, and marine pollution.

ESCI 6365 Managing Occupational Safety and Accident Prevention
3 Semester Credit Hours (3 Lecture Hours)
This course provides students with advanced knowledge of regulatory requirements on occupational safety and practical techniques on accident prevention in the work environment.

ESCI 6380 Environmental Management Systems
3 Semester Credit Hours (3 Lecture Hours)
This course explores the systems management approach used by businesses and governments to promote environmental quality and sustainability. EMS and ISO 14001 standards go beyond minimally acceptable environmental compliance.

ESCI 6408 Environmental Microbiology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Relationships between microorganisms and their biotic and abiotic environments. Role of microorganisms in biogeochemical cycling. Methodology in microbial ecology. Biotechnological aspects.
Prerequisite: BIOL 2421.

ESCI 6416 Advanced Geochemistry
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced study of the Earth processes using principles of chemical equilibrium, thermodynamics, isotope geochemistry and organic geochemistry. Applications of low-temperature geochemistry to geologic problems.

ESCI 6480 Environmental Site Assessment
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Interdisciplinary application of environmental regulations, risk assessment to specific examples. Knowledge of United States environmental regulations assumed; ESCI 4301 or ESCI 6203 - Professional Skills for Scientists recommended.

ESCI 6590 Advanced Topics
1-5 Semester Credit Hours (1-3 Lecture Hours, 4 Lab Hours)
Advanced study in a specific area of environmental science. May be repeated for credit when topics vary. Offered on sufficient demand.

ESCI 6596 Directed Independent Study
1-5 Semester Credit Hours (1-5 Lecture Hours)
Study in areas of current interest. (A total of six hours of Directed Independent Study may be counted toward the MS degree.)

Fast Track Geology, BS and Environmental Science, MS

Program Description
The university allows the opportunity for high-achieving students to count a select number of graduate credits toward their undergraduate degree and thereby obtain a graduate degree at an accelerated pace. Students interested in the Fast Track from Geology to Environmental Science must meet the following application criteria:

• Currently seeking a BS in Geology at A&M-Corpus Christi.
• Minimum of a 3.0 GPA in the last 60 SCH (and a 3.0 GPA in all science and math courses) at the time of Fast Track application.
• Classified as a Senior with successful completion of at least 90 SCH, including

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
<td>4</td>
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<tr>
<td>CHEM 1412</td>
<td>General Chemistry II</td>
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<tr>
<td>GEOL 1403</td>
<td>Physical Geology</td>
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<tr>
<td>GEOL 1404</td>
<td>Historical Geology</td>
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<td>MATH 2413</td>
<td>Calculus I</td>
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<tr>
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<td>General Physics I</td>
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<td>or PHYS 2425</td>
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<td>PHYS 1402</td>
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<td>or PHYS 2426</td>
<td>University Physics II</td>
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<tr>
<td>GEOL 3411</td>
<td>Mineralogy</td>
<td>4</td>
</tr>
</tbody>
</table>

Students accepted into the Fast Track program will be given permission to enroll in up to six hours of prescribed graduate courses during their last semester of undergraduate studies. The hours for these graduate courses will “double-count” toward both the undergraduate and graduate programs. The BS and MS degrees will be awarded sequentially (i.e., upon completion of each degree) and not simultaneously. Students will be allowed to continue enrollment in the graduate program upon successful completion of the undergraduate degree.

### Admissions Requirements

Applicants must provide the following at the time of application:

- A completed application form. Application fees are waived for Fast Track applicants.
- Official transcripts of all college and university coursework.
- An essay of at least 300 words describing their educational and career interests, goals, and challenges.
- Three letters of evaluation from persons knowledgeable about their potential for success in graduate studies.
- Identify a faculty member willing to serve as their graduate advisor. Applicants will not be admitted to the program without a graduate advisor.
- Official GRE scores by the time the student is reclassified to MS.

No criterion is weighted more heavily than any other criterion. Applications received or completed after the deadline for admission during one semester may be considered for admission in the following semester at the applicant’s request. Applicants will be notified of the outcome of their application by email.

### Academic Preparation

Students accepted to the degree program with insufficient background in science, computer science, mathematics, or communication skills will be required to take undergraduate or graduate prerequisite courses prescribed by their advisory committees. These courses may or may not apply towards the total required for the master’s degree.

### Fast Track Curriculum in the Senior Year

BS, Geology students accepted in the Fast Track will have up to six hours of undergraduate elective credit replaced with six hours of graduate credit during the final semester of the senior year. A Fast Track student, in consultation with the faculty adviser, will be able to substitute six hours of undergraduate courses from BIOL, CHEM, COSC, ESCI, GEOL, GISC, MATH, PHYS, or other disciplines as approved.

In place of the six hours of undergraduate courses, the student will take two of the following graduate courses instead:

- ESCI 5302 (sch) or ESCI 5360 (sch) or BLAW 5330 Environmental Law and Policy (3 sch)
- GEOL 5490 Advanced Topics (4 sch)
- ESCI 5330 (sch)
- ESCI 5370 (sch)
- ESCI 5596 DIRECTED INDEPENDENT STUDY (1-5 sch)
- GEOL 5596 Directed independent Study (1-5 sch)
- An approved graduate elective.

See the Graduate Catalog for a complete description of the degree requirements for the MS in Environmental Science.

### Courses

**GEOL 1303 Essentials of Geology**
3 Semester Credit Hours (3 Lecture Hours)
One-semester introductory Earth science course for students majoring in a non-science subject area. Covers basic geologic material and concepts, such as minerals, rocks, the rock cycle, and plate tectonics theory. Origin, composition, and evolution of our planet, as well as the importance of geology in everyday life, including geologic resources, global change, earthquakes, and volcanism are examined. This course is not recommended for students majoring in Geology or Environmental Sciences. Course counts toward the natural science component of the Core Curriculum Program.

**TCCNS:** GEOL 1303

**GEOL 1403 Physical Geology**
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the origin, classification, and composition of Earth materials. Study of internal and surface processes which shape and modify Earth. Laboratory studies of minerals and rocks, as well as topographic maps, geologic maps and geologic cross-sections.

**Co-requisite:** SMTE 0094.

**TCCNS:** GEOL 1403

**GEOL 1404 Historical Geology**
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the origin and evolution of Earth and other planets. Changes in the form and distribution of Earth's continents and oceans, and succession of plants and animals through geologic time. Laboratory studies of fossils, geological maps, and the interpretation of ancient environments of rock formation.

**Prerequisite:** GEOL 1403 or 1303.

**Co-requisite:** SMTE 0094.

**TCCNS:** GEOL 1404

**GEOL 2102 Undergraduate Seminar in Geology-Careers in the Geosciences**
1 Semester Credit Hour (1 Lecture Hour)
Introductory level seminar featuring diverse topics and speakers. Focus on careers in the geosciences as well as on how to successfully plan a college career. In-house as well as external speakers. May not be repeated for credit but attendance in subsequent semesters is encouraged.
GEOL 2103 Undergraduate Seminar in Geology-Research in the Geosciences
1 Semester Credit Hour (1 Lecture Hour)
Introductory level seminar featuring diverse topics and speakers. Focus on current geologic research. In-house as well as external speakers. May not be repeated for credit but attendance in subsequent semesters is highly encouraged. Credit/no credit

GEOL 2222 Karst Geology and Paleoeclimatology
2 Semester Credit Hours (1 Lecture Hour)
This course describes the different types of caves and karst rocks, the water rock interactions in carbonate rock systems, and it explains cave formation via hydrological and geochemical processes. It also deals with how speleothem proxies such as oxygen and carbon stable isotope, trace elements, carbonate petrography are used to decipher past changes in climate.

GEOL 2490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours, 6 Lab Hours)
May be repeated for credit if topics are significantly different. Subject material variable. Faculty approval required.

GEOL 3326 Introduction to Geological Field Methods
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to the basic techniques of geological fieldwork. Note taking in the field, proper use of geological field equipment, measurement and description of rock sections by several methods and degrees of detail, plus small area mapping of several types of terrain with topographic maps. Reports, sections, and maps will be produced from the field notes. Field trips required.
Prerequisite: GEOL 1403 and 1404 and (GEOL 3411 or 3411†).
*May be taken concurrently.
Co-requisite: SMTE 0094.

GEOL 3329 Geology of National Parks
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the regional geology of the United States using selected U.S. National Parks representing a wide variety of geologic settings as examples. Application of major geologic principles and basic geologic concepts such as plate tectonics, rock cycle, stratigraphy, and geologic time.
Prerequisite: GEOL 1303, 1403 or 1404.

GEOL 3411 Mineralogy
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of the physical and chemical properties of minerals. Introduction to the crystallography of minerals, optical mineralogy, and the use of the polarized light microscope. Laboratory study of mineral identification in hand specimens and thin sections.
Prerequisite: GEOL 1403 and CHEM 1411 and (CHEM 1412 or 1412†).
*May be taken concurrently.
Co-requisite: SMTE 0094.

GEOL 3414 Igneous and Metamorphic Petrology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Genesis and occurrence of igneous and metamorphic rocks. Mineralogical composition and thermodynamics of geologic systems. Determination of rock types in hand specimens and thin sections.
Prerequisite: GEOL 1403, CHEM 1411, 1412 and GEOL 3411.
Co-requisite: SMTE 0094.

GEOL 3441 Invertebrate Paleontology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Morphology, classification, and paleoecology of fossil invertebrates. Applications to marine geology including paleoceanography, stratigraphy, economic geology. Field trip to Texas invertebrate fossil beds.
Prerequisite: GEOL 1404.
Co-requisite: SMTE 0094.

GEOL 3442 Geomorphology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of landscapes and landforms at the surface of the Earth, and the processes and mechanisms by which they are developed.
Prerequisite: GEOL 1403.
Co-requisite: SMTE 0094.

GEOL 3443 Environmental Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of the relationships of humans to Earth's physical environment. Geologic aspects of waste disposal, resources, conservation, land reclamation, geologic hazards, and land-use planning.
Prerequisite: GEOL 1403.
Co-requisite: SMTE 0094.

GEOL 3490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
May be repeated for credit if topics are significantly different. Subject materials variable.

GEOL 4050 Geology Field Safety Seminar
0 Semester Credit Hours
Restricted to geology majors attending field camp. Students required to meet with geology program coordinator prior to registration for this course.

GEOL 4311 Paleoclimatology
3 Semester Credit Hours (3 Lecture Hours)
Reconstruction of Earth's climate system through time using natural archives and proxy evidence. Focus is mostly towards the Quaternary, though longer time spans will be considered, too. Mixed format with lectures, hand-on activities involving paleoclimate data sets, and seminar-style readings and discussions.
Prerequisite: GEOL 1404 and 3441.

GEOL 4316 Marine Geoscience
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the geology of the marine environment. Review of plate tectonic processes relevant to the evolution of continental margins and plate boundaries; geophysics and ocean morphology; geology of ocean crust; controls on the types, origin, and distribution of marine sediments; marine geochemistry; nearshore geological processes and the continental shelf; introduction to paleoceanography; global paleoceanographic evolution; critical events in ocean history. Special focus on the Gulf of Mexico.
Prerequisite: GEOL 1403, 1404, CHEM 1411 and 1412.

GEOL 4321 Introduction to Soil and Groundwater Restoration
3 Semester Credit Hours (3 Lecture Hours)
Introduction to methods for restoring contaminated soil and groundwater by examining the factors and processes influencing the efficacy of remediation systems. An emphasis will be placed on the scientific principles upon which soil and groundwater remediation is based.
Prerequisite: (GEOL 1403, CHEM 1411, 1412 and GEOL 3443).
GEOL 4326  Field Seminar in Geology  
3 Semester Credit Hours (4 Lecture Hours, 1 Lab Hour)  
Designed to prepare students for summer field camp. Basic techniques of geologic mapping in the field, data analysis and interpretation, and report writing.  
Prerequisite: GEOL 4411 and 4421.  
Co-requisite: SMTE 0094.

GEOL 4411  Sedimentation and Stratigraphy  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Composition and origin of sediments and sedimentary rocks. Description and classification of rocks in hand specimen. Principles of stratigraphy, including stratigraphic units and correlation. Facies models for major depositional systems. Field trips  
Prerequisite: (GEOL 1403) and (GEOL 1404) and (GEOL 3411*).  
* May be taken concurrently.  
Co-requisite: SMTE 0094.

GEOL 4415  Economic Geology  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Study of geologic and tectonic parameters of mineral and metals formation. Ore geology and geochemistry. Mining, processing, fabrication, and marketing of natural resources. Field trip to mining operations.  
Prerequisite: GEOL 1403 and 3411.  
Co-requisite: SMTE 0094.

GEOL 4416  Introduction to Geochimistry  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Introductory study of the Earth processes using principles of chemical equilibrium, thermodynamics, isotope geochemistry and organic geochemistry. Applications of low-temperature geochemistry to geologic problems.  
Prerequisite: CHEM 1411, 1412, MATH 2413 and GEOL 3411.  
Co-requisite: SMTE 0094.

GEOL 4421  Structural Geology  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
PHYS 1401 Geometric and quantitative description of deformation of the Earth's crust, mechanics of brittle and crystal-plastic deformation processes of Earth materials, introduction to continuum mechanics of geologic systems, crustal deformation from micro-scale to global tectonics. Laboratory introduces principles of three-dimensional data representation and analysis, geologic map interpretation, cross-section techniques, and problems in stress and strain analysis.  
Prerequisite: GEOL 3411 and MATH 2413 and (PHYS 1401 or 2425).  
Co-requisite: SMTE 0094.

GEOL 4422  Geophysics  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Introduction to quantitative techniques to assess physical properties and processes of the Earth. Topics include earthquake seismology, refraction and reflection seismology, gravimetry, magnetism, electrical methods, and radioactivity of Earth materials. Application of geophysical methods to the study of the Earth, in oil and gas exploration, and in economic and environmental geology.  
Prerequisite: (GEOL 4421, PHYS 1401 or 2425) and (PHYS 1402 or 2426) and (MATH 2413).

GEOL 4423  Seismic Methods  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Introduction to the acquisition, processing, and interpretation of 2D and 3D seismic data. Lectures and field exercises are covered. Topics include conceptual and historical foundations of modern reflection seismology; an overview of seismic wave phenomena in acoustic, elastic, and porous media; acquisition principles for land and marine seismic surveys; methods used to create 2D and 3D seismic images from field data; concepts of dip moveout, prestack migration, and depth migration; concepts and limitations of 3D seismic interpretation for structure, stratigraphy, and rock property estimation; and the interpretation role of attributes, impedance estimation, and AVO.  
Prerequisite: GEOL 4322.

GEOL 4424  Environmental and Engineering Geophysics  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Geophysical techniques for exploring the shallow subsurface for environmental and engineering purposes. Topics include seismic, resistivity, ground penetrating radar, electromagnetic, gravity, and magnetic methods. This course includes both lectures and labs (field exercises) components.  
Prerequisite: (PHYS 1401 or 2425) and (PHYS 1402 or 2426) and (MATH 2413).

GEOL 4430  Internship in Geology  
1-4 Semester Credit Hours  
One to four semester hours of credit may be earned by working in an internship position in industry, with local government, a private firm, or an independent geologist.  
Co-requisite: SMTE 0094.

GEOL 4436  Introduction to Petroleum Geology  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Basic concepts of petroleum geology and techniques used in the exploration and production of hydrocarbon systems. Lectures and lab exercises will cover principles of stratigraphy, sedimentology, hydrocarbon generation, hydrocarbon-trapping mechanisms, reservoir characterization, seismic interpretation, well-log interpretation, and geologic risk analysis.  
Prerequisite: GEOL 4411 or 4411*.  
* May be taken concurrently.  
Co-requisite: SMTE 0094.

GEOL 4444  Hydrogeology  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Introduction to the fundamentals of groundwater and surface water flow; well hydraulics and evaluation of groundwater as a resource; chemical properties of groundwater and groundwater contamination; groundwater and the environment; and groundwater modeling. This course also examines some of the techniques associated with field hydrogeology and laboratory methods in hydrogeology.  
Prerequisite: GEOL 1403 and MATH 2413 and (PHYS 1401 or 2425).  
Co-requisite: SMTE 0094.

GEOL 4449  Selected Topics  
4 Semester Credit Hours (1-4 Lecture Hours, 1-4 Lab Hours)  
May be repeated for credit if topics are significantly different. Subject materials variable.  
Co-requisite: SMTE 0094.

GEOL 4496  Directed Independent Study  
1-4 Semester Credit Hours  
DIRECTED INDEPENDENT STUDY Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the chairperson, and the Dean of the College.
GEOL 4649 Karst of the Yucatan Peninsula
6 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
This course describes the different types of caves and karst rocks, the water rock interactions in carbonate rock systems, and it explains cave formation via hydrogeological and geochemical processes. It offers field work experience such as sample collection, determining field parameters, karst and cave surveys, measuring spring discharges in the Yucatan Peninsula of Mexico and laboratory experience on the Texas A&M University-Corpus Christi campus.
Prerequisite: (GEOL 1403 and 4411) or GEOL 4444, 4416 or 4311.

GEOL 4650 Field Geology
6 Semester Credit Hours (12 Lab Hours)
Field course involving practical application of geologic principles to field problems. Locations visited and material covered depends on hosting institution. Generally should include: mapping and outcrop data collection; measurement of stratigraphic sections; mapping and preparation of geologic cross-sections; preparation of geologic reports.
Prerequisite: GEOL 3326, 3414, 3441, 4411 and 4421.
Co-requisite: SMTE 0094.

GEOL 5101 Geology Seminar
1 Semester Credit Hour (1 Lecture Hour)
An examination of concepts and theories in geology and their linkages to other disciplines such as environmental science, computer science, geographic information science, and education. Seminar themes may vary from year to year. May be repeated for credit but may be applied only once towards degree.

GEOL 5308 Coastal Geoenvironments and Change
3 Semester Credit Hours (3 Lecture Hours)
Investigations of the origin, character, and processes of coastal geoenvironments with an emphasis on tracking historical and projecting future changes. Involves examination of the interactions of geological and biological processes and impacts of human activities on coastal depositional systems. Includes applications of remote sensing, ground studies, and GIS for mapping geoenvironments and analyzing change. Readings in current literature, day field trips, and a project.

GEOL 5321 Advanced Soil and Groundwater
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of methods for restoring contaminated soil and groundwater by examining the factors and processes influencing the efficacy of remediation systems. An emphasis will be placed on the scientific principles upon which soil and groundwater remediation is based.

GEOL 5322 Advanced Geophysical Techniques Seminar
3 Semester Credit Hours (3 Lecture Hours)
This graduate-level course is for coastal and marine system science and environmental science majors and professional petroleum geologists who would like a better understanding of advanced geophysical techniques and principles available to geoscientist working subsurface problems. The course will consist of an examination of current topics, techniques, and software. New techniques and topics will be presented by geology staff and visiting experts working in those fields.
Prerequisite: GEOL 4411 and 4422.

GEOL 5336 Groundwater Geochemistry
3 Semester Credit Hours (3 Lecture Hours)
Principles of the geochemistry of groundwater including chemical thermodynamics. Characterization of the chemistry of natural and contaminated groundwater. Chemical measurements, analyses, and calculations. Includes readings in current literature and research on a selected topic.
Prerequisite: GEOL 4444.

GEOL 5437 Computer Applications and Modeling in Hydrogeology
4 Semester Credit Hours (4 Lecture Hours)
Principles of analytical and numerical modeling in hydrogeology. Use of available software for aquifer test solutions, aquifer simulation modeling, and mass transport. Completion of modeling projects. Includes readings in current literature.
Prerequisite: GEOL 4444.
Co-requisite: SMTE 0094.

GEOL 5438 Mass Transport Modeling in Hydrogeology
4 Semester Credit Hours (4 Lecture Hours)
Principles of numerical modeling of mass transport in groundwater systems. Use of software and computer systems for numerical simulations. Laboratory time devoted to completion of modeling projects. Includes readings in current literature.
Prerequisite: GEOL 6437.
Co-requisite: SMTE 0094.

GEOL 5490 Advanced Topics
4 Semester Credit Hours (1-4 Lecture Hours, 1-4 Lab Hours)
Subject varies. Advanced topics including current literature research. May be repeated for credit when topics are sufficiently different.

GEOL 5596 Directed Independent Study
1-5 Semester Credit Hours
Study in areas of current interest.

GEOL 6321 Advanced Soil and Groundwater Restoration
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of methods for restoring contaminated soil and groundwater by examining the factors and processes influencing the efficacy of remediation systems. An emphasis will be placed on the scientific principles upon which soil and groundwater remediation is based. Cross listed with ESCI 6321.

GEOL 6416 Advanced Geochemistry
4 Semester Credit Hours (4 Lecture Hours)
Advanced study of the Earth processes using principles of chemical equilibrium, thermodynamics, isotope geochemistry and organic geochemistry. Applications of low-temperature geochemistry to geologic problems.
Prerequisite: CHEM 1311 and 1111 and (CHEM 1312 or 1112) and MATH 2413 and GEOL 3414.

GEOL 6422 Advanced Geophysics
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced techniques to assess physical properties and processes of the Earth. Topics include earthquake seismology, refraction and reflection seismology, gravimetry, magnetism, electrical methods, and radioactivity of Earth materials. Application of geophysical methods to the study of the Earth, in oil and gas exploration, and in economic and environmental geology.
Prerequisite: (GEOL 4421, PHYS 1401 or 2425) or (PHYS 1402 or 2426) and (MATH 2413).
GEOL 6423 Advanced Seismic Methods
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced methods for the acquisition, processing, and interpretation of 2D and 3D seismic data. Lectures and field exercises are covered. Topics include conceptual and historical foundations of modern reflection seismology; an overview of seismic wave phenomena in acoustic, elastic, and porous media; acquisition principles for land and marine seismic surveys; methods used to create 2D and 3D seismic images from field data; concepts of dip moveout, prestack migration, and depth migration; concepts and limitations of 3D seismic interpretation for structure, stratigraphy, and rock property estimation; and the interpretation role of attributes, impedance estimation, and AVO.
Prerequisite: GEOL 4322.

GEOL 6424 Advanced Environmental and Engineering Geophysics
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced geophysical techniques for exploring the shallow subsurface for environmental and engineering purposes. Topics include seismic, resistivity, ground penetrating radar, electromagnetic, gravity, and magnetic methods. This course includes both lectures and labs (field exercises) components.
Prerequisite: (PHYS 1401 or 2425) and (PHYS 1402 or 2426) and (MATH 2413).

GEOL 6436 Principles of Petroleum Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced concepts of petroleum geology and techniques used in the exploration and production of hydrocarbon systems. Lectures will cover principles of stratigraphy, sedimentology, hydrocarbon generation, hydrocarbon-trapping mechanisms, reservoir characterization, seismic interpretation, well-log interpretation, and geologic risk analysis.
Prerequisite: GEOL 4411.

GEOL 6444 Advanced Hydrogeology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced study of hydrogeology concepts necessary to understand and question the hydrologic cycle, and specifically, surface water flow; groundwater flow; groundwater-surface water interaction; groundwater sources, occurrence, movement, contamination, and resources; and environmental topics of interest related to water resources.
Prerequisite: CHEM 1311 and 1111 and (CHEM 1312 or 1112) and MATH 2413 and GEOL 3414.

Fast Track Mathematics, BS and Mathematics, MS
Program Description
The university allows the opportunity for high-achieving students to count a select number of graduate credits toward their undergraduate degree and thereby obtain a graduate degree at an accelerated pace. Students interested in the Fast Track in Mathematics must meet the following application criteria:

- Currently seeking a BS in Mathematics at A&M-Corpus Christi.
- Minimum of a 3.25 GPA (no grades below C in math classes) in the last 60 SCH at the time of Fast Track application.
- Classified as a Senior with successful completion of at least 90 SCH, including MATH 4301 Introduction to Analysis (3 sch) and MATH 4306 Modern Algebra (3 sch).

Students accepted into the Fast Track program will be given permission to enroll in up to six hours of prescribed graduate courses during their last semester of undergraduate studies. The hours for these graduate courses will “double-count” toward both the undergraduate and graduate programs. The BS and MS degrees will be awarded sequentially (i.e., upon completion of each degree) and not simultaneously. Students will be allowed to continue enrollment in the graduate program upon successful completion of the undergraduate degree.

Admissions Requirements
Applicants must provide the following at the time of application:

- A completed application form. Application fees are waived for Fast Track applicants.
- Official transcripts of all college and university coursework.
- An essay, 300-500 words in length, should discuss the applicant’s educational and professional goals, pertinent work and undergraduate experience, and other factors relating to the chosen option for graduate study.
- One or more letters of recommendation specifically addressing an applicant’s ability to do graduate level study of mathematics may be submitted to strengthen an application. The letters should be submitted directly to the Department at the time of application.
- A note from a faculty member willing to serve as their graduate advisor. Applicants will not be admitted to the program without a graduate advisor.

No criterion is weighted more heavily than any other criterion. Applications received or completed after the deadline for admission during one semester may be considered for admission in the following semester at the applicant’s request. Applicants will be notified of the outcome of their application by email.

Academic Preparation
Applicants are expected to enter the program with adequate academic preparation. If the graduate committee determines that an applicant’s preparation is deficient, the individual will be required to complete course work to remedy these deficiencies. Such course work will be regarded as leveling work, and will not count as credit towards the total required for completion of the MS degree in mathematics.

Fast Track Curriculum in the Senior Year
BS, Mathematics students accepted in the Fast Track will substitute six semester credit hours their senior year. Students will take any two core courses applicable to the MS program Track for which they are applying.

See the Graduate Catalog for a complete description of the degree requirements for the MS in Mathematics.

Courses
MATH 0099 Math Non-Course Based Development
0 Semester Credit Hours
Preparation workshop to help students achieve College Readiness in mathematics under the Texas Success Initiative. Topics include five general areas: fundamental mathematics, algebra, geometry, statistics, and problem solving.
MATH 0200  Brief Developmental Mathematics
1-2 Semester Credit Hours (1-2 Lecture Hours)
Topics as in MATH 0300. For students who have completed most topics in MATH 0300. Requires permission of MATH department. (Not counted toward graduation) Fall, Spring, Maymester, Summer.
Co-requisite: MATH 1314, MATH 1442.

MATH 0214  Brief Developmental Mathematics-Algebra
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1314. Support will focus on essential skills required for success in College Algebra (Math 1314). Supporting topics include review of intermediate algebra, polynomial equations, graphing techniques, and applications. Course provides the necessary academic support for TSI liable students concurrently enrolled in MATH 1314 as the co-requisite with MATH 0214. Students who register for MATH 0214 must co-register in MATH 1314. Math 0214 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1314.

MATH 0224  Brief Developmental Mathematics-Business Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is the co-requisite course supporting for MATH 1324. Support will focus on essential skills required for success in Business Math (Math 1324). Supporting topics include the use of calculators and technology. Topics focus on basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and financial management, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1324 as the co-requisite with MATH 0224. Students who register for MATH 0224 must co-register in MATH 1324. Math 0224 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1324.

MATH 0232  Brief Developmental Mathematics-Contemporary Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1332. Support will focus on essential skills required for success in Contemporary Mathematics (Math 1332). Supporting topics include a basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and descriptive statistics, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1332 as the co-requisite with MATH 0232. Students who register for MATH 0232 must co-register in MATH 1332. Math 0232 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1332.

MATH 0242  Brief Developmental Mathematics-Statistics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1442. Support will focus on essential skills required for success in Statistics for Life (Math 1442). Supporting topics include the use of calculators and technology. Topics focus on descriptive and inferential statistics, probabilities including notation, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1442 as the co-requisite with MATH 0242. Students who register for MATH 0242 must co-register in MATH 1442. Math 0242 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1442.

MATH 0300  Developmental Mathematics
3 Semester Credit Hours (3 Lecture Hours)
Topics include number concepts, computation, elementary algebra, geometry, and mathematical reasoning. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0310  Developmental Mathematics-Algebra
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
3 sem. hrs. (2:2) Topics include number concepts, computation, elementary algebra, geometry, and mathematical reasoning.

MATH 0398  Introduction to Algebra
3 Semester Credit Hours (3 Lecture Hours)
Number concepts, computation, elementary algebra, geometry, and mathematical reasoning.

MATH 0399  Intermediate Algebra
3 Semester Credit Hours (3 Lecture Hours)
Topics include linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems.
Prerequisite: MATH 0398.

MATH 1314  College Algebra
3 Semester Credit Hours (3 Lecture Hours)
Quadratic equations, inequalities, graphs, logarithms and exponentials, theory of polynomial equations, systems of equations.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT1 Math', MATH 0320 or minimum score of 350 in 'TSI Math'.
Co-requisite: MATH 0214.

MATH 1324  Mathematics for Business and Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will learn how the properties and language of mathematics can be used in business and real-world problem solving and understand the techniques and applications of finance problems, basic matrix operation, basic counting principles, and probability analysis in modeling real-world scenarios.
Prerequisite: minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
Co-requisite: MATH 0224.

TCCNS: MATH 1324
MATH 1325  Calculus for Business & Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will develop and combine the concepts in and relationships between Mathematics and Business from the fundamentals of calculus and optimization in all Business fields. Students are expected to learn the materials algebraically with technology. Students will combine the concepts of limits, continuation, differentiation and integration techniques to solve problems in business, economics, and social sciences.
Prerequisite: MATH 1324, minimum score of 550 in 'SAT Math', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 1325

MATH 1332  Contemporary Mathematics
3 Semester Credit Hours (3 Lecture Hours)
This course serves as a terminal course and supplies a brief overview of several topics in mathematics. Topics may include introductory treatments of sets, logic, number systems, number theory, relations, functions, probability and statistics. Appropriate applications are included. This course emphasizes using critical thinking to make decisions based on information.
Co-requisite: MATH 0232.
TCCNS: MATH 1332

MATH 1390  Introduction to Mathematical Topics
1-3 Semester Credit Hours (1-3 Lab Hours)
A course to introduce students to mathematical topics in a formal setting. The course may support problem solving, or systematic investigations of topics outside the current mathematical catalog. May not be substituted for regularly scheduled offerings.

MATH 1442  Statistics for Life
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
An introduction to statistical concepts and methods used in all disciplines to enhance decision making based on data analysis, including: basic experimental design models, measurement and data collection through sampling; display and summary of information, and assessment of relationship through descriptive techniques; probability concepts leading to estimation and hypothesis testing of means, variance and proportions, regression analysis, one-factor ANOVA and chi-square test of independence; and applications through case studies. The laboratory component of the course offers applications of the theory presented during the classroom sessions.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT1 Math', MATH 0310, 0320, minimum score of 350 in 'TSI Math' or minimum score of 19 in 'ACT Math'.
Co-requisite: MATH 0242.
TCCNS: MATH 1442

MATH 2305  Discrete Mathematics I
3 Semester Credit Hours (3 Lecture Hours)
An introduction to topics in Discrete Mathematics with an emphasis on applications in Mathematics and Computer Science. Topics include formal logic, graphs, trees and related algorithms, and combinatorics and discrete probability.
Prerequisite: MATH 2413, minimum score of 620 in 'SAT Math', minimum score of 620 in 'SAT Mathematics', minimum score of 640 in 'SAT MATH SECTION', minimum score of 27 in 'ACT Math' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2305

MATH 2312  Precalculus
3 Semester Credit Hours (3 Lecture Hours)
A more rapid treatment of the material in MATH 1314 and MATH 1316, this course is designed for students who wish a review of the above material, or who are very well prepared. Functions, graphs, trigonometry, and analytic geometry.
Prerequisite: MATH 1314, minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 2312

MATH 2413  Calculus I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Limits, continuity, derivatives, applications of the derivative, and an introduction to integrals. Contains a laboratory component.
Prerequisite: MATH 1316, 2312, minimum score of 640 in 'SAT MATH SECTION' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2413

MATH 2414  Calculus II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Prerequisite: MATH 2413.
TCCNS: MATH 2414

MATH 2415  Calculus III
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component. Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component.
Prerequisite: MATH 2414.
TCCNS: MATH 2415

MATH 3300  Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications. Students may not receive credit for both MATH 3300 and GISC 3300.
Prerequisite: MATH 2413 and 2414.

MATH 3301  Introduction to Complex Analysis
3 Semester Credit Hours (3 Lecture Hours)
This course introduces functions of a complex variable and their applications. Contents include differentiation and integration; zeros, poles and residues; conformal mappings.
Prerequisite: (MATH 2415) or (MATH 2414 and 3314).

MATH 3310  Mathematical Analysis for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming and probability and statistics into mechanical engineering. May not count towards the MATH major. Students may not receive credit for both MATH 3310 and MEEN 3310.
Prerequisite: MATH 3315.
MATH 3311 Linear Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of linear algebra and matrix theory. Topics include vectors, matrix operations, linear transformations, fundamental properties of vector spaces, systems of linear equations, eigenvalues and eigenvectors. Applications.
Prerequisite: MATH 2413.

MATH 3312 College Geometry
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
A careful study of the foundations of Euclidean geometry by synthetic methods with an introduction to non-Euclidean geometries. An introduction to transformational geometry.
Prerequisite: MATH 2413.

MATH 3313 Foundations of Number Theory
3 Semester Credit Hours (3 Lecture Hours)
This course assists a student's transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to topics from elementary number theory.
Prerequisite: MATH 2305 and 2414.

MATH 3314 Foundations of Real Numbers
3 Semester Credit Hours (3 Lecture Hours)
This course assists a student's transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to development of the real number line.
Prerequisite: MATH 2414 and 2305.

MATH 3315 Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
An introduction to both theoretical and applied aspects of ordinary differential equations. Topics include: first order equations, linear second order equations, elementary numerical methods, and the Laplace transform.
Prerequisite: MATH 2414.

MATH 3342 Applied Probability and Statistics
3 Semester Credit Hours (3 Lecture Hours)
A calculus based introduction to probability and statistics. Emphasis will be on development of statistical thinking and working with data. Topics include probability theory, descriptive statistics, common distributions, and statistical inference.
Prerequisite: MATH 2413.

MATH 3345 Statistical Modeling and Data Analysis
3 Semester Credit Hours (3 Lecture Hours)
An introduction to probability/statistical modeling and data analysis techniques to investigate data. Topics include: exploratory data analysis, probability models and simulation, sampling distributions, statistical inference. Applications to real world problems. Students will be expected to present and justify results orally and in writing.
Prerequisite: MATH 2413 and (COSC 1330 or 1435).

MATH 3347 Introduction to Probability
3 Semester Credit Hours (3 Lecture Hours)
This is an introduction to probability. In the course, key fundamental concepts of probability, random variables and their distributions, expectations, and conditional probabilities will be covered. Topics include counting rules, combinatorial analysis, sample spaces, axioms of probability, conditional probability and independence, discrete and continuous random variables, jointly distributed random variables, characteristics of random variables, law of large numbers and central limit theorem, random processes, Markov chains, Markov chain-Monte Carlo, Poisson Process and Entropy.
Prerequisite: MATH 2415.

MATH 3385 Linear Optimization and Decisions
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the linear programming and optimization problems arising in many applications. Contents include linear programming models with solutions, the simplex method, duality theory and its use for management decision making, dual simplex method and sensitivity analysis.
Prerequisite: MATH 3311 and 2415.

MATH 3390 Problem Solving in Mathematics
1-3 Semester Credit Hours (1-3 Lecture Hours)
A problem solving course for students who want to participate in math problem solving competitions, train for the actuarial or other professional examinations, work on research aimed at conference presentations, or perform research projects at the junior level that are not at the level of directed independent study material.
Prerequisite: MATH 2414.

MATH 4185 Senior Mathematics Seminar
1 Semester Credit Hour (1 Lecture Hour)
This course introduces a weekly mathematics seminar. Students will generate a viable project for the capstone course.

MATH 4285 Mathematics Major Capstone
2 Semester Credit Hours (2 Lecture Hours)
Development of projects as proposed in MATH 4185, as well as mathematics communication skills. Students will present their projects, and take a national level assessment.
Prerequisite: MATH 4185.

MATH 4301 Introduction to Analysis
3 Semester Credit Hours (3 Lecture Hours)
An advanced treatment of the foundations of calculus stressing rigorous proofs of theorems. Topics include: elements of propositional and predicate logic, topology of the real numbers, sequences, limits, the derivative, and the Riemann integral.
Prerequisite: MATH 2415 and 3314.

MATH 4306 Modern Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of set operations, maps and relations, groups, rings and field theory. Topics include permutation groups, cosets, homomorphisms and isomorphisms, direct product of groups and rings, integral domains field of quotients, fundamental properties of integers, the ring of integers modulo n, and rings of polynomials. Applications.
Prerequisite: MATH 3311 and 3313.

MATH 4312 Differential Geometry
3 Semester Credit Hours (3 Lecture Hours)
Differential forms on R1, R2, R3, and Rn; Integration and differentiation of differential forms; Stokes’ Theorem; manifolds; Gaussian curvature and the Gauss-Bonnet Theorem.
Prerequisite: MATH 2415.

MATH 4315 Partial Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
An introduction to partial differential equations emphasizing the wave, diffusion and potential (Laplace) equations. A focus on understanding the physical meaning and mathematical properties of solutions of partial differential equations. Methods include fundamental solutions and transform methods for problems on the line, and separation of variables using orthogonal series for problems in regions with boundary. Additional topics include higher dimensional problems and special topics like Harmonic functions, the maximum principle, Green’s functions etc.
Prerequisite: MATH 3315 and 2415.
MATH 4321 Applied Regression Analysis
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the formulation of linear models and the estimation of the parameters of such models, with primary emphasis on least squares. Application of multiple regression and curve fitting and the design of experiments for fitting regression models.
Prerequisite: MATH 1342, 2342 or 1470.

MATH 4328 Discrete Mathematics II
3 Semester Credit Hours (3 Lecture Hours)
A continued study of topics from Discrete Mathematics I with additional topics from discrete mathematics that have strong application to the field of computer science. Additional topics include: recurrence relations, formal languages, and finite-state machines.
Prerequisite: MATH 2305 and COSC 2437.

MATH 4342 Introduction to Mathematical Statistics
3 Semester Credit Hours (3 Lecture Hours)
This is a first course in mathematical statistics, topics include: moment-generating functions, functions of random variables, sampling distributions, methods of estimation including Bayesian estimation, characteristics of estimators, interval estimation, hypothesis testing, Neyman-Pearson Lemma, likelihood ratio test, tests involving means and variances, regression and correlation, multiple linear regression, introduction to ANOVA, non-parametric tests.
Prerequisite: MATH 2415.

MATH 4385 Applied Modeling
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for mathematics majors. The construction of mathematical models from areas such as economics, refining, biology and mariculture, etc. Where possible, local phenomena will be modeled with the assistance of outside consultants.
Prerequisite: MATH 3315 and 3342 or MATH 3345.

MATH 4390 Selected Topics
3 Semester Credit Hours (3 Lecture Hours)
Offered on sufficient demand.

MATH 4696 Directed Independent Study
1-6 Semester Credit Hours
See college description.

MATH 5310 Topics in Mathematics
3 Semester Credit Hours (3 Lecture Hours)
May not be used for graduate credit towards the MS in mathematics. Course included to provide a suitable vehicle for anticipated future service courses.

MATH 5315 Statistical Methods in Research I
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
STATISTICAL METHODS IN RESEARCH I This course is for graduate students in other disciplines and is designed to prepare them to use statistical methods in their research. This is a non-calculus exposition of the concepts, methods and usage of statistical data collection and analysis. Topics include descriptive statistics, the t-test, the one and two-way analysis of variance, multiple comparison tests, and multiple regression. Students also learn how to conduct these analyses using computer software and how to properly report their findings.

MATH 5316 Statistical Methods in Research II
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
STATISTICAL METHODS IN RESEARCH II This course is a continuation of MATH 5315. Topics include: statistical experimental design, randomized blocks and factorial analysis, multiple regression, chi-squared tests, analysis of covariance, non-parametric methods and sample surveys. Emphasis will be placed on the computer analysis of research data and how to properly report statistical findings.
Prerequisite: MATH 5315.

MATH 5321 Problem Solving and Mathematical Reasoning for Teachers
3 Semester Credit Hours (3 Lecture Hours)
An investigation of problems that span a variety of domains with a focus on making and evaluating mathematical arguments, using tools such as manipulatives and technology, identifying and analyzing the connections within and outside of mathematics, and using symbols and representations to communicate mathematical ideas.

MATH 5322 Mathematics Assessment
3 Semester Credit Hours (3 Lecture Hours)
A historical overview of assessment of mathematics, statistical description of norm- and criterion-reference tests, scaling of standardized exams, varieties of assessment and rubrics, the mathematical analysis of error patterns, and equity.

MATH 5323 Mathematics instruction and Mentoring
3 Semester Credit Hours (3 Lecture Hours)
A study of how the use of appropriate mathematical content can create and support a mathematics classroom environment in which students are engaged in mathematical problem solving and how to use these understandings to be effective in supporting teacher development.

MATH 5324 Principles of Reforming Mathematics Instruction
3 Semester Credit Hours (3 Lecture Hours)
This course introduces participants to the theory and practice of teacher-led inquiry within mathematics education. The course prepares teachers to engage in a school-based mathematics education action research project. It is intended for in-service mathematics teachers.

MATH 5325 Structure of Number Concepts
3 Semester Credit Hours (3 Lecture Hours)
An in-depth investigation of real and complex number systems, base ten and other number bases, operations and algorithms, divisibility, Euclidean algorithm, congruence, modular arithmetic, and the Fundamental Theorem of Arithmetic, with an emphasis on quantitative and qualitative reasoning.

MATH 5326 Structure of Patterns and Algebra
3 Semester Credit Hours (3 Lecture Hours)
Algebraic reasoning incorporating the use of technology. This course includes investigations of patterns, relations, functions, and analysis, with a focus on representations and the relationships among them.

MATH 5327 Structure of Geometry and Measurement
3 Semester Credit Hours (3 Lecture Hours)
An investigation of concepts and principles in geometry and measurement with emphasis on deductive reasoning and on inductive reasoning with the use of dynamic geometry software.

MATH 5328 Structure of Probability and Statistics
3 Semester Credit Hours (3 Lecture Hours)
An investigation of the principles and applications of probability and descriptive and inferential statistics.
MATH 5329 Structure of Modeling with Rates of Change
3 Semester Credit Hours (3 Lecture Hours)
A study of rates of change through modeling. Direct applications of rates of change to number concepts, algebra, geometry, probability, and statistics.

MATH 5331 Evolution of Mathematical Systems
3 Semester Credit Hours (3 Lecture Hours)
Covers the evolution of mathematical concepts and thought from ancient to modern times, including women and men who played key roles, from original and secondary sources. Provides a better understanding of the historical development of larger context for topics studied in other courses, and deepens understanding and appreciation of these topics. This course is intended to benefit current and future mathematics teachers.
Prerequisite: MATH 5321.

MATH 5332 Integrating Technology in Mathematics Education
3 Semester Credit Hours (3 Lecture Hours)
An introduction to technology appropriate for the mathematics classroom, including calculators, CAS systems, handhelds, computer software and multimedia. This course is intended for in-service mathematics teachers at the middle/high school level.
Prerequisite: MATH 5321.

MATH 5333 Numerical Linear Algebra
3 Semester Credit Hours (3 Lecture Hours)
Prerequisite: MATH 3311.

MATH 5336 Advanced Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
A continuation of MATH 3315, Differential Equations. Relying heavily on linear algebra concepts, this course covers linear systems of differential equations; introductory operator theory; existence, uniqueness and continuity of solutions; stability of equilibria; planar nonlinear systems; and the Poincaré-Bendixson Theorem. Several applications are covered to illustrate the mathematical concepts.
Prerequisite: MATH 3311 and 3315.

MATH 5337 Theory and Applications of Partial Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to study the mathematical theory and real-world applications of the three major categories of partial differential equations: elliptic equations, parabolic equations, and hyperbolic equations. Specific topics to be covered include: first-order equations, second-order elliptic equations, second-order parabolic equations, and second-order hyperbolic equations.
Prerequisite: MATH 3311, 3315, 4301 and 4315.

MATH 5339 Numerical Analysis
3 Semester Credit Hours (3 Lecture Hours)
Prerequisite: MATH 3311, 3315, 3470 and 4315 and (COSC 5311 or 1435).

MATH 5341 Statistical Methods and Data Analysis
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the basic concepts of probability, common distributions, statistical methods, data analysis and a wide variety of statistical inference techniques. Demonstrations of the interplay between probability models and statistical inference. Data sets will be analyzed using the R software package.
Prerequisite: (MATH 3342 or 3345).

MATH 5342 Linear Statistical Models
3 Semester Credit Hours (3 Lecture Hours)
Prerequisite: MATH 3311, 3342 and 3470.

MATH 5343 Mathematical Theory of Statistics
3 Semester Credit Hours (3 Lecture Hours)
This course is intended for graduate students that need a solid background on statistical theory. This is a one-semester course in probability and mathematical statistics. Topics include: basic probability, random variables, transformations and expectations, distributions and important families thereof, multiple random variables, random samples, notions of convergence, and an overview of point estimates and hypothesis tests.
Prerequisite: MATH 3311, 3342 and 3470.

MATH 5344 Environmental Statistics
3 Semester Credit Hours (3 Lecture Hours)
SPATIAL STATISTICS An introduction to methods of spatial statistics commonly used in scientific settings. Topics include the nature of geospatial sampling, analysis and modeling of spatial point patterns, and development and analysis of common continuous spatial models such as kriging. Additional topics to be covered, as time and student interest permit, include Bayesian modeling, hierarchical environmental modeling, and spatiotemporal modeling. Use of appropriate software is emphasized.
Prerequisite: MATH 3342 or 5315.

MATH 5345 Computational Methods for Statistics
3 Semester Credit Hours (3 Lecture Hours)
An introduction to computing tools needed by the modern statistician. Topics include: floating point numbers, reformatting large datasets, important statistical algorithms, and parallel processing.

MATH 5348 Optimization
3 Semester Credit Hours (3 Lecture Hours)
Unconstrained optimization, necessary and sufficient conditions for solutions, basic algorithms. Constrained optimization, KKT conditions, linear programming, convex programming, algorithms.
Prerequisite: MATH 4301.

MATH 5351 Real Analysis
3 Semester Credit Hours (3 Lecture Hours)
This course includes such topics as sequences and series of constants and functions, the Riemann integral, Fourier Series, and an introduction to Lebesgue measure and integration.
Prerequisite: MATH 4301.

MATH 5356 Combinatorics and Graph Theory
3 Semester Credit Hours (3 Lecture Hours)
Topics to include basic counting rules, connectivity, graph coloring and applications, chromatic polynomials, trees and their applications to searching and sorting, generating functions, recurrence relations, the Pigeonhole Principle, Eulerian and Hamiltonian chains and paths, and applications.
Prerequisite: MATH 2305 and 3313.
MATH 5370  Modeling of Natural Systems
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to expose science and technology majors to models of real problems arising in the environment and ecology. Students will learn how to create solvable models of the real world situations and how to find answers on the posted questions by using tools of mathematics and computing. There will be modeling and simulations of tides in the Gulf of Mexico, multi-species models of the food chains, circulation of carbon, water, and oxygen. Students will learn some new tools based on calculus and elementary statistics such as numerical algorithms, Monte-Carlo methods, Markov Processes, multivariate analysis, evaluation of stability, methods of extrapolation (predictions) and interpolations.
Prerequisite: (MATH 1442 or 2342) and (MATH 2413 or 5329).

MATH 5375  Applied Analysis
3 Semester Credit Hours (3 Lecture Hours)
Topics to include basic theory of Euclidean, Banach and Hilbert spaces, calculus of variations and optimal control, elements of system analysis, and elements of complex analysis. All theoretical topics will be illustrated by real application.
Prerequisite: MATH 4301 or 5351.

MATH 5378  Mathematical Modeling
3 Semester Credit Hours (3 Lecture Hours)
Modeling of applied problems using analytical, stochastic, and dynamical methods.

MATH 5390  Special Topics
1-3 Semester Credit Hours (1-3 Lecture Hours)
An advanced study of a mathematical topic. May be repeated with full credit in another area of mathematics. Topics vary by semester and offering.

MATH 5393  Literature Review and Research
3 Semester Credit Hours (3 Lecture Hours)
LITERATURE REVIEW AND RESEARCH METHODOLOGY Reading, analyzing, and synthesizing mathematics education research literature for the purpose of informing teaching practice. Includes a study of qualitative research with a focus on the components of a research study (research question(s), literature review, conceptual framework, methods, analysis, findings) and the relationships among them.

MATH 5394  Research Methods in Mathematics
1-3 Semester Credit Hours
RESEARCH METHODS IN MATHEMATICS This course develops an ability to independently investigate a technical topic of interest, and the skills necessary to successfully communicate on that topic. The student learns how to find, organize, assimilate, and report on technical information derived from published sources. Specific areas of study include literature searches, technical word processing, technical writing style, and oral presentation techniques. The instructor and selected additional faculty members review and critique oral and written reports submitted throughout the semester. A final paper and a formal presentation are submitted in lieu of a final exam in the final semester. This course is a co-requisite for all other courses (except thesis) taken by students in the Environmental Modeling option.

MATH 5396  Directed independent Study
3 Semester Credit Hours
Study in areas of current interest. See College description for further details.

MATH 5993  Literature Review and Research
1-9 Semester Credit Hours
Reading, analyzing, and synthesizing appropriate mathematics and/or mathematics education research literature under supervision. May be repeated for credit.

MATH 5994  Proposal Research
1-9 Semester Credit Hours
This course develops an ability to independently investigate a technical topic of interest, and the skills necessary to successfully communicate on that topic. The student learns how to find, organize, assimilate, and report on technical information derived from published sources. Specific areas of study include literature searches, technical word processing, technical writing style, and oral presentation techniques. A final paper and a formal presentation are submitted in lieu of a final exam in the final semester.

MATH 5995  Thesis
1-9 Semester Credit Hours
Students work with an advisor to complete and present their proposed thesis. Students may register for 3 to 9 semester hours per semester. Only 3 hours total will count toward the MS degree in mathematics.
Prerequisite: MATH 5994.

MATH 5997  Project
1-9 Semester Credit Hours
Students work with an advisor to complete and present their proposed research project. Students may register for 3 to 9 semester hours of directed research per semester. Only 3 hours total will count toward the MS degree in mathematics.
Prerequisite: MATH 5994.

MATH 6315  Statistical Methods in Research I
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
This course is for graduate students in other disciplines and is designed to prepare them to use statistical methods in their research. This is a non-calculus exposition of the concepts, methods and usage of statistical data collection and analysis. Topics include descriptive statistics, the t-test, the one and two-way analysis of variance, multiple comparison tests, and multiple regression. Students also learn how to conduct these analyses using computer software and how to properly report their findings.
Prerequisite: MATH 1442 or 3342.

MATH 6316  Statistical Methods Research II
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
This course is a continuation of MATH 6315. Topics include: statistical experimental design, randomized blocks and factorial analysis, multiple regression, chi-squared tests, analysis of covariance, non-parametric methods and sample surveys. Emphasis will be placed on the computer analysis of research data and how to properly report statistical findings.
Prerequisite: MATH 6315.

MATH 6317  Mixed Effects Models for Scientists
3 Semester Credit Hours (3 Lecture Hours)
This course will deal with extensions to the regression and ANOVA that are frequently useful in dealing with ecological data. Topics include: using bootstrapping for significance testing; generalized additive models; using generalized least squares to deal with non-homogeneous data; working with fixed and random factors; handling temporally correlated and spatially correlated data; and the generalized linear model (Poisson, logistic, and negative binomial regression).
Prerequisite: MATH 6315 or 6316.
Admissions Requirements

Applicants must provide the following at the time of application:

- A completed application form. Application fees are waived for Fast Track applicants.
- Official transcripts of all college and university coursework.
- An essay (500-1000 words) discussing why you wish to get a Master’s degree and your areas of interest.
- Identify a faculty member willing to serve as their graduate advisor. Applicants will not be admitted to the program without a graduate advisor.

No criterion is weighted more heavily than any other criterion. Applications received or completed after the deadline for admission during one semester may be considered for admission in the following semester at the applicant’s request. Applicants will be notified of the outcome of their application by email.

Academic Preparation

A student entering the program is expected to have adequate preparation in computer science and mathematics from their undergraduate degree. For computer science, this preparation must include successful completion of coursework in data structures, a high level programming language, computer architecture, operating systems, and software engineering. In mathematics, students must have successfully completed course work in discrete mathematics, calculus, plus one additional junior level or higher mathematics course such as linear algebra, numerical analysis, or applied probability and statistics.

Fast Track Curriculum in the Senior Year

BS Computer Science students accepted in the Fast Track will have up to six hours of undergraduate elective credit replaced with six hours of graduate credit during the final semester of the senior year. A Fast Track student can choose from any of the classes in the MS Computer Science degree plan, as long as the prerequisites are met.

See the Graduate Catalog for a complete description of the degree requirements for the MS in Computer Science.

Courses

COSC 1315 Computer Literacy
3 Semester Credit Hours (3 Lecture Hours)
A balanced introduction to the use and application of computers in modern society involving both descriptive information and hands-on laboratory participation. Includes a discussion of the general principles of operation of a computer and a brief history of the development of computing. The use of a personal computer operating system, common application software, and simple computer programming concepts are introduced. Satisfies university computer literacy requirement.
TCCNS: COSC 1301

COSC 1320 C Programming
3 Semester Credit Hours (3 Lecture Hours)
Introduces the fundamental concepts of structured programming in the C language. Topics include data types; control structures; functions, structures, arrays, pointers, pointer arithmetic, unions, and files; the mechanics of running, testing, and debugging programs; introduction to programming; and introduction to the historical and social context of computing.
Prerequisite: (MATH 1314).
**COSC 1330  Programming for Scientists, Engineers, and Mathematicians**  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to computer programming for solving discipline specific problems using computers. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes coverage of language syntax, data and file structures, input/output devices, and disks/files.  
**TCCNS:** ENGR 2304

**COSC 1435  Introduction to Problem Solving with Computers I**  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course introduces the fundamental concepts of problem solving and algorithms. A brief introduction to computers and the programming life cycle is covered. The C++ programming language is used to develop basic computer programs demonstrating data types, fundamental control structures, functions, and arrays.  
**Prerequisite:** MATH 1314 or 2312.  
**TCCNS:** COSC 1436

**COSC 1436  INTRODUCTION TO PROBLEM SOLVING WITH COMPUTERS II**  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course is a continuation of COSC 1435. An introduction to abstract data types and object-oriented programming is covered. Topics include basic searching and sorting algorithms, dynamic allocation, linked lists, inheritance, polymorphism, and recursion.  
**Prerequisite:** COSC 1435.  
**TCCNS:** COSC 1437

**COSC 2325  Game Design**  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
This course will teach students the techniques for computer game design and how to work as part of a game development team from initial conception through release, including the game design process, game concepts, how and why we play games, character development, storytelling, user experience, game play, and core mechanics of games.

**COSC 2334  Computer Architecture**  
3 Semester Credit Hours (3 Lecture Hours)  
A concentrated study of internal computer concepts. Computer organization, machine and assembly language are emphasized.  
**Prerequisite:** (COSC 1435 and MATH 2305).

**COSC 2348  Introduction to Scripting**  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to Windows and Unix/Linux shell scripting. The course covers basic scripting concepts including decision statements, control statements, functions and files manipulation. Advanced scripting tools such as grep, awk and sed are covered in this course.  
**Prerequisite:** (COSC 1435).

**COSC 2360  Cyber Security**  
3 Semester Credit Hours (3 Lecture Hours)  
**This course introduces students to cyber security. A broad range of cyber security issues will be covered, including social engineering attacks, secure coding, computer security, internet of things (IoT) security, mobile security, data security, network security, physical security and forensics. This course will cover the concepts of prevention, detection, and response to cyber security threats.**  
**Prerequisite:** (COSC 1435).

**COSC 2390  Selected Topics I**  
1,3 Semester Credit Hours (1,3 Lecture Hours)  
Variable content. May be repeated for credit depending on topic. Offered on sufficient demand. Does not count toward total hours required for BS in Computer Science.

**COSC 2391  Selected Topics II**  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
This is a selected topics course with no lab component. Variable content. May be repeated for credit depending on topic. Offered on sufficient demand. Does not count toward total hours required for BS in Computer Science.

**COSC 2437  Data Structures**  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course provides a thorough study of standard structures used in the storing and retrieving of data and the processes by which these structures are created and manipulated. Topics include: object oriented design, linked lists, classes, trees, graphs, hashing, stacks, queues, sorting, searching, and recursion. A grade of C or better is required in the course to receive credit towards the Computer Science BS program.  
**Prerequisite:** (COSC 1436) and (MATH 2305 or 2305*).  
* May be taken concurrently.  
**TCCNS:** COSC 2436

**COSC 2465  Linux Systems**  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course focuses on providing students with essential knowledge and skills to implement, administer, and troubleshoot servers in a networked environment. Operating system concepts, such as installing a standalone system, file systems authentication, and user support services are explored. Topics will include security issues, user and group administration, active directory services, DHCP, DNS, SSH, backup and restoration strategies and techniques, integrated mass storage technologies and alternative client technologies.  
**Prerequisite:** COSC 1435.

**COSC 2466  Network Systems**  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course focuses on the standards and technologies used to establish inter-network structures that will support a TCP/IP data stream for higher-level services to operate over. This course introduces local area networks (LAN) and wide area networks (WAN). Topics include the TCP/IP and open system interconnection (OSI) models, cabling, switches, routers, protocols, subnetting, and networking hardware and software. Initial switch and router configuration will be examined and evaluated.  
**Prerequisite:** (COSC 1435 and 2465).

**COSC 2470  COBOL Programming**  
4 Semester Credit Hours (4 Lecture Hours)  
A concentrated study of the COBOL language as applied to fundamental business computing problems and other data management applications.  
**Prerequisite:** COSC 1435.

**COSC 3100  Skills for Computing Professionals I**  
1 Semester Credit Hour (1 Lecture Hour)  
This course focuses on beginning to develop professional skills that computer scientists will need to be successful in their careers and lives. Communication skills will include writing and giving oral presentations. Ethical issues will be explored. This is a class for computing professionals. As such, professional decorum will be required at all times.
COSC 3301 Cyber Security
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to cyber security. A broad range of cyber security issues will be covered, including social engineering attacks, secure coding, computer security, Internet of Things (IoT) security, mobile security, data security, network security, physical security and forensics. This course will cover the concepts of prevention, detection, and response to cyber security threats.

COSC 3324 Object-oriented Programming
3 Semester Credit Hours (3 Lecture Hours)
A study of concepts, terminology, and methodologies used in object-oriented systems, languages, and applications. Students will design and implement software systems using object-oriented analysis and design techniques.
Prerequisite: COSC 2437.

COSC 3325 Game Programming
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the student to techniques and tools used for all aspects of programming games. Topics will include game graphics, game physics, game AI, and sound. The course will contain lectures and hands-on labs. Students will work independently and in teams.
Prerequisite: COSC 2437.

COSC 3335 Programming for Unmanned Aircraft Systems
3 Semester Credit Hours (3 Lecture Hours)
This course introduces software development for Unmanned Systems (US). Students will be introduced to a variety of relevant topics including the different US platforms, design and implementation of algorithms for US, user interface for US, and state-of-the-art US applications, challenges & solutions.
Prerequisite: (COSC 1435 or 1330) and (MEEN 3335).

COSC 3336 Introduction to Database Systems
3 Semester Credit Hours (3 Lecture Hours)
A study of contemporary database management system concepts, terminology, and methodology for use and implementation. Commercially available systems are discussed and used with emphasis upon the relational model.
Prerequisite: COSC 2437.

COSC 3346 Operating Systems
3 Semester Credit Hours (3 Lecture Hours)
Introduction to operating systems concepts, principles, and design. Topics include: processes and threads, CPU scheduling, mutual exclusion and synchronization, deadlock, memory management, file systems, security and protection, networking, and distributed systems. Selected existing operating systems are discussed, compared, and contrasted.
Prerequisite: (COSC 2437 and 2334).

COSC 3351 Internet Programming
3 Semester Credit Hours (3 Lecture Hours)
Study of prominent web technologies with a focus on creating interactive web applications. Both client-side and server-side programming will be covered. Students will design and implement a web based project using technologies covered in class.
Prerequisite: COSC 3336 or 3336*.
* May be taken concurrently.

COSC 3352 Mobile Programming
3 Semester Credit Hours (3 Lecture Hours)
This course introduces software development for mobile platforms. Students will learn skills for creating and deploying mobile applications. Includes software engineering topics as related to mobile programming, primarily in how software design differs on mobile platforms.
Prerequisite: COSC 2437.

COSC 3353 Survey of Programming Languages
3 Semester Credit Hours (3 Lecture Hours)
A study of selected programming languages for students familiar with programming. Students will write programs in a variety of languages.
Prerequisite: COSC 2437.

COSC 3360 Human-computer Interaction
3 Semester Credit Hours (3 Lecture Hours)
This course introduces concepts and techniques for Human Computer Interaction. Particular emphasis will be placed on vision, audio, and language solutions for use in human-computer interactive systems. In addition, the students will learn how to apply the methods to solve simple HCI problems.
Prerequisite: COSC 1436.

COSC 3370 Software Engineering
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to software engineering principles for the development and maintenance of high quality large software systems. Topics include: software life cycle, delivering on time and within budget, and the development and application of processes and tools for managing the complexities inherent in creating these systems.
Prerequisite: COSC 2437.

COSC 3371 Computer Information Systems Economics
3 Semester Credit Hours (3 Lecture Hours)
An introduction to concepts in information technology and software engineering with a focus on economics and managerial issues. Topics include cost benefit analysis, software and effort estimation, feasibility analysis, information systems proposals, software team coordination, and project management. May not be used as a CS elective for CS majors.

COSC 3372 Network Security
3 Semester Credit Hours (3 Lecture Hours)
This course provides an introduction to the fundamentals of computer and network security and security laws and ethics, topics include, identification of vulnerabilities, forms of attack, appropriate countermeasures, and the detection and defense of the same. Techniques for the securing of hardware, software and data, including physical security are covered.
Prerequisite: COSC 2465.

COSC 3373 Software Project Management
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to the principles for software project management for small and medium-size projects. Many aspects of software project management, including management process, scope definition, time and cost estimation, quality control, human resources, communication, risks and project procurement management will be discussed. A number of applications and tools will be used to implement a class project.
Prerequisite: (COSC 3370).
COSC 3385  Numerical Methods
3 Semester Credit Hours (3 Lecture Hours)
This course introduces concepts for solving problems numerically using computers. Students will learn about number systems, errors of finite representation, and iteration. A survey of basic numerical methods including: solutions to nonlinear equations, solutions to linear systems, approximation, interpolation, zeros of functions, numerical differentiation and integration, and Monte-Carlo methods.
Prerequisite: MATH 2413 and (COSC 1330 or 1435).

COSC 3400  Skills for Computing Professionals
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course focuses on the professional skills that computer scientists will need to be successful in their careers. There are two key areas of study: communication skills needed by computer scientists and their ethical responsibilities. Communication skills will include: technical writing from a computer science perspective, presentation skills, client interviewing, and reading technical articles. Ethical issues will be explored from a computer science perspective.
Prerequisite: ENGL 1302.

COSC 3474  Cyber Defense I
4 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
This course covers cryptographic tools, cryptographic algorithms, types of malicious software, forms of attacks and software security. Strengths and weaknesses of cryptographic systems are covered as well as the types of attacks on cryptographic systems. Malicious activity signatures, analysis as well as detection will be covered. This course will also cover secure coding principles and types of software issues.
Prerequisite: COSC 3372.

COSC 4100  Skills for Computing Professionals II
1 Semester Credit Hour (2 Lab Hours)
This course focuses on technical writing, workplace scenarios and professional skills that computer scientists will need to be successful in their careers and lives. This is a class for computing professionals. As such, professional decorum will be required at all times.
Prerequisite: COSC 1100 and ENGL 3310.

COSC 4310  Digital Forensics
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce undergraduate students to the fundamentals of computer forensics and cyber-crime scene analysis. The various laws and regulations dealing with computer forensic analysis will be discussed. Students will be introduced to the emerging international standards for computer forensic analysis, as well as a formal methodology for conducting computer forensic investigations. Several Forensics tools such as Encase and FTK will be used to conduct digital forensics investigations.
Prerequisite: COSC 2437.

COSC 4324  Image Processing
3 Semester Credit Hours (3 Lecture Hours)
This course introduces concepts and techniques for image processing. The objective of this course is to introduce the fundamental techniques and algorithms used for processing and extracting useful information from digital images. The students will learn how to apply the image processing methods to solve real-world problems.
Prerequisite: COSC 2437.

COSC 4325  Advanced Game Programming
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce advanced concepts for game programming to the student. Topics will include game physics, game AI, advanced shaders, 3D techniques, multiplayer techniques, and networking. The course will contain lectures and hands-on labs.
Prerequisite: COSC 3325.

COSC 4328  Computer Graphics
3 Semester Credit Hours (3 Lecture Hours)
Basic principles and techniques for computer graphics on modern graphics hardware. Students will gain experience in interactive computer graphics using the OpenGL API. Topics include: 2D viewing, 3D viewing, perspective, lighting, and geometry.
Prerequisite: COSC 2437 and MATH 2413.

COSC 4330  Introduction to Artificial Intelligence
3 Semester Credit Hours (3 Lecture Hours)
Foundations, directions, and applications of artificial intelligence including search algorithms, knowledge acquisition, representation, and processing. Students will gain practical experience by implementing many of the basic algorithms.
Prerequisite: COSC 2437.

COSC 4342  Computer Networks
3 Semester Credit Hours (3 Lecture Hours)
Computer-based communication systems. Topics include: advanced computer network architectures, protocols, and programming.
Prerequisite: (COSC 2437 and MATH 2413).

COSC 4343  Algorithms
3 Semester Credit Hours (3 Lecture Hours)
Advanced programming techniques for algorithmic and heuristic solutions of problems. Topics include: analysis and design of algorithms, testing of algorithms, optimum and exhaustive solutions, and recursion.
Prerequisite: (COSC 2437 and MATH 2413).

COSC 4345  Introduction to Machine Learning
3 Semester Credit Hours (3 Lecture Hours)
This course gives a broad introduction to machine learning with more emphasis on intelligent system design. Topics to be covered include linear and logistic regression, neural networks, clustering, classification, decision tree, evolutionary computation, feature selection, and reinforcement learning. The courses will explore various applications of machine learning to computer science, process modeling, pattern and speech recognition, data mining, and bioinformatics.

COSC 4348  Systems Programming
3 Semester Credit Hours (3 Lecture Hours)
The design and implementation of system software such as device drivers, application support libraries, and interprocess communication. Students will study and use systems programming tools.
Prerequisite: COSC 3346 and (COSC 3353 or 3324).

COSC 4353  Compiler Construction
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the basic concepts and mechanisms traditionally employed in language translators, with emphasis on compilers. Topics include: strategies for syntactic and semantic analysis, techniques of code optimization and approaches toward code generation.
Prerequisite: COSC 3353.
COSC 4354 Senior Capstone Project
3 Semester Credit Hours (3 Lecture Hours)
Teamwork and formal methods of systems analysis and design are emphasized. Students will complete a large team project. Fall, Spring. 
**Prerequisite:** (COSC 3370, 3336 and ENGL 3310).

COSC 4360 Theory of Programming Languages
3 Semester Credit Hours (3 Lecture Hours)
The study of programming language design including syntax, semantics, behavior, and implementation issues in imperative, functional, logic, and object-oriented languages. Other topics include type theory, concurrency, data dependency, and nondeterminism.
**Prerequisite:** COSC 2437.

COSC 4365 Windows Security
3 Semester Credit Hours (3 Lecture Hours)
This course focuses on advanced system administration topics. An in depth understanding of various concepts such as operating systems, servers, file systems authentication, and user support services are explored. Topics include security issues, user and group administration, server and work-station integration, central repositories for updates, Active directory, DMZ, web servers, email servers, electronic system update and maintenance, backup and restoration strategies and techniques, integrated mass storage technologies and alternative client technologies.
**Prerequisite:** (COSC 2348) and (COSC 2465).

COSC 4367 Firewall and Intrusion Detection Systems
3 Semester Credit Hours (3 Lecture Hours)
This is an applied course which focuses on the standards and technologies used to establish inter-network structures that will support a TCP/IP data stream for higher-level services to operate over. This course introduces firewalls, Intrusion Prevention Systems (IPS), and Intrusion Detection Systems (IDS) technology. Topics include Windows, Linux, Check Point and Cisco firewalls, TCP/IP and open system interconnection (OSI) models, attack traffic analysis, and network based and host based hardware and software. Device configuration will be examined and evaluated with appropriate exercises.
**Prerequisite:** (COSC 4365) and COSC 3372.

COSC 4368 Penetration Testing
3 Semester Credit Hours (3 Lecture Hours)
This course focuses to increase the students understanding of how to recognize a potential cyber attacker and identify vulnerabilities through the use of vulnerability analysis tools. Students will audit, monitor, and revise system security to ensure appropriate levels of protection are achieved. Incident response and handling, security log analysis, attacker identification, system recovery and postmortem procedures will be addressed.
**Prerequisite:** (COSC 3474) and (COSC 4365).

COSC 4369 Incident Response
3 Semester Credit Hours (3 Lecture Hours)
This course focuses on the standards and technologies used to establish organization structures that will support information technology incident response, business continuity and disaster recovery efforts. This course introduces incident response, business continuity and disaster recovery planning concepts as well as tools and techniques. Topics include the development and implementation of incident response, business continuity and disaster recovery plans, attack traffic analysis, and network-based and host-based hardware and software. Concepts will be examined and evaluated with appropriate exercises.
**Prerequisite:** (COSC 2437) and (COSC 3365) and (COSC 3466) and (COSC 3465).

COSC 4370 Models of Computation
3 Semester Credit Hours (3 Lecture Hours)
A study of formal languages, grammars, and associated abstract machine models. Topics include regular and context-free languages and grammars, finite state automata, Turing machines, and the Chomsky hierarchy.
**Prerequisite:** MATH 2305.

COSC 4396 Directed Independent Study
3 Semester Credit Hours
See College description. Offered on sufficient demand.

COSC 4590 Selected Topics
1-5 Semester Credit Hours (1-5 Lecture Hours)
Variable content. May be repeated for credit depending on topic. Offered on sufficient demand.

COSC 4690 CONTRACTED FIELD EXPERIENCE IN COMPUTER SCIENCE
1-6 Semester Credit Hours (6 Lecture Hours)
Individual contract agreement involving student, faculty, and cooperating agency to gain practical experience in off-campus setting.

COSC 5300 Introductory Topics in Computer Science
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to the leveling topics in computer science. This course serves the needs of certain topics students lack for pursuing a Master’s degree in computer science. Grade assigned will be "credit" (CR) or "no credit" (NC).

COSC 5312 Foundations of Computer Organization and Architecture
3 Semester Credit Hours (3 Lecture Hours)
A study of internal computer concepts with respect to the functioning of the hardware subsystems and their roles in the computing process. An in-depth study of machine and assembly language. (Does not count toward total hours required for MS in Computer Science.)

COSC 5320 DESIGN AND IMPLEMENTATION OF COMPUTERIZED INSTRUCTIONAL SYSTEMS
3 Semester Credit Hours (3 Lecture Hours)
Provides a broad introduction to the development of computer-based learning environments. Covers the theory and practice of using the computer both in the classroom and individually for learning. Covers a wide range of possibilities from multimedia presentation of material to constructive environments and computer-based instructional systems.

COSC 5321 Data Structures
3 Semester Credit Hours (3 Lecture Hours)
A study of the logical structures used for the organization, storage and retrieval of data. These structures are addressed from both memory-resident and file-resident points of view. Algorithms for the creation, searching, and manipulation of standard data structures used in computing are stressed. (Does not count toward total hours required for MS in Computer Science.)
**Co-requisite:** COSC 5312, MATH 2305.

COSC 5324 DIGITAL IMAGE PROCESSING
3 Semester Credit Hours (3 Lecture Hours)

COSC 5326 COMPUTER VISION
3 Semester Credit Hours (3 Lecture Hours)
**Prerequisite:** COSC 5324.
COSC 5327 INTRO TO COMPUTER GRAPHICS
3 Semester Credit Hours (3 Lecture Hours)
INTRODUCTION TO COMPUTER GRAPHICS This graduate course provides students with a foundation in basic principles and techniques for computer graphics on modern graphics hardware. Students will gain experience in interactive computer graphics using the OpenGL API. Topics include: graphics hardware, rendering, perspective, lighting, and geometry.

COSC 5328 ADVANCED COMPUTER GRAPHICS
3 Semester Credit Hours (3 Lecture Hours)
This course covers advanced computer graphics techniques. Students will be introduced to state-of-the-art methods in computer graphics. This course will focus on techniques for real-time rendering and animation.
Prerequisite: COSC 4328 or 5327.

COSC 5331 Foundations of Computer System Software
3 Semester Credit Hours (3 Lecture Hours)
Introduction to operating systems concepts, principles, and design. Topics include: processes and threads, CPU scheduling, mutual exclusion and synchronization, deadlock, memory management, file systems, security and protection, networking, and distributed systems. Selected existing operating systems are discussed, compared, and contrasted. (Does not count toward total hours required for MS in computer science.)
Prerequisite: COSC 5313.
Co-requisite: COSC 5321.

COSC 5334 THE DESIGN AND ANALYSIS OF ALGORITHMS
3 Semester Credit Hours (3 Lecture Hours)
An advanced course that concentrates on the design and analysis of algorithms used to solve a variety of problems. The methods of design covered include such topics as: divide-and-conquer, the greedy method, dynamic programming, search and traversal techniques, and backtracking.
Prerequisite: COSC 5321, MATH 2413 and 2305.

COSC 5336 DATABASE MANAGEMENT SYSTEMS
3 Semester Credit Hours (3 Lecture Hours)
A study of contemporary database management concepts. Performance (indexing, query optimization, update optimization), concurrency, security and recovery issues are discussed. Also includes the study of front-end environments that access the database.
Prerequisite: COSC 5335 and 5321.

COSC 5337 DATA MINING
3 Semester Credit Hours (3 Lecture Hours)

COSC 5340 HUMAN-COMPUTER INTERACTION
3 Semester Credit Hours (3 Lecture Hours)
Graduate-level survey of the field of Human-Computer Interaction (HCI) focusing on design strategies for making software usable by real-world people for doing real-world work. Topics include the role of HCI in the software product life cycle, task analysis of the user’s work, architectures for human-computer dialogues, new and traditional approaches to user interface design, and user interface standards.
Prerequisite: COSC 5331.

COSC 5350 ADVANCED TOPICS IN DBMS
3 Semester Credit Hours (3 Lecture Hours)
The study of emerging database technologies. Topics are chosen from data warehousing, distributed databases, spatial databases and web-based applications.
Prerequisite: COSC 5336.

COSC 5351 ADVANCED COMPUTER ARCHITECTURE
3 Semester Credit Hours (3 Lecture Hours)
COMPUTER ARCHITECTURE An overview of computer architecture, which stresses the underlying design principles and the impact of these principles on computer performance. General topics include design methodology, processor design, control design, memory organization, system organization, and parallel processing.
Prerequisite: COSC 5331.

COSC 5352 ADVANCED OPERATING SYSTEMS
3 Semester Credit Hours (3 Lecture Hours)
Introduction to advanced concepts in operating systems and distributed systems. Topics include distributed system architectures, interprocess communication, distributed mutual exclusion, distributed synchronization and deadlock, agreement protocols, distributed scheduling and process management, distributed shared memory, distributed file systems, multiprocessor system architectures and operating systems, recovery and fault tolerance.
Prerequisite: COSC 5331.

COSC 5353 PRINCIPLES OF COMPILER CONSTRU
3 Semester Credit Hours (3 Lecture Hours)
COMPILED DESIGN AND CONSTRUCTION This course introduces the basic concepts and mechanisms traditionally employed in language translators, with emphasis on compilers. Topics include strategies for syntactic and semantic analysis, techniques of code optimization and approaches toward code generation.
Prerequisite: COSC 5330 and MATH 2305.

COSC 5354 ARTIFICIAL INTELLIGENCE
3 Semester Credit Hours (3 Lecture Hours)
Fundamental concepts and techniques for the design of computer-based, intelligent systems. Topics include: a brief history, methods for knowledge representation, heuristic search techniques, programming in LISP or Prolog.
Prerequisite: COSC 5321 and MATH 2305.

COSC 5355 DATA COMMUNICATIONS NETWORKING
3 Semester Credit Hours (3 Lecture Hours)
DATA COMMUNICATION SYSTEMS Areas studied include principles of computer-based communication systems, analysis and design of computer networks, and distributed data processing.
Prerequisite: COSC 5331.

COSC 5356 THEORY OF COMPUTATION
3 Semester Credit Hours (3 Lecture Hours)
THEORETICAL ASPECTS OF COMPUTING An introduction to theoretical foundations of modern computing. Topics include finite state machine concepts, formal grammars, and basic computability concepts.
Prerequisite: COSC 5321 and MATH 2305.

COSC 5357 WIRELESS SENSOR NETWORKS
3 Semester Credit Hours (3 Lecture Hours)
This is a graduate level course on wireless sensor networks; one of the fastest developing areas in computer science and engineering. The focus of this course is on the design of optimized architectures and protocols for such unique networks. Topics include the design principles of wireless sensor networks, energy management, MAC protocols, naming and addressing, localization, routing protocols, applications of wireless sensor networks, and associated challenges and measures.
COSC 5360 CONCURRENCY: PARALLEL AND DISTRIBUTED PROCESSING
3 Semester Credit Hours (3 Lecture Hours)
PARALLEL COMPUTING Introduction to the hardware and software issues in parallel computing. Topics include motivation and history, parallel architectures, parallel algorithm design, and parallel performance analysis. Students will be introduced to a variety of parallel computing paradigms including message passing systems and shared memory systems.
Prerequisite: COSC 5331.

COSC 5362 MOBILE SOFTWARE DEVELOPMENT
3 Semester Credit Hours (3 Lecture Hours)
Survey of software development on mobile platforms including both native and cross-platform applications with topics such as: prototyping, programming, testing, debugging, and deploying. Coverage of software life cycle on mobile platforms and how mobile hardware differs from traditional computers. COSC 5321

COSC 5370 ADVANCED SOFTWARE ENGINEERING
3 Semester Credit Hours (3 Lecture Hours)
Areas studied include engineering principles and their application to the design, development, testing, and maintenance of large software systems, tools and processes for managing the complexities inherent in creating and maintaining large software systems.
Prerequisite: COSC 5321.

COSC 5374 COMPUTER FORENSICS
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce students to the fundamentals of computer forensics and various software tools used in cyber-crime analysis. Students will be introduced to established methodologies for conducting computer forensic investigations, as well as to emerging international standards for computer forensics. Applicable laws and regulations dealing with computer forensic analysis will also be discussed.
Prerequisite: COSC 5312.

COSC 5375 INFORMATION ASSURANCE
3 Semester Credit Hours (3 Lecture Hours)
An introduction to information security and assurance. This course covers the basic notions of confidentiality, integrity, availability, authentication models, protection models, secure programming, audit, intrusion detection and response, operational security issues, physical security issues, personnel security, policy formation and enforcement, access controls, information flow, legal and social issues, classification, trust modeling, and risk assessment.
Prerequisite: COSC 5312.

COSC 5376 NETWORK SECURITY
3 Semester Credit Hours (3 Lecture Hours)
This course is a study of networking basics and security essentials with respect to information services provided over a computer network. The course covers the technical details of security threats, vulnerabilities, attacks, policies, and countermeasures such as firewalls, honeypots, intrusion detection systems, and cryptographic algorithms for confidentiality and authentication and the development of strategies to protect information services and resources accessible on a computer network.
Prerequisite: COSC 5375.

COSC 5377 APPLIED CRYPTOGRAPHY
3 Semester Credit Hours (3 Lecture Hours)
This course includes an introduction to cryptographic algorithms and protocols for encrypting information securely, techniques for analyzing vulnerabilities of protocols, approaches to digital signatures and information digests, and implementation approaches for the most significant cryptographic methodologies.
Prerequisite: COSC 5312.

COSC 5379 ADVANCED INFORMATION ASSURANCE
3 Semester Credit Hours (3 Lecture Hours)
This course encompasses a broad range of topics involving information security, communications security, network security, risk analysis, operational security, health information privacy, criminal justice digital forensics, homeland security, the human element and social engineering, and applicable national and international laws. An in-depth information assurance capstone project or research paper will be required of each student to satisfy the information assurance graduate option requirements.
Prerequisite: COSC 5375.

COSC 5390 Internship
3 Semester Credit Hours
Individual contract agreement involving student, faculty, and cooperating agency (discipline-related business, nonprofit organization, or government agency) to gain practical experience appropriate to computer science in off-campus setting. Grade assigned will be “credit” (CR) or “no credit” (NC).

COSC 5393 RESEARCH METHODS IN COMPUTER SCIENCE
3 Semester Credit Hours (3 Lecture Hours)
This course provides students with a range of experiences in conducting and communicating research. Students will learn major research methods and techniques. Experiences will be gained in all stages of research: reviewing literature, writing a proposal, designing an approach, and reporting results. Critical-reading/writing assignments and class discussions on state-of-the-art research in Computer Science will provide students with major research aspects. Fall, Spring

COSC 5395 GRADUATE PROJECT AND TECHNICAL REPORT
3 Semester Credit Hours
An applied research project in computing from problem definition to implementation in an area of particular interest to the student that relates to the course of study.
Prerequisite: COSC 5393 and 5370.

COSC 5396 DIRECTED INDEPENDENT STUDY
1-3 Semester Credit Hours
Study in areas of current interest. (A maximum of six hours may be counted toward the MS degree.) Fall, Spring, Summer.

COSC 5398 Thesis I
3 Semester Credit Hours (3 Lecture Hours)
This course is for Computer Science MS students choosing the thesis option. Upon choosing a thesis advisor, students will register for this course. This course is only credit/no credit. Students will be given a grade of In-Progress until successfully completing their thesis.
Prerequisite: COSC 6393.
COSC 5399 Thesis II
3 Semester Credit Hours (3 Lecture Hours)
This course is for Computer Science MS students choosing the thesis option. Students will continually register for this course until successful completion of their thesis. A grade of In-Progress will be assigned until either successful completion or failing to register. If failing to register students will receive a grade of No Credit for all 5399 and 5398 courses.
Prerequisite: COSC 5398.

COSC 5590 SELECTED TOPICS
1-5 Semester Credit Hours (1-5 Lecture Hours)
Variable content study of specific areas of computer and information systems. May be repeated for credit when topics vary. Offered on sufficient demand.

COSC 5999 Advanced Research in Computer Science
1-9 Semester Credit Hours (1-9 Lecture Hours)
Advanced work in a specialized area of computer science. Does not count as credit toward a degree in computer science. Course is taken as credit/non-credit.

COSC 6324 Digital Image Processing
3 Semester Credit Hours
This course introduces concepts and techniques for image processing. The objective of this course is to introduce the fundamental techniques and algorithms used for processing and extracting useful information from digital images. The students will learn how to apply the image processing methods to solve real-world problems.

COSC 6326 Computer Vision
3 Semester Credit Hours
This graduate course introduces concepts and techniques for machine vision. Particular emphasis will be placed on methods used for object recognition, machine learning, content-based image retrieval, image matching, 3D vision, tracking and motion analysis.
Prerequisite: COSC 6324.

COSC 6327 Introduction to Computer Graphics
3 Semester Credit Hours
This graduate course provides students with a foundation in basic principles and techniques for computer graphics on modern graphics hardware. Students will gain experience in interactive computer graphics using the OpenGL API. Topics include: graphics hardware, rendering, perspective, lighting, and geometry.

COSC 6328 Advanced Computer Graphics
3 Semester Credit Hours
This course covers advanced computer graphics techniques. Students will be introduced to state-of-the-art methods in computer graphics. This course will focus on techniques for real-time rendering and animation.
Prerequisite: COSC 4328 or 6327.

COSC 6334 Design and Analysis of Algorithms
3 Semester Credit Hours (3 Lecture Hours)
An advanced course that concentrates on the design and analysis of algorithms used to solve a variety of problems. The methods of design covered include such topics as: divide-and-conquer, the greedy method, dynamic programming, search and traversal techniques, and backtracking.
Prerequisite: COSC 5321, MATH 2413 and 2305.

COSC 6336 Database Management Systems
3 Semester Credit Hours (3 Lecture Hours)
A study of contemporary database management concepts. Performance (indexing, query optimization, update optimization), concurrency, security and recovery issues are discussed. Also includes the study of front-end environments that access the database.
Prerequisite: COSC 5321.

COSC 6337 Data Mining
3 Semester Credit Hours
An introduction to fundamental strategies and methodologies for data mining. Topics include data preprocessing, mining frequent data patterns, classification, clustering, and outlier detection.

COSC 6338 Machine Learning
3 Semester Credit Hours (3 Lecture Hours)
Machine learning is a set of techniques that have been successfully used in the past few decades for data analysis, process automation, function optimization, model building, and many others. These techniques have been explored in a diversity of fields such as robotics, self-driving cars, big data, control of autonomous systems, image analysis, object recognition, data mining, business, and financial forecasting, transportation systems, antenna design, medical care systems, and many others. ML is a subdivision of artificial intelligence that gives machines the ability to learn and adapt with different acquired knowledge and experience. In this course, a student will learn about state of the art on machine learning and get to know how they can carry out these evolving learning algorithms. ML algorithms attempt to mimic how the human brain works. We plan to develop many exercises on how these ML algorithms work in practical applications in both industry and basic science. We plan to cover topics such as artificial network networks, fuzzy logic, hybrid systems, search and optimization, classification, clustering and deep learning. Students will gain experiences on some programming tools and a variety of applications of machine learning.

COSC 6339 Deep Learning
3 Semester Credit Hours (3 Lecture Hours)
This course introduces concepts and techniques for deep learning. The objective of this course is to introduce the fundamental theory and application of deep learning. Particular emphasis will be placed on regularization and optimization of deep learning models, Convolutional network, recurrent neural networks, autoencoders and generative models. In addition, the students will learn how to apply the methods to solve real-world problems in several areas including remote sensing, geospatial, and medical applications and develop the insight necessary to use the tools and techniques to solve any new problem.

COSC 6340 Human-Computer Interaction
3 Semester Credit Hours (3 Lecture Hours)
This graduate course introduces concepts and techniques for Human Computer Interaction. Attention will be paid to using non-traditional inputs such as cameras and microphones. Students will learn tools for using these inputs to create interactions with users.
Prerequisite: COSC 5331.

COSC 6350 Advanced Topics in DBMS
3 Semester Credit Hours (3 Lecture Hours)
The study of emerging database technologies. Topics are chosen from data warehousing, distributed databases, spatial databases and web-based applications.
Prerequisite: COSC 6336.
COSC 6351 Advanced Computer Architecture
3 Semester Credit Hours
An overview of computer architecture, which stresses the underlying design principles and the impact of these principles on computer performance. General topics include design methodology, processor design, control design, memory organization, system organization, and parallel processing.
Prerequisite: COSC 5331.

COSC 6352 Advanced Operating Systems
3 Semester Credit Hours (3 Lecture Hours)
Introduction to advanced concepts in operating systems and distributed systems. Topics include distributed system architectures, interprocess communication, distributed mutual exclusion, distributed synchronization and deadlock, agreement protocols, distributed scheduling and process management, distributed shared memory, distributed file systems, multiprocessor system architectures and operating systems, recovery and fault tolerance.
Prerequisite: COSC 5331.

COSC 6353 Compiler Design and Construction
3 Semester Credit Hours
This course introduces the basic concepts and mechanisms traditionally employed in language translators, with emphasis on compilers. Topics include strategies for syntactic and semantic analysis, techniques of code optimization and approaches toward code generation.
Prerequisite: MATH 2305.

COSC 6354 Artificial Intelligence
3 Semester Credit Hours
Fundamental concepts and techniques for the design of computer-based, intelligent systems. Topics include: a brief history, methods for knowledge representation, heuristic search techniques, programming in LISP or Prolog.
Prerequisite: COSC 5321 and MATH 2305.

COSC 6355 Data Communications and Networking
3 Semester Credit Hours (3 Lecture Hours)
Areas studied include principles of computer-based communication systems, analysis and design of computer networks, and distributed data processing.
Prerequisite: COSC 5331.

COSC 6356 Theory of Computation
3 Semester Credit Hours
An introduction to theoretical foundations of modern computing. Topics include finite state machine concepts, formal grammars, and basic computability concepts.
Prerequisite: COSC 5321 and MATH 2305.

COSC 6357 Wireless Sensor Networks
3 Semester Credit Hours
This is a graduate level course on wireless sensor networks; one of the fastest developing areas in computer science and engineering. The focus of this course is on the design of optimized architectures and protocols for such unique networks. Topics include the design principles of wireless sensor networks, energy management, MAC protocols, naming and addressing, localization, routing protocols, applications of wireless sensor networks, and associated challenges and measures.

COSC 6360 Parallel Computing
3 Semester Credit Hours
Introduction to the hardware and software issues in parallel computing. Topics include motivation and history, parallel architectures, parallel algorithm design, and parallel performance analysis. Students will be introduced to a variety of parallel computing paradigms including message passing systems and shared memory systems.
Prerequisite: COSC 5331.

COSC 6361 Parallel Algorithms
3 Semester Credit Hours (3 Lecture Hours)
Introduces and evaluates important models of parallel and distributed computation. Topics include a selection of parallel algorithms for various models of parallel computation, combinational circuits, parallel prefix computation, divide and conquer, pointer based data structures, linear arrays, meshes and related models, and hypercubes.

COSC 6362 Mobile Software Development
3 Semester Credit Hours
Survey of software development on mobile platforms including both native and cross-platform applications with topics such as: prototyping, programming, testing, debugging, and deploying. Coverage of software life cycle on mobile platforms and how mobile hardware differs from traditional computers.
Prerequisite: COSC 5321.

COSC 6365 Current Trends in Programming
3 Semester Credit Hours (3 Lecture Hours)
This is a survey of current trends in computer programming. The focus of this course is on the development of computer programs utilizing the latest technologies and paradigms. Topics include state-of-the-art in problem solving and software development, programming techniques and approaches, programming languages, development tools and environments, and software deployment methods.
Prerequisite: COSC 5321.

COSC 6370 Advanced Software Engineering
3 Semester Credit Hours
Areas studied include engineering principles and their application to the design, development, testing, and maintenance of large software systems, tools and processes for managing the complexities inherent in creating and maintaining large software systems.
Prerequisite: COSC 5321.

COSC 6374 Computer Forensics
3 Semester Credit Hours
This course will introduce students to the fundamentals of computer forensics and various software tools used in cyber-crime analysis. Students will be introduced to established methodologies for conducting computer forensic investigations, as well as to emerging international standards for computer forensics. Applicable laws and regulations dealing with computer forensic analysis will also be discussed.

COSC 6375 Information Assurance
3 Semester Credit Hours (3 Lecture Hours)
An introduction to information security and assurance. This course covers the basic notions of confidentiality, integrity, availability, authentication models, protection models, secure programming, audit, intrusion detection and response, operational security issues, physical security issues, personnel security, policy formation and enforcement, access controls, information flow, legal and social issues, classification, trust modeling, and risk assessment.
COSC 6376 Network Security
3 Semester Credit Hours
This course is a study of networking basics and security essentials with respect to information services provided over a computer network. The course covers the technical details of security threats, vulnerabilities, attacks, policies, and countermeasures such as firewalls, honeypots, intrusion detection systems, and cryptographic algorithms for confidentiality and authentication and the development of strategies to protect information services and resources accessible on a computer network.
Prerequisite: COSC 6375.

COSC 6377 Applied Cryptography
3 Semester Credit Hours
This course includes an introduction to cryptographic algorithms and protocols for encrypting information securely, techniques for analyzing vulnerabilities of protocols, approaches to digital signatures and information digests, and implementation approaches for the most significant cryptographic methodologies.
Prerequisite: COSC 6375.

COSC 6379 Advanced Information Assurance
3 Semester Credit Hours
This course encompasses a broad range of topics involving information security, communications security, network security, risk analysis, operational security, health information privacy, criminal justice digital forensics, homeland security, the human element and social engineering, and applicable national and international laws. An in-depth information assurance capstone project or research paper will be required of each student to satisfy the information assurance graduate option requirements.
Prerequisite: COSC 6375.

COSC 6380 Data Analytics
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce state-of-the-art techniques to process and analyze different types of data, generate insights and knowledge from data, and make data-based decisions and predictions. Real-world examples will be used to familiarize students with the theory and applications. Main topics include data preprocessing, probability theory, tests of hypothesis, and various data analysis techniques (e.g., clustering, classification, prediction/forecasting, etc.) for different types of data including static, time-series, spatial, and spatiotemporal.

COSC 6393 Research Methods in Computer Science
3 Semester Credit Hours
This course provides students with a range of experiences in conducting and communicating research. Students will learn major research methods and techniques. Experiences will be gained in all stages of research: reviewing literature, writing a proposal, designing an approach, and reporting results. Critical-reading/writing assignments and class discussions on state-of-the-art research in Computer Science will provide students with major research aspects. Spring

COSC 6396 Directed Independent Study
3 Semester Credit Hours
Study in areas of current interest. (A maximum of six hours may be counted toward the MS degree.) Fall, Spring, Summer.

COSC 6590 Selected Topics
3 Semester Credit Hours (3 Lecture Hours)
Variable content study of specific areas of computer and information systems. May be repeated for credit when topics vary. Offered on sufficient demand.

Minors
- Applied Mathematics, Minor (p. 523)
- Atmospheric Sciences, Minor (p. 527)
- Biology, Minor (p. 528)
- Chemistry, Minor (p. 533)
- Environmental Science, Minor (p. 535)
- Geology, Minor (p. 537)
- Mathematics, Minor (p. 540)
- Physics, Minor (p. 544)

Applied Mathematics, Minor
Program Requirements
Students majoring in other academic fields who wish to earn a minor in applied mathematics must complete the following courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Required Courses</td>
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<tr>
<td>MATH 2413</td>
<td>Calculus I 1</td>
<td>4</td>
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<tr>
<td>MATH 2414</td>
<td>Calculus II 1</td>
<td>4</td>
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<td>Select four of the following:</td>
<td>12-13</td>
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<tr>
<td>COSC 3385</td>
<td>Numerical Methods</td>
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<tr>
<td>MATH 2415</td>
<td>Calculus III</td>
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<tr>
<td>MATH 3301</td>
<td>Introduction to Complex Analysis</td>
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<tr>
<td>MATH 3310</td>
<td>Mathematical Analysis for Mechanical Engineering</td>
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<tr>
<td>MATH 3311</td>
<td>Linear Algebra</td>
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<tr>
<td>MATH 3315</td>
<td>Differential Equations</td>
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<tr>
<td>MATH 3342</td>
<td>Applied Probability and Statistics ^*</td>
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<td>Total Hours</td>
<td>20-21</td>
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</table>

1 Waivable 3: May be waived with suitable placement; see placement section below for more details. If needed, upper-level mathematics electives must be taken to bring the total to 19 hours.
^ Online offering
* Blended offering

Courses
MATH 0099 Math Non-Course Based Development
0 Semester Credit Hours
Preparation workshop to help students achieve College Readiness in mathematics under the Texas Success Initiative. Topics include five general areas: fundamental mathematics, algebra, geometry, statistics, and problem solving.

MATH 0200 Brief Developmental Mathematics
1-2 Semester Credit Hours (1-2 Lecture Hours)
Topics as in MATH 0300. For students who have completed most topics in MATH 0300. Requires permission of MATH department. (Not counted toward graduation) Fall, Spring, Maymester, Summer.
Co-requisite: MATH 1314, MATH 1442.
MATH 0214  Brief Developmental Mathematics-Algebra
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1314. Support will focus on essential skills required for success in College Algebra (Math 1314). Supporting topics include review of intermediate algebra, polynomial equations, graphing techniques, and applications. Course provides the necessary academic support for TSI liable students concurrently enrolled in MATH 1314 as the co-requisite with MATH 0214. Students who register for MATH 0214 must co-register in MATH 1314. MATH 0214 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1314.

MATH 0224  Brief Developmental Mathematics-Business Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is the co-requisite course supporting for MATH 1324. Support will focus on essential skills required for success in Business Math (Math 1324). Supporting topics include the use of calculators and technology. Topics focus on basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and financial management, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1324 as the co-requisite with MATH 0224. Students who register for MATH 0224 must co-register in MATH 1324. MATH 0224 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1324.

MATH 0232  Brief Developmental Mathematics-Contemporary Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1332. Support will focus on essential skills required for success in Contemporary Mathematics (Math 1332). Supporting topics include a basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and descriptive statistics, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1332 as the co-requisite with MATH 0232. Students who register for MATH 0232 must co-register in MATH 1332. MATH 0232 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1332.

MATH 0242  Brief Developmental Mathematics-Statistics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1442. Support will focus on essential skills required for success in Statistics for Life (Math 1442). Supporting topics include the use of calculators and technology. Topics focus on descriptive and inferential statistics, probabilities including notation, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1442 as the co-requisite with MATH 0242. Students who register for MATH 0242 must co-register in MATH 1442. MATH 0242 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1442.

MATH 0300  Developmental Mathematics
3 Semester Credit Hours (3 Lecture Hours)
Topics include number concepts, computation, elementary algebra, geometry, and mathematical reasoning. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0310  Developmental Mathematics-Algebra
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
3 sem. hrs. (2:2) Topics include number concepts, computation, elementary algebra, and geometry. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0398  Introduction to Algebra
3 Semester Credit Hours (3 Lecture Hours)
Number concepts, computation, elementary algebra, geometry, and mathematical reasoning.

MATH 0399  Intermediate Algebra
3 Semester Credit Hours (3 Lecture Hours)
Topics include linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems.
Prerequisite: MATH 0398.

MATH 1314  College Algebra
3 Semester Credit Hours (3 Lecture Hours)
Quadratic equations, inequalities, graphs, logarithms and exponentials, theory of polynomial equations, systems of equations.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT1 Math', MATH 0320 or minimum score of 350 in 'TSI Math'.
Co-requisite: MATH 0214.
TCCNS: MATH 1314

MATH 1325  Calculus for Business & Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will learn how the properties and language of mathematics can be used in business and real-world problem solving and understand the techniques and applications of finance problems, basic matrix operation, basic counting principles, and probability analysis in modeling real-world scenarios.
Prerequisite: minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
Co-requisite: MATH 0224.
TCCNS: MATH 1324

MATH 1324  Mathematics for Business and Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will learn how the properties and language of mathematics can be used in business and real-world problem solving and understand the techniques and applications of finance problems, basic matrix operation, basic counting principles, and probability analysis in modeling real-world scenarios.
Prerequisite: minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 1324

MATH 1316  Trigonometry
3 Semester Credit Hours (3 Lecture Hours)
Trigonometric functions, identities, equations involving trigonometric functions, solutions of right and oblique triangles.
Prerequisite: (MATH 1314, minimum score of 550 in 'SAT MATH SECTION' or minimum score of 21 in 'ACT1 Math') or minimum score of 21 in 'ACT Math'.
TCCNS: MATH 1316

MATH 1325  Calculus for Business & Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will develop and combine the concepts in and relationships between Mathematics and Business from the fundamentals of calculus and optimization in all Business fields. Students are expected to learn the materials algebraically with technology. Students will combine the concepts of limits, continuation, differentiation and integration techniques to solve problems in business, economics, and social sciences.
Prerequisite: MATH 1324, minimum score of 550 in 'SAT Math', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 1325
MATH 1332 Contemporary Mathematics
3 Semester Credit Hours (3 Lecture Hours)
This course serves as a terminal course and supplies a brief overview of several topics in mathematics. Topics may include introductory treatments of sets, logic, number systems, number theory, relations, functions, probability and statistics. Appropriate applications are included. This course emphasizes using critical thinking to make decisions based on information.
Co-requisite: MATH 0232.
TCCNS: MATH 1332

MATH 1390 Introduction to Mathematical Topics
1-3 Semester Credit Hours (1-3 Lab Hours)
A course to introduce students to mathematical topics in a formal setting. The course may support problem solving, or systematic investigations of topics outside the current mathematical catalog. May not be substituted for regularly scheduled offerings.

MATH 1442 Statistics for Life
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
An introduction to statistical concepts and methods used in all disciplines to enhance decision making based on data analysis, including: basic experimental design models, measurement and data collection through sampling; display and summary of information, and assessment of relationship through descriptive techniques; probability concepts leading to estimation and hypothesis testing of means, variance and proportions, regression analysis, one-factor ANOVA and chi-square test of independence; and applications through case studies. The laboratory component of the course offers applications of the theory presented during the classroom sessions.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT Math', MATH 0310, 0320, minimum score of 350 in 'TSI Math' or minimum score of 19 in 'ACT Math'.
Co-requisite: MATH 0242.
TCCNS: MATH 1442

MATH 2305 Discrete Mathematics I
3 Semester Credit Hours (3 Lecture Hours)
An introduction to topics in Discrete Mathematics with an emphasis on applications in Mathematics and Computer Science. Topics include formal logic, graphs, trees and related algorithms, and combinatorics and discrete probability.
Prerequisite: MATH 2413, minimum score of 620 in 'SAT Math', minimum score of 620 in 'SAT1 Mathematics', minimum score of 640 in 'SAT MATH SECTION', minimum score of 27 in 'ACT Math' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2305

MATH 2312 Precalculus
3 Semester Credit Hours (3 Lecture Hours)
A more rapid treatment of the material in MATH 1314 and MATH 1316, this course is designed for students who wish a review of the above material, or who are very well prepared. Functions, graphs, trigonometry, and analytic geometry.
Prerequisite: MATH 1314, minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 2312

MATH 2413 Calculus I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Limits, continuity, derivatives, applications of the derivative, and an introduction to integrals. Contains a laboratory component.
Prerequisite: MATH 1316, 2312, minimum score of 640 in 'SAT MATH SECTION' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2413

MATH 2414 Calculus II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Prerequisite: MATH 2413.
TCCNS: MATH 2414

MATH 2415 Calculus III
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component. Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component.
Prerequisite: MATH 2414.
TCCNS: MATH 2415

MATH 3300 Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications. Students may not receive credit for both MATH 3300 and GISC 3300.
Prerequisite: MATH 2413 and 2414.

MATH 3301 Introduction to Complex Analysis
3 Semester Credit Hours (3 Lecture Hours)
This course introduces functions of a complex variable and their applications. Contents include differentiation and integration; zeros, poles and residues; conformal mappings.
Prerequisite: (MATH 2415) or (MATH 2414 and 3314).

MATH 3310 Mathematical Analysis for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming and probability and statistics into mechanical engineering. May not count towards the MATH major. Students may not receive credit for both MATH 3310 and MEEN 3310.
Prerequisite: MATH 3315.

MATH 3311 Linear Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of linear algebra and matrix theory. Topics include vectors, matrix operations, linear transformations, fundamental properties of vector spaces, systems of linear equations, eigenvalues and eigenvectors. Applications.
Prerequisite: MATH 2413.
MATH 3312 College Geometry
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
A careful study of the foundations of Euclidean geometry by synthetic methods with an introduction to non-Euclidean geometries. An introduction to transformational geometry.
Prerequisite: MATH 2413.

MATH 3313 Foundations of Number Theory
3 Semester Credit Hours (3 Lecture Hours)
This course assists a student's transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to topics from elementary number theory.
Prerequisite: MATH 2305 and 2414.

MATH 3314 Foundations of Real Numbers
3 Semester Credit Hours (3 Lecture Hours)
This course assists a student's transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to development of the real number line.
Prerequisite: MATH 2414 and 2305.

MATH 3315 Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
An introduction to both theoretical and applied aspects of ordinary differential equations. Topics include: first order equations, linear second order equations, elementary numerical methods, and the Laplace transform.
Prerequisite: MATH 2414.

MATH 3342 Applied Probability and Statistics
3 Semester Credit Hours (3 Lecture Hours)
A calculus based introduction to probability and statistics. Emphasis will be on development of statistical thinking and working with data. Topics include probability theory, descriptive statistics, common distributions, and statistical inference.
Prerequisite: MATH 2413.

MATH 3345 Statistical Modeling and Data Analysis
3 Semester Credit Hours (3 Lecture Hours)
An introduction to probability/statistical modeling and data analysis techniques to investigate data. Topics include: exploratory data analysis, probability models and simulation, sampling distributions, statistical inference. Applications to real world problems. Students will be expected to present and justify results orally and in writing.
Prerequisite: MATH 2413 and (COSC 1330 or 1435).

MATH 3347 Introduction to Probability
3 Semester Credit Hours (3 Lecture Hours)
This is an introduction to probability. In the course, key fundamental concepts of probability, random variables and their distributions, expectations, and conditional probabilities will be covered. Topics include counting rules, combinatorial analysis, sample spaces, axioms of probability, conditional probability and independence, discrete and continuous random variables, jointly distributed random variables, characteristics of random variables, law of large numbers and central limit theorem, random processes, Markov chains, Markov chain-Monte Carlo, Poisson Process and Entropy.
Prerequisite: MATH 2415.

MATH 3385 Linear Optimization and Decisions
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the linear programming and optimization problems arising in many applications. Contents include linear programming models with solutions, the simplex method, duality theory and its use for management decision making, dual simplex method and sensitivity analysis.
Prerequisite: MATH 3311 and 2413.

MATH 3390 Problem Solving in Mathematics
1-3 Semester Credit Hours (1-3 Lecture Hours)
A problem solving course for students who want to participate in math problem solving competitions, train for the actuarial or other professional examinations, work on research aimed at conference presentations, or perform research projects at the junior level that are not at the level of directed independent study material.
Prerequisite: MATH 2414.

MATH 4185 Senior Mathematics Seminar
1 Semester Credit Hour (1 Lecture Hour)
This course introduces a weekly mathematics seminar. Students will generate a viable project for the capstone course.

MATH 4285 Mathematics Major Capstone
2 Semester Credit Hours (2 Lecture Hours)
Development of projects as proposed in MATH 4185, as well as mathematics communication skills. Students will present their projects, and take a national level assessment.
Prerequisite: MATH 4185.

MATH 4301 Introduction to Analysis
3 Semester Credit Hours (3 Lecture Hours)
An advanced treatment of the foundations of calculus stressing rigorous proofs of theorems. Topics include: elements of propositional and predicate logic, topology of the real numbers, sequences, limits, the derivative, and the Riemann integral.
Prerequisite: MATH 2415 and 3314.

MATH 4306 Modern Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of set operations, maps and relations, groups, rings and field theory. Topics include permutation groups, cosets, homomorphisms and isomorphisms, direct product of groups and rings, integral domains field of quotients, fundamental properties of integers, the ring of integers modulo n, and rings of polynomials. Applications.
Prerequisite: MATH 3311 and 3313.

MATH 4312 Differential Geometry
3 Semester Credit Hours (3 Lecture Hours)
Differential forms on R1, R2, R3, and Rn; Integration and differentiation of differential forms; Stokes' Theorem; manifolds; Gaussian curvature and the Gauss-Bonnet Theorem.
Prerequisite: MATH 2415.

MATH 4315 Partial Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
An introduction to partial differential equations emphasizing the wave, diffusion and potential (Laplace) equations. A focus on understanding the physical meaning and mathematical properties of solutions of partial differential equations. Methods include fundamental solutions and transform methods for problems on the line, and separation of variables using orthogonal series for problems in regions with boundary. Additional topics include higher dimensional problems and special topics like Harmonic functions, the maximum principle, Green's functions etc.
Prerequisite: MATH 3315 and 2415.
MATH 4321  Applied Regression Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to the formulation of linear models and the estimation of the parameters of such models, with primary emphasis on least squares. Application of multiple regression and curve fitting and the design of experiments for fitting regression models.  
Prerequisite: MATH 1342, 2342 or 1470.

MATH 4328  Discrete Mathematics II  
3 Semester Credit Hours (3 Lecture Hours)  
A continued study of topics from Discrete Mathematics I with additional topics from discrete mathematics that have strong application to the field of computer science. Additional topics include: recurrence relations, formal languages, and finite-state machines.  
Prerequisite: MATH 2305 and COSC 2437.

MATH 4342  Introduction to Mathematical Statistics  
3 Semester Credit Hours (3 Lecture Hours)  
This is a first course in mathematical statistics, topics include: moment-generating functions, functions of random variables, sampling distributions, methods of estimation including Bayesian estimation, characteristics of estimators, interval estimation, hypothesis testing, Neyman-Pearson Lemma, likelihood ratio test, tests involving means and variances, regression and correlation, multiple linear regression, introduction to ANOVA, non-parametric tests.  
Prerequisite: MATH 2415.

MATH 4385  Applied Modeling  
3 Semester Credit Hours (3 Lecture Hours)  
Capstone course for mathematics majors. The construction of mathematical models from areas such as economics, refining, biology and mariculture, etc. Where possible, local phenomena will be modeled with the assistance of outside consultants.  
Prerequisite: MATH 3315 and 3342 or MATH 3345.

MATH 4390  Selected Topics  
3 Semester Credit Hours (3 Lecture Hours)  
Offered on sufficient demand.

MATH 4696  Directed Independent Study  
1-6 Semester Credit Hours  
See college description.

**Atmospheric Sciences, Minor Program Requirements**

Students from other disciplines who choose the minor in atmospheric sciences must complete 10 semester hours from the following courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Required Courses</td>
<td></td>
</tr>
<tr>
<td>ATSC 2403</td>
<td>Introduction to Meteorology</td>
<td>4</td>
</tr>
<tr>
<td>ATSC 3306</td>
<td>Atmospheric Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>ATSC 4335</td>
<td>Climate and Climate Variability</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Select 10 hours of the following:</td>
<td>10</td>
</tr>
<tr>
<td>ATSC 2301</td>
<td>Weather Observations</td>
<td></td>
</tr>
<tr>
<td>ATSC 3305</td>
<td>Physical Meteorology</td>
<td></td>
</tr>
<tr>
<td>ATSC 3401</td>
<td>Synoptic Meteorology</td>
<td></td>
</tr>
<tr>
<td>ATSC 3402</td>
<td>Mesoscale Meteorology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or ESCI 4340Severe Weather</td>
<td></td>
</tr>
<tr>
<td>ATSC 4301</td>
<td>Dynamic Meteorology I</td>
<td></td>
</tr>
<tr>
<td>ATSC 4302</td>
<td>Dynamic Meteorology II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ATSC 4305 Remote Sensing</td>
<td></td>
</tr>
<tr>
<td>ATSC 4590</td>
<td>Selected Topics</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours:** 20

1. Students can choose either ATSC 3402 Mesoscale Meteorology (4 sch) (with a lab component) or ESCI 4340 Severe Weather (3 sch) (without lab) but can’t take both.

2. Pre-approval is required by ATSC faculty for taking ATSC 4590 Selected Topics (1-5 sch).

**Notes:**

Students should consult the catalog to determine any additional prerequisites for the courses. Students must earn a 2.50 minimum cumulative grade point average on all courses attempted in the minor discipline. The selection of courses must be made in agreement with the ATSC Advisor for minor programs.

**Courses**

**ATSC 2101 Weathercasting**  
1 Semester Credit Hour (1 Lecture Hour)  
This course is to practice in preparing and presenting weathercasts for radio and television. The instructors of this course will provide the students with: (1) information in the form of lectures and supplemental readings; (2) opportunities to practice weathercasting on video, and (3) advice, supervision, and guidance. In lecture, students will spend most of the course learning about geography and weathercasting rules. A large portion of the course is to practice the weathercasting and report.  
Prerequisite: ATSC 3403.

**ATSC 2301 Weather Observations**  
3 Semester Credit Hours (3 Lecture Hours)  
This course is an introduction of the basic concept of meteorology. The focus is on the measurements of the atmosphere and weather related phenomenon. The principle of the instruments used to measure temperature, pressure, moisture, radiation, precipitation and other weather related properties of the atmosphere will be introduced. The differences among the observations from in-situ, balloon borne, airborne, and satellite borne instruments will be examined and discussed.  
Prerequisite: ATSC 2403.

**ATSC 2302 Introduction of Data Analysis in Atmospheric Sciences**  
3 Semester Credit Hours (3 Lecture Hours)  
This course will enhance student skills for analyzing atmospheric science-related datasets under various scientific programming environments. The focus is on developing a data analysis and problem-solving skillsets using mostly Python. The course includes: basic concepts of operating systems and high-level programming languages; basics of programming in Python; general data analysis methods and tools; scientific data formats used in remote sensing data and numerical model output; publication-quality scientific graphics; and critical steps of building a large programming project. Examples with IDL and FORTRAN are also included.

**ATSC 2403 Introduction to Meteorology**  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course is an introduction to meteorology and the dynamics of planetary atmospheres. Emphasis on atmospheric accretion, composition, evolution, structure, and dynamics. Lab exercises cover basic measurement techniques, weather maps, and forecasting.  
Co-requisite: SMTE 0096.
**ATSC 3305 Physical Meteorology**  
3 Semester Credit Hours (3 Lecture Hours)  
This course will cover the fundamentals of atmospheric physics including the atmospheric composition, kinetic theory of gases, moist processes, aerosol, solar and terrestrial radiation, scattering of electromagnetic radiation and radiative transfer.  
**Prerequisite:** ATSC 2403 and PHYS 2426.

**ATSC 3306 Atmospheric Thermodynamics**  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces a foundation in the thermodynamics of the atmosphere. After a brief review of general thermodynamics, the emphasis is given to the basic principles that are useful for the application to atmospheric problems. The course covers a number of atmospheric processes that are basically thermodynamic in nature. The specific topics include aerological diagrams, atmospheric statics, and vertical stability.  
**Prerequisite:** ATSC 2403 and PHYS 2425.

**ATSC 3401 Synoptic Meteorology**  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course focuses on introducing middle-latitude synoptic weather phenomenon, including planet waves, frontal systems etc. We will apply principles of Dynamic Meteorology in regards to processes in the atmosphere, weather elements and forecasting. We will examine the structure and dynamics of these systems by integrating weather observations with the current state of dynamic theory, numerical weather prediction models, and the physical principles of atmospheric thermodynamics and cloud and precipitation physics.  
**Prerequisite:** ATSC 3306 and MATH 2414.  
**Co-requisite:** SMTE 0096.

**ATSC 3402 Mesoscale Meteorology**  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course focuses on introducing mesoscale weather systems including thunderstorms, squall lines and hurricanes, as well as the mechanisms of tornado and lightning. The methods of observing, analyzing, and predicting these severe weather systems with the interpretation of satellite and radar images will also be introduced in this class.  
**Prerequisite:** ATSC 3306.  
**Co-requisite:** SMTE 0096.

**ATSC 4301 Dynamic Meteorology I**  
3 Semester Credit Hours (3 Lecture Hours)  
This course focuses on introductory-level atmospheric dynamics. Basic concepts of geophysical fluid dynamics and its application to a variety of atmospheric phenomena are introduced. Specific topics include the equations of motion on rotating earth, vorticity, potential vorticity, divergence, circulation theorem, and planetary wave.  
**Prerequisite:** ATSC 3306 and MATH 2414.

**ATSC 4302 Dynamic Meteorology II**  
3 Semester Credit Hours (3 Lecture Hours)  
This course is a continuation of ATSC 4301 (Dynamic Meteorology I), which covers the introductory-level atmospheric dynamics. The course introduces more advance materials including equatorial waves, baroclinic and barotropic instability, two-dimensional turbulence, atmospheric teleconnection, El Nino/Southern Oscillation, Madden-Julian Oscillation, global warming, and numerical modeling of atmospheric circulations.  
**Prerequisite:** ATSC 4301.

**ATSC 4305 Remote Sensing**  
3 Semester Credit Hours (3 Lecture Hours)  
This course aims to introduce the fundamentals of satellite/airborne remote sensing techniques and demonstrates its application to various aspects of Earth Sciences. Topics include physical principles of remote sensing from ultraviolet to the microwave, radiometry, sensors and sensor technology, calibration, and environmental applications for land, ocean and atmosphere research.  
**Prerequisite:** PHYS 2426.

**ATSC 4335 Climate and Climate Variability**  
3 Semester Credit Hours (3 Lecture Hours)  
This course intended to guide environmental science undergraduate students in developing a conceptual understanding of Earth's global climate and its variability. Review past climates, present mean state of the climate system, climate variability from seasonal to multi-decadal time scales, and climate change. Special attention will be given to climates of the Gulf of Mexico, Caribbean Sea and surrounding land regions. Plausible climate-change scenarios, as well as mitigation and adaptation strategies will also be discussed. Cross listed with ESCI 4335.  
**Prerequisite:** (ATSC 2403 or ESCI 3351).

**ATSC 4496 Directed Independent Study**  
1-4 Semester Credit Hours (1-4 Lecture Hours, 4 Lab Hours)  
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College.

**ATSC 4498 Internship in Atmospheric Science**  
1-4 Semester Credit Hours  
ATSC 4498 (Internship in Atmospheric Science) gives ATSC undergraduates an opportunity to obtain valuable paid or unpaid work experience related to atmospheric science, to better position them for employment after graduation. Students contract to work a specified number of hours weekly over a full semester with a state or federal agency or private industry related to atmospheric science, in return for college credit as follows: 3-6 hrs./week=1 sem. hr., 6-9 hrs./week =2 sem. hrs., 9-12 hrs./week=3 sem. hrs., 12-15 hrs./week=4 sem. hrs. Students may contract for 1-2 sem. hrs. in a single summer session (5.5 weeks) but may contract for up to 4 sem. hrs. if carrying out internship over a regular long semester or two summer sessions (11 weeks). If interning for the summer, students should increase the number of hours interned weekly to account for the shortened period worked, so total hours interned will be equivalent to those in a regular long semester. A student may intern only twice with a single office or agency. The internships will not apply towards graduate credit.

**ATSC 4590 Selected Topics**  
1-5 Semester Credit Hours (1-5 Lecture Hours, 5 Lab Hours)  
This course includes special topics with variable content. May be repeated for credit. Offered on sufficient demand.

**Biology, Minor**

**Program Description**

The 20 hours that comprise the Biology Minor provide students from any discipline the opportunity to explore the life sciences beyond the University Core Curriculum. It is recommended that students who wish to take the Biology Minor use Biology I and Biology II to fulfill the Life and Physical Sciences requirement in the University Core Curriculum. All coursework in the Biology Minor must be from either the Biology BS program, or, with approval, the Biomedical BS program. Non-majors
courses in either prefix (BIOL or BIMS) cannot be applied to the Biology Minor.

Students majoring in Biomedical Sciences may not minor in Biology.

**Program Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1406</td>
<td>Biology I</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1407</td>
<td>Biology II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Select one of the following 2000-level courses:</td>
<td>3-4</td>
</tr>
<tr>
<td>BIOL 2371</td>
<td>Principles of Evolution</td>
<td></td>
</tr>
<tr>
<td>BIOL 2416</td>
<td>Genetics</td>
<td></td>
</tr>
<tr>
<td>BIOL 2421</td>
<td>Microbiology</td>
<td></td>
</tr>
<tr>
<td>BIOL 2472</td>
<td>Principles of Botany</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>8-9</td>
</tr>
<tr>
<td></td>
<td>Total Hours</td>
<td>19-21</td>
</tr>
</tbody>
</table>

^ Blended offering

**Upper-level Electives**

A minor requires at least six hours of upper-division (3000-4000 level) courses. At least one course at the 2000-, 3000-, or 4000-level must include a laboratory component. With the exception of the courses listed below, any upper-division course with the BIOL prefix can be taken as an elective provided required prerequisites are met.

Upper division BIMS courses may be taken as electives with approval and if required prerequisites are met.

BIOL 4590 Selected Topics (5 sch) or BIMS 4590 Selected Topics (1-5 sch) may be taken with approval but no more than 4 hours of Selected Topics coursework can be applied to the Biology Minor.

The following courses will not count toward the Biology Minor:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 4100</td>
<td>Research Ethics and Professionalism</td>
<td>1</td>
</tr>
<tr>
<td>BIMS 4299</td>
<td>Directed Independent Research</td>
<td>1-2</td>
</tr>
<tr>
<td>or BIOL 4399</td>
<td>Directed Independent Research</td>
<td></td>
</tr>
<tr>
<td>BIOL 4350</td>
<td>Research and Design</td>
<td>1-3</td>
</tr>
<tr>
<td>BIOL/BIMS 4396</td>
<td>Directed Independent Study</td>
<td>1-3</td>
</tr>
</tbody>
</table>

**Courses**

**BIOL 1308 Science for Life I (Non-Majors Biology)**

3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)

A non-majors science course in which students will learn basic biological principles, identify the relevance of science in everyday life, and will understand the scientific method. Hands-on lab activities will reinforce course concepts. This course does not substitute for BIOL 1406 - Biology I or BIOL 1407 - Biology II for science majors.

Co-requisite: SMTE 0091.

TCCNS: BIOL 1308

**BIOL 1406 Biology I**

4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)

Presentation of basic biological concepts including scientific method, cytology, energetics, nucleic acids and genetics. This course is suitable for all majors.

Prerequisite: (MATH 1314, 1316, 2305, 2413, minimum score of 21 in ‘ACT Math’ or minimum score of 550 in ‘SAT Math’).

Co-requisite: SMTE 0091.

TCCNS: BIOL 1406

**BIOL 1407 Biology II**

4 Semester Credit Hours (4 Lecture Hours)

This course is an overview of the major concepts in biological diversity and plant and animal biology. Laboratory work will include individual/team activities as well as technology-related assignments.

Prerequisite: BIOL 1406.

Co-requisite: SMTE 0091.

TCCNS: BIOL 1407

**BIOL 2300 Science Communication**

3 Semester Credit Hours (3 Lecture Hours)

This course involves presentation and discussion of selected topics relating to the professional skills of practicing biological scientists, including basic software instruction, a review of library services pertinent to science, the application of scientific literature research skills, hypothesis generation and statistical tests, critical reviews of scientific articles, and an introduction to ethical issues in science.

**BIOL 2371 Principles of Evolution**

3 Semester Credit Hours (3 Lecture Hours)

An overview of the mechanisms by which heritable information changes, adaptations develop, and species diversify. Provides a foundation for molecular, cellular, and organismal studies in the biological sciences.

Prerequisite: BIOL 1407.

Co-requisite: SMTE 0091.

**BIOL 2401 Anatomy and Physiology I**

4 Semester Credit Hours (4 Lecture Hours)

Structure and function of the human body emphasizing biological chemistry, cell biology, tissues, and the integumentary, skeletal, muscular, and nervous systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his or her career track and obtain approval for a substitution from his or her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.

Co-requisite: SMTE 0091.

TCCNS: BIOL 2401

**BIOL 2402 Anatomy and Physiology II**

4 Semester Credit Hours (4 Lecture Hours)

Structure and function of the human body emphasizing blood, growth, development, genetics, and the endocrine, digestive, respiratory, cardiovascular, lymphatic, immune and urogenital systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his or her career track and obtain approval for a substitution from his or her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.

Prerequisite: BIOL 2401.

Co-requisite: SMTE 0091.

TCCNS: BIOL 2402
BIOL 2416 Genetics
4 Semester Credit Hours (3 Lecture Hours)
Principles of genetic transmission and molecular basis of heredity and variation. Weekly recitation periods will involve team assignments, problem-solving activities, and seminars.
Prerequisite: BIOL 1406 and 1407.
TCCNS: BIOL 2416

BIOL 2420 Principles of Microbiology
4 Semester Credit Hours (4 Lecture Hours)
Introduction to microorganisms with emphasis on those of importance in patient care. Principles of disinfection, sterilization, immunity. This class is intended for nursing majors; it cannot substitute for BIOL 2421 - Microbiology.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2420

BIOL 2421 Microbiology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An introduction to microorganisms including the bacteria, fungi, and viruses. Laboratory involves microbiological techniques and development of basic laboratory skills.
Prerequisite: BIOL 1406, 1407, CHEM 1411 and 1412.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2421

BIOL 2472 Principles of Botany
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the structure, function, diversity and application of plants. Laboratory focus on anatomical features, physiological adaptations, classification, and life cycles.
Prerequisite: BIOL 1407 and CHEM 1411.
Co-requisite: SMTE 0091.

BIOL 3300 Animal Nutrition
3 Semester Credit Hours (3 Lecture Hours)
Examines the dietary requirements of both companion animals and livestock. Includes the anatomy, physiology and biochemistry of the gastrointestinal system, nutrient procurement and use, feed additives, growth stimulants, metabolic diseases, and diet therapy. Cross listed with BIMS 3300.
Prerequisite: BIOL 1407 and CHEM 3411 and (CHEM 3412 or 3412)*. May be taken concurrently.

BIOL 3325 Biostatistics
3 Semester Credit Hours (3 Lecture Hours)
The application of statistical analyses to biological data. Students will gain an understanding of how to apply statistical analyses to biological data through study of the principles of experimental design including how to frame informative research questions. At a fundamental level, these concepts are linked to the philosophy of science and our understanding of the way the world works.

BIOL 3345 Cell Physiology
3 Semester Credit Hours (3 Lecture Hours)
Emphasis on cellular functions that underlie physiological processes, transport across membranes, membrane potential and excitability, the cell nucleus, and organelles and their relationship to energy, metabolism, and transport mechanisms within the cell. Offered during Spring semester of odd-numbered years.
Prerequisite: BIOL 2200 or BIMS 2200 and BIOL 3410.

BIOL 3403 Molecular Biology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Principles of molecular biology including advanced concepts of gene structure, expression and regulation, chromatin structure, recombination, and current molecular biology techniques. Laboratory emphasis is on basic skills for nucleic acid analyses, including extraction, PCR amplification, quantification, restriction, and electrophoresis. DNA sequencing-based approaches are covered including bioinformatics for sequence comparisons, polymorphisms, and molecular identification. Cross listed with BIMS 3403.
Prerequisite: BIOL 2416 and 2421.
Co-requisite: SMTE 0092.

BIOL 3410 Cell Biology
4 Semester Credit Hours (4 Lecture Hours)
Study of cellular architecture and function. Topics include membranes, transport, organelles, cytoskeleton, and signaling mechanisms. Interrelationships of structure, function, energy and metabolism are explored. Laboratory will emphasize basic techniques of cell biology.
Prerequisite: BIOL 2416 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 3413 Invertebrate Zoology
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
Structure, life history, and evolution of the invertebrates with special emphasis on the phylogeny and ecological relationships of the major phyla. Laboratory will involve field trips and survey collections. Offered fall semester every year.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3414 Vertebrate Zoology
4 Semester Credit Hours (4 Lecture Hours)
Structure, life history, and evolution of the vertebrates with special emphasis on the phylogeny and ecological relationships of the classes. Laboratory will involve field trips and survey collections. Offered only in Spring semester.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3425 Functional Anatomy
4 Semester Credit Hours (4 Lecture Hours)
General trends in morphological development and adaptation as demonstrated by the anatomy and embryology of living and extinct chordates. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3428 Principles of Ecology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the interrelationships of organisms and their environment. Population structure, community classification and regulation, and energy flow in ecosystems will also be covered. Laboratory sections will focus on experimental design and field techniques in ecology.
Prerequisite: BIOL 1407 and (BIOL 2200, 2300, BIMS 2200 or UNIV 1101 and UNIV 1102) and CHEM 1411 and (MATH 2413 or 2413)*. May be taken concurrently.
Co-requisite: SMTE 0091.
BIOL 3430  Physiology
4 Semester Credit Hours (4 Lecture Hours)
The study of physiological processes that are the product of complex interactions between tissues, organs and organ systems, with emphasis on the circulatory, respiratory, endocrine, muscular, digestive, and urogenital systems. Particular focus on homeostasis, and the role of the environment and evolution on organ systems. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I, or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3455  Plant form and Function
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Anatomy of vegetative and reproductive organs of plants, unique cellular features, development and differentiation of cell and tissue types. Emphasis on physiological mechanisms of response and adaptation to the environment.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3479  Plant Ecology
4 Semester Credit Hours (4 Lecture Hours)
Structure, physiology, life cycles, and economic impact of plants. Factors influencing diversity, succession and ecological distribution of plants.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4100  Research Ethics and Professionalism
1 Semester Credit Hour (1 Lecture Hour)
A course designed to enhance the professionalism of undergraduate researchers. This course discusses the codified aspects of research ethics, including fabrication, falsification and plagiarism of data; assigning authorship, submitting manuscripts to more than one journal and management of lab teams. It also addresses careers in science, resume writing, producing the successful application and interviewing skills.

BIOL 4301  Embryology
3 Semester Credit Hours (3 Lecture Hours)
Studies the events that occur just prior to and during gestation. Includes gametogenesis, chromosomal and single gene aberrations, teratology, and the development of the body systems.
Prerequisite: BIOL 2416.

BIOL 4302  Coral Reef Conservation
3 Semester Credit Hours (3 Lecture Hours)
Survey of challenges and threats facing coral reef ecosystems in the 21st century and discussion of conservation and management strategies. Topics include biology and ecology of reef ecosystems, climate change impacts, coral bleaching, over-fishing and the effectiveness and design of marine protected areas.

BIOL 4304  Biology of Viruses
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the study of viruses, including viral life cycles, replication schemes and Baltimore classification of representative bacteriophages, plant and animal viruses. Emphasis on analysis and review of primary literature on viruses.
Prerequisite: BIOL 2416, 2421 and CHEM 1411.

BIOL 4308  Biogeography
3 Semester Credit Hours (3 Lecture Hours)
This course offers an overview of the theories, methods, and current directions in modern biogeography, emphasizing marine and terrestrial plant and animal species and communities.

BIOL 4311  Biological Bases of Behavior
3 Semester Credit Hours (3 Lecture Hours)
This lecture-based course examines the processes by which neuronal circuits generate behaviors and the mechanisms by which experience modulates the activity of these circuits.
Prerequisite: BIMS 4323.

BIOL 4312  Mariculture Techniques
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
The study and hands-on application of biological, mechanical, and other concepts required to develop the skills and techniques necessary for efficient operation and management of public and private aquaculture facilities. Offered in Fall of odd-numbered years.
Prerequisite: BIOL 4370.

BIOL 4319  Biology of Marine Mammals
3 Semester Credit Hours (3 Lecture Hours)
Introduction to marine mammals, with a focus on their interactions with their biotic and abiotic environment
Prerequisite: BIOL 1407.

BIOL 4323  Global Change Ecology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the effects of climatic and anthropogenic change on terrestrial and aquatic structure and function. Includes readings from the current literature and discussion of controversial articles.
Prerequisite: BIOL 3428.

BIOL 4328  Fisheries
3 Semester Credit Hours (3 Lecture Hours)
A study of theory and techniques in fisheries science, including practical fisheries sampling designs and techniques, behavior of fisheries populations and application to resource management with emphasis in tide-influenced waters. Includes readings in the current literature.
Prerequisite: BIOL 1407.

BIOL 4329  Fisheries Techniques
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
This class is designed to provide practical experience in the theory and application of traditional and modern fisheries sampling and analytical techniques used in Fisheries Science and Management. This is a hands-on field- and laboratory-based course that will develop skills that are most commonly used by fisheries biologists and technicians. Offered in Fall of even-numbered years.
Prerequisite: BIOL 4328.

BIOL 4334  Biology and Ecology of Coral Reefs
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the biology of corals, describe the abiotic and biotic interactions among coral reef ecosystem inhabitants, identify the threats of climate change, and discuss the conservation and management of reefs for the future. Offered every spring.
Prerequisite: BIOL 3428.

BIOL 4335  Conservation Biology
3 Semester Credit Hours (3 Lecture Hours)
Principles and theories relating to the conservation of biological diversity, including patterns and processes creating biological diversity, estimates of extinction rates, consequences of losses of biodiversity and causes of diversity loss.
Prerequisite: BIOL 3428.

BIOL 4336  Marine Ecology
3 Semester Credit Hours (3 Lecture Hours)
Habitats and community structure in marine environments; biotic and abiotic factors governing the distribution of marine organisms.
BIOL 4340  Genomics, Proteomics and Bioinformatics  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to integrative biological study using genome-wide approaches and bioinformatics. The “-omics” technologies (Genomics, Proteomics, Metabolomics, etc.) will be surveyed for current and potential contributions to understanding biological function at molecular, cellular, organismal and ecosystem levels.  
Prerequisite: BIOL 2416 and 3410 or CHEM 4401.

BIOL 4343  Oceans and Human Health  
3 Semester Credit Hours (3 Lecture Hours)  
Healthy oceans are essential to the habitability of our planet – for humans and all other forms of life. Students will explore links between oceans, pollution, human well-being, ecosystem services, resource management, and the science and legislation governing the enforcement of water quality standards.

BIOL 4350  Research and Design  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Course will include experimental design, literature review of a research topic and laboratory work on the research topic.

BIOL 4353  Down the River: Biology of Gulf Coast Fishes  
3 Semester Credit Hours (3 Lecture Hours)  
This course covers aspects of ecology and biogeography of riverine and estuarine fishes while exposing students to field sampling techniques and museum preparation of specimens. This will be a unique opportunity for students to gain an in-depth understanding of the biological complexity of Texas Gulf Coast river systems while gaining hands-on experience in field and museum ichthyological techniques that are employed by state, federal and academic researchers alike.  
Co-requisite: SMTE 0091.

BIOL 4355  Public Aquarium and Animal Care Operations  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines the unique requirements needed for public aquariums and zoos to balance animal care and health with public display for general education and conservation research.  
Co-requisite: SMTE 0091.

BIOL 4370  Mariculture  
3 Semester Credit Hours (3 Lecture Hours)  
Survey of the physiological, behavioral, environmental, and economic parameters governing the culture of selected aquatic species. Included are techniques employed worldwide to produce aquatic products.  
Prerequisite: BIOL 1407.

BIOL 4371  Population Genetics  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to evolutionary processes and their genetic basis, this course focuses on theoretical and experimental approaches to the study of population genetics, quantitative genetics, evolutionary ecology, and molecular evolution.  
Prerequisite: BIOL 2416 and MATH 2413.

BIOL 4396  Directed Independent Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Research in areas of current interest. Written report required. May be repeated for a maximum of 6 semester hours.  
Prerequisite: BIOL 1407 and CHEM 1412.

BIOL 4399  Directed Independent Research  
3-6 Semester Credit Hours (3-6 Lecture Hours)  
Independent laboratory- or field-based research project on topic of current interest. Project developed in conjunction with a faculty advisor. Written report required. May be repeated once for a total of 6 semester credit hours.

BIOL 4405  Limnology  
4 Semester Credit Hours (4 Lecture Hours)  
The study of the functional relationships and productivity of aquatic communities as they are affected by their physical, chemical, and biotic environment. The influence of man’s activities on these systems will be the focus of the course.  
Prerequisite: BIOL 3428.  
Co-requisite: SMTE 0091.

BIOL 4406  Immunology  
4 Semester Credit Hours (4 Lecture Hours)  
An overview of immunology with emphasis on current knowledge of the immune system. Detailed examination of the specific cells, cytokines, antibodies, and molecules that comprise the immune system. Laboratory exercises demonstrate the basic principles and techniques used in immunologic studies. Cross listed with BIMS 4406.  
Prerequisite: BIOL 2421.  
Co-requisite: SMTE 0092.

BIOL 4408  Microbial Diversity and Ecology  
4 Semester Credit Hours (4 Lecture Hours)  
Biodiversity and roles of microorganisms in natural environments. Interactions with other micro- and macro-organisms (humans, animals and plants) and with abiotic factors. Unique abilities of microorganisms such as nitrogen fixation and adaptation to extreme environments.  
Prerequisite: (BIOL 2421 or 4328).  
Co-requisite: SMTE 0092.

BIOL 4410  Mammalogy  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Systematics and ecology of mammals. Offered in even Fall semesters.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.

BIOL 4411  Animal Behavior  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
An understanding of why animals behave in the manner they do, through examination of both invertebrate and vertebrate species.  
Prerequisite: BIOL 1407.  
Co-requisite: SMTE 0091.

BIOL 4413  Entomology  
4 Semester Credit Hours (4 Lecture Hours)  
A broad overview of the natural history, classification, phylogeny, ecology, behavior, development and physiology of insects and their kin. The lab will involve field work, collection and curation.  
Prerequisite: BIOL 3413.  
Co-requisite: SMTE 0091.

BIOL 4417  Field Biology  
4 Semester Credit Hours (1 Lecture Hour, 6 Lab Hours)  
is a hands-on course designed to teach students key concepts by immersing them in nature. Topics include adaptations of plants and animals in different habitats, food web interactions, and how biotic and abiotic forces interact to structure natural communities including spatial and temporal variation in communities.  
Prerequisite: BIOL 3428.  
Co-requisite: SMTE 0091.
BIOL 4422 Plant Taxonomy
4 Semester Credit Hours (4 Lecture Hours)
Principles and practice in the classification of flowering plants. Field trips are required.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4425 Ornithology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics, anatomy, physiology, ecology, behavior, and field identification of birds. Offered in odd Fall semester.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4429 Marine Botany
4 Semester Credit Hours (4 Lecture Hours)
The ecology of marine plants with emphasis on identification, life histories, and environmental factors of distribution.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4430 Marine Plankton
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
In this class we will investigate the systematics, distribution, and ecology of major marine plankton groups and introduce major concepts in biological oceanography. Offered in Spring of odd-numbered years.

BIOL 4432 Ichthyology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics, evolution, biology, and ecology of fishes. Laboratory identification of marine and freshwater fishes collected during field excursions.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4433 Parasitology
4 Semester Credit Hours (4 Lecture Hours)
An introduction to parasitology with emphasis on internal parasites and appropriate references to human endoparasites and parasites of veterinary importance.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

BIOL 4435 Biological Microtechniques
4 Semester Credit Hours (4 Lecture Hours)
Theory and techniques of processing specimens for histochemistry and microscopic examination. Laboratory includes preparation of tissues and small specimens for analysis and display.
Prerequisite: BIOL 1407 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 4442 Herpetology
4 Semester Credit Hours (4 Lecture Hours)
Systematics, ecology, and behavior of amphibians and reptiles.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4444 Estuarine Organisms
4 Semester Credit Hours (4 Lecture Hours)
Systematics, distribution, and ecology of estuarine macrofauna and macroflora. Weekend field trips and individual study required.
Prerequisite: BIOL 3413.
Co-requisite: SMTE 0091.

BIOL 4446 Tropical Ecosystems & Conservation
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Survey of the ecology and conservation issues of the major ecosystems in the tropics and field techniques used to study tropical forest ecology.
Prerequisite: BIOL 3428.
Co-requisite: SMTE 0091.

BIOL 4452 Ecology and Evolution of Fishes
4 Semester Credit Hours (3 Lecture Hours, 4 Lab Hours)
This course covers aspects of fish ecology from individual, population, community, and ecosystem levels. We discuss the role of the environment on fish physiology and behavior, food-web dynamics, community assembly and diversity, ecosystem interactions, and anthropogenic impacts on fishes with a focus on conservation.
Prerequisite: BIOL 4432.
Co-requisite: SMTE 0091.

BIOL 4547 Marine Science Field Camp
5 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
Students learn techniques required to properly conduct marine science field research. Practical, hands-on experience is gained in a variety of topics including biotic and abiotic sample collection and processing, quantitative analysis of field data, evaluation of environmental factors, survival and distribution of living organisms, and the structure of biotic communities.

BIOL 4590 Selected Topics
5 Semester Credit Hours (5 Lecture Hours)
Variable content. May be repeated for credit.

BIOL 4598 Biology Internship
2-6 Semester Credit Hours
Two to six semester credit hours may be earned by working in an internship position in a governmental agency, private industry, or other appropriate venue.

BIOL 4609 Field and Sampling Techniques
3,9 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
The study of techniques required for proper field work in the biological sciences. The course includes ecological sampling methods, safety, logistics, equipment operation and maintenance and travel concerns.
Co-requisite: SMTE 0091.

Chemistry, Minor

Program Requirements
Students majoring in other academic fields who wish to earn a minor in chemistry must complete the following requirements.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I *</td>
<td>4</td>
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<tr>
<td>CHEM 1412</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3411</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3412</td>
<td>Organic Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3417</td>
<td>Quantitative Analysis</td>
<td>4</td>
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<tr>
<td>or CHEM 3418</td>
<td>Instrumental Analysis</td>
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<td>Select one advance CHEM elective</td>
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<td>3</td>
</tr>
</tbody>
</table>

Total Hours: 23

* Online offering
Courses

CHEM 1305 Introductory Chemistry
3 Semester Credit Hours (3 Lecture Hours)
A one-semester principles course for students in non-science related majors covering the major concepts of chemistry (atomic structure, bonding, stoichiometry, elementary thermodynamics) and the role of chemistry in contemporary society (polymers, energy, pollution, etc.). Will not substitute for CHEM 1411.
TCCNS: CHEM 1305

CHEM 1411 General Chemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The foundation course in chemistry. Stoichiometry, chemical equilibria, atomic structure, chemical bonding, periodic properties, thermodynamics, chemical kinetics, and descriptive chemistry of the elements. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum. Either CHEM 1305 - Introductory Chemistry or CHEM 1411, but not both, may be applied towards the core requirement. This course is offered in Fall, Spring and typically during both Summer sessions.
Co-requisite: SMTE 0093.
TCCNS: CHEM 1411

CHEM 1412 General Chemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The continuation of CHEM 1411 - General Chemistry I*, the foundation course in chemistry with emphasis on quantitative aspects. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum.
Prerequisite: CHEM 1411 and MATH 1314.
Co-requisite: SMTE 0093.
TCCNS: CHEM 1412

CHEM 2490 Special Topics
4 Semester Credit Hours (1-4 Lecture Hours, 3 Lab Hours)
May be repeated for credit. Subject materials variable. Offered on sufficient demand.

CHEM 3411 Organic Chemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The structure, nomenclature, synthesis, reactions, and reaction mechanisms of the principal classes of organic compounds. Stereochemistry and spectroscopy of organic compounds. Laboratory involves separation and synthetic techniques and development of basic skills. This course is offered in Fall, Spring and typically during the Summer I session.
Prerequisite: CHEM 1411.
Co-requisite: SMTE 0093.

CHEM 3412 Organic Chemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 3411. The course concludes with a survey of the structures of biomolecules. Laboratory involves spectroscopy and qualitative analysis techniques. This course is offered in Fall, Spring and typically during the Summer II session.
Prerequisite: CHEM 3411.
Co-requisite: SMTE 0093.

CHEM 3417 Quantitative Analysis
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A course in quantitative analysis, which includes chemical statistics and the use of acid-base, complexation, precipitation, and redox reactions to perform analyses and separations. Laboratory includes standard volumetric and gravimetric methods and development of basic quantitative techniques. This course is typically offered in Spring.
Prerequisite: CHEM 1412.
Co-requisite: SMTE 0093.

CHEM 3418 Instrumental Analysis
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An introduction to instrumental methods of analysis: spectroscopy, chromatography, and electrochemical methods. Laboratory involves use of instrumentation in chemical analysis. This course is typically offered in Fall and Spring.
Prerequisite: CHEM 1412.
Co-requisite: SMTE 0093.

CHEM 4401 Chemical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
The study of the oceans and seas as a chemical system, including interactions with both the biota and the solid earth. This course is typically offered in Spring.
Prerequisite: CHEM 1412.

CHEM 4320 Drugs, Toxins and Natural Products Chemistry
3 Semester Credit Hours (3 Lecture Hours)
The chemistry and biological activity of pharmaceuticals, toxins and selected natural products. Examines how chemical structure relates to biological activity. Also examines action of antibiotics, chemotherapy agents, analgesics, steroids, and compounds targeting the central and peripheral nervous system. This course is typically offered in Fall and Spring.
Prerequisite: CHEM 4401.

CHEM 4344 Senior Chemistry Seminar
2 Semester Credit Hours (2 Lecture Hours)
Presentation and discussion of selected topics in chemistry. Includes literature searches and reviews, paper presentations, survey of professional opportunities and requirements, career guidance and job searching skills.

CHEM 4350 Polymer Chemistry
3 Semester Credit Hours (3 Lecture Hours)
An advanced lecture course in organic chemistry. Characterization of polymers. Polymerization mechanisms. Current research directions such as biomedical applications and electroactive polymers. This course is offered on an irregular basis.
Prerequisite: CHEM 3412.
CHEM 4401 Biochemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The structure and function of carbohydrates, lipids, proteins, and nucleic acids. An introduction to enzyme kinetics, cell membrane structure and biochemical signaling. Laboratory exercises demonstrate the basic principles and techniques used in Biochemistry. This course is typically offered in Fall, Spring and Summer. 
Prerequisite: CHEM 3412 and (BIOL 1406 and 1407).
Co-requisite: SMTE 0093.

CHEM 4402 Biochemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 4401. Biochemical energetics, including glycolysis, fatty acid oxidation, amino acid oxidation, citric acid cycle, oxidative phosphorylation, photophosphorylation and photosynthesis. Carbohydrate, fatty acid and amino acid biosynthesis. Laboratory is a continuation of biochemical techniques. This course is typically offered in Fall and Spring. 
Prerequisite: CHEM 4401.
Co-requisite: SMTE 0093.

CHEM 4407 Advanced Inorganic Chemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A survey of inorganic chemistry. Theories of atomic structure, covalent bonding, ionic solids, metallic solids, and coordination compounds. Modern acid/base concepts. Laboratory involves the synthesis of inorganic compounds. 
Prerequisite: CHEM 3412.
Co-requisite: SMTE 0093.

CHEM 4420 Physical Biochemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A fundamental approach to the study of physical and chemical phenomena, including the study of thermodynamics, gases and phase equilibria. This course is typically offered on an irregular basis. 
Prerequisite: CHEM 1412 and (PHYS 1402 or 2426) and MATH 2414.
Co-requisite: SMTE 0093.

CHEM 4423 Physical Chemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A fundamental approach to the study of physical and chemical phenomena, including the study of thermodynamics, gases and phase equilibria. This course is typically offered in Fall. 
Prerequisite: CHEM 1412 and (PHYS 1402 or 2426) and MATH 2414.
Co-requisite: SMTE 0093.

CHEM 4424 Physical Chemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 4423, including the study of chemical kinetics, electrochemistry, molecular structure, and quantum mechanics. This course is typically offered in Spring. 
Prerequisite: CHEM 4423.
Co-requisite: SMTE 0093.

CHEM 4443 Environmental Chemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A study of the impact of chemistry on the environment, including topics of air pollution, water pollution, and beneficial chemical modifications of the environment. Laboratory devoted to field techniques of sampling, sample preservation, and analytical techniques applied to the environment. This course is typically offered in Spring. 
Prerequisite: CHEM 1412 and 3411.
Co-requisite: SMTE 0093.

CHEM 4490 Special Topics
4 Semester Credit Hours (1 Lecture Hour, 1 Lab Hour)
May be repeated for credit. Subject materials variable.

CHEM 4696 Directed Independent Study
1-6 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration, to be approved by the supervising faculty, the chairperson and the dean of the College.

Environmental Science, Minor
Program Requirements
Students majoring in other academic fields who wish to earn a minor in environmental science must complete the following requirements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>ESCI 1401</td>
<td>Environmental Science I: Intro to Environmental Science</td>
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<tr>
<td>ESCI 3351</td>
<td>Oceanography</td>
<td>3</td>
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<tr>
<td>ESCI 3403</td>
<td>Introduction to Meteorology</td>
<td>4</td>
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<tr>
<td>ESCI 4301</td>
<td>Environmental Regulations</td>
<td>3</td>
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<td>Select two of the following:</td>
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<td>CHEM 4443</td>
<td>Environmental Chemistry</td>
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<td>ESCI 3443</td>
<td>Environmental Biology</td>
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<tr>
<td></td>
<td>ESCI 4365</td>
<td>Occupational Safety and Accident Prevention</td>
</tr>
<tr>
<td></td>
<td>ESCI 4270</td>
<td>Hazardous Waste Operations and Emergency Response Theory</td>
</tr>
<tr>
<td></td>
<td>ESCI 4230</td>
<td>Oil Spill Prevention and Response Theory</td>
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<tr>
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<td>ESCI 4320</td>
<td>Environmental Health</td>
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<tr>
<td></td>
<td>ESCI 4322</td>
<td>Introduction to Industrial Hygiene</td>
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<td></td>
<td>GEOL 3443</td>
<td>Environmental Geology</td>
</tr>
<tr>
<td></td>
<td>Total Hours</td>
<td>20-22</td>
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</table>

Note:
Students wishing to minor in environmental science should consult the appropriate section of the catalog to determine any additional prerequisites needed before they may take these courses.

Courses
ESCI 1401 Environmental Science I: Intro to Environmental Science
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Principles of the scientific method and critical thinking provide a foundation for subsequent consideration of environmental issues through a multidisciplinary approach. Laboratory exercises and local field experiences reinforce concepts introduced in the lectures. Fall, Spring.
Co-requisite: SMTE 0096.
TCCNS: ENVR 1401

ESCI 1490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject materials variable. May be repeated for credit when topics are significantly different. Faculty approval required. Offered on sufficient demand.
ESCI 3202 Professional Skills
2 Semester Credit Hours (2 Lecture Hours)
Presentation and discussion of selected topics relating to the professional skills of practicing environmental scientists including literature searches, reviews, paper presentation, professional and career opportunities, professional ethics. Fall, Spring.

ESCI 3351 Oceanography
3 Semester Credit Hours (3 Lecture Hours)
Methods and principles of oceanography. A survey of oceanography with emphasis placed on the physical processes affecting water and water masses of the world oceans. Fall (on sufficient demand), Spring.
Prerequisite: CHEM 1412, ESCI 1401 or GEOL 1403.

ESCI 3403 Introduction to Meteorology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course is an introduction to meteorology and the dynamics of planetary atmospheres. Emphasis on atmospheric accretion, composition, evolution, structure, and dynamics. Lab exercises cover basic measurement techniques, weather maps, and forecasting. Fall, Spring (on sufficient demand).
Co-requisite: SMTE 0096.

ESCI 3443 Environmental Biology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Historical, contemporary, and projected concerns of human activities on biological aspects of ecosystem functioning.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0096.

ESCI 4130 Oil Spill Prevention and Response Lab
1 Semester Credit Hour (2 Lab Hours)
Practical techniques for control, containment, countermeasures, removal, and disposal of oil spills in an environmentally safe manner. Field exercises will include use of boats, booms and skimmers. Fall, Spring, Summer (on sufficient demand).
Prerequisite: ESCI 4270.
* May be taken concurrently.
Co-requisite: SMTE 0096.

ESCI 4170 Hazardous Waste Operations and Emergency Response Lab
1 Semester Credit Hour (2 Lab Hours)
Practical techniques for handling, reducing, and disposing of hazardous wastes in an environmentally safe manner. Lab exercises in use of personal protective gear and safe handling of hazardous substances. Fall, Spring, Summer (on sufficient demand).
Prerequisite: ESCI 4270.
Co-requisite: ESCI 4270, SMTE 0096.

ESCI 4201 Scientific Diving Techniques
2 Semester Credit Hours (2 Lecture Hours)
Theory, science, and art of underwater diving technology and its application to scientific objectives. Course helps fulfill some training requirements of the Texas A&M University-Corpus Christi Guidelines for scientific diving.

ESCI 4202 Issues in Environmental Science
2 Semester Credit Hours (2 Lecture Hours)
Exploration of major issues in environmental science posing past, present and future challenges. Selected readings, student presentations and papers.
Prerequisite: ESCI 1401.

ESCI 4230 Oil Spill Prevention and Response Theory
2 Semester Credit Hours (2 Lecture Hours)
Historical perspective of laws and regulations governing oil spill prevention and response. Current methods for control, containment, countermeasures, removal, and disposal of oil spills in an environmentally safe manner. Fall, Spring, Summer (on sufficient demand).
Co-requisite: ESCI 4130.

ESCI 4270 Hazardous Waste Operations and Emergency Response Theory
2 Semester Credit Hours (2 Lecture Hours)
Study of the laws and regulations of hazardous waste management from an historical perspective followed by current techniques for handling, reducing, and disposing of hazardous wastes in an environmentally safe manner. Fall, Spring, Summer (on sufficient demand).
Co-requisite: ESCI 4230.

ESCI 4301 Environmental Regulations
3 Semester Credit Hours (3 Lecture Hours)
A survey of state and federal environmental laws and regulations, and their impact on the environment. Case studies of environmental issues and legislated regulations.
Prerequisite: POLS 2305 and 2306.

ESCI 4320 Environmental Health
3 Semester Credit Hours (3 Lecture Hours)
Overview of the toxicology and epidemiology of pollutants in the air, water and soil. Associations of environmental exposure with adverse health effects such as cancer, cardiovascular disease, and reproductive outcomes; also chemical markers and symptoms of disease. Pollutants studied include lead, asbestos, radiation, radon, noise, metals, halogenated hydrocarbons, aromatic hydrocarbons, silica, indoor air quality, formaldehyde, and outdoor air pollutants. Offered on sufficient demand.

ESCI 4321 Introduction to Soil and Groundwater Restoration
3 Semester Credit Hours (3 Lecture Hours)
Introduction to methods for restoring contaminated soil and groundwater by examining the factors and processes influencing the efficacy of remediation systems. An emphasis will be placed on the scientific principles upon which soil and groundwater remediation is based. Cross listed with GEOL 4321.

ESCI 4322 Introduction to Industrial Hygiene
3 Semester Credit Hours (3 Lecture Hours)
Introduction to health protection practices in the industrial environment. Health basis for OSHA laws, regulations. Sampling and testing procedures.

ESCI 4324 Introduction to Industrial Toxicology
3 Semester Credit Hours (3 Lecture Hours)
Review of human physiology, general concepts of toxicology: dose-response relationship, interactions between the host and the agents, risk assessment, to provide an introductory understanding of toxicology related to the chemicals in the workplace.

ESCI 4332 Wetlands and Water Quality
3 Semester Credit Hours (3 Lecture Hours)
Introduction to wetland ecosystems (natural, constructed and restored) with an emphasis on the role of wetlands in water quality. Topics include wetland systems, their history and role in society, relationships between biology, geology, ecology, hydrology and chemistry in wetland environments.
Prerequisite: BIOL 3428 and CHEM 4443 or ESCI 3443.
ESCI 4335 Climate and Climate Variability
3 Semester Credit Hours (3 Lecture Hours)
Course intended to guide environmental science majors in developing a conceptual understanding of Earth's global climate and its variability. Review of past climates, present mean state of the climate system, climate variability from seasonal to multidecadal time scales, and climate change. Special attention given to climates of the Gulf of Mexico, Caribbean Sea and surrounding land regions. Plausible climate-change scenarios, as well as mitigation and adaptation strategies are also discussed. Cross listed with ATSC 4335. Spring.
Prerequisite: (ESCI 3351 or 3403) and (PHYS 1401 or 2425).

ESCI 4340 Severe Weather
3 Semester Credit Hours (3 Lecture Hours)
Introduction to mesoscale weather systems including thunderstorms, squall lines and hurricanes, as well as the mechanisms of tornado and lighting. Methods of observing, analyzing, and predicting these severe weather systems with the interpretation of satellite and radar images will also be introduced in this class.
Prerequisite: ESCI 3403.

ESCI 4344 Air Pollution and the Clean Air Act
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the chemistry and physics of air pollution and regulations. Topics include photochemistry, acid rain, air pollution meteorology and dispersion, global change, and the Clean Air Act.

ESCI 4360 Physical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
Physical description of the sea, physical properties of seawater and sea ice, methods and measurements, wind-driven ocean circulation, thermohaline ocean circulation, boundary processes, waves, tides and mixing. Seasonal and interannual variability such as El Niño/Southern Oscillation phenomena. Implications for marine biology, marine geology, human impacts, other topics. Fall.
Prerequisite: PHYS 1401 or 2425.

ESCI 4365 Occupational Safety and Accident Prevention
3 Semester Credit Hours (3 Lecture Hours)
This course provides students with fundamental knowledge of regulatory requirements on occupational safety and practical techniques on accident prevention in the work environment. Offered on sufficient demand.

ESCI 4408 Environmental Microbiology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Relationships between microorganisms and their biotic and abiotic environment. Current topics such as air quality (i.e., molds), water quality and bioremediation will be discussed. Laboratory will include techniques for sampling from soil, air and water. Offered on sufficient demand.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0096.

ESCI 4480 Environmental Site Assessment
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Interdisciplinary application of environmental regulations, risk assessment to specific examples. Knowledge of United States environmental regulations assumed; ESCI 4301 Environmental Regulations recommended.

ESCI 4490 Selected Topics
4 Semester Credit Hours (4 Lecture Hours, 4 Lab Hours)
Subject materials variable. May be repeated for credit when topics are significantly different. Faculty approval required. Offered on sufficient demand.

ESCI 4496 Directed Independent Study
1-4 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College. Fall, Spring, Summer.

ESCI 4498 Internship in Environmental Science
1-4 Semester Credit Hours (4 Lecture Hours)
Two to four semester hours of credit may be earned by working in an internship position in a governmental agency or industry.

Geology, Minor

Program Description
The mission of the Geology Program is to provide integrated and process-oriented curricula, based on fundamental scientific principles and processes that enable graduates to pursue challenging careers and maintain lifelong learning. The Geology Program is designed to serve students majoring in geology and environmental science as well as students in other fields who are interested in adding to their knowledge of the Earth. Support is also provided for students preparing to earn certification for teaching at the K-12 level, and interested non-science majors. Members of the geoscience faculty provide majors with a broad overview of geologic processes while offering the opportunity to pursue specialized knowledge in selected areas of geoscience in preparation for graduate study and careers in government, industry, or academia.

Program Requirements
Students majoring in other academic fields who wish to earn a minor in geology must complete the following requirements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 1403</td>
<td>Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 1404</td>
<td>Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 3411</td>
<td>Mineralogy</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 3443</td>
<td>Environmental Geology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 4421</td>
<td>Structural Geology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total Hours</td>
<td>20</td>
</tr>
</tbody>
</table>

Courses

GEOL 1303 Essentials of Geology
3 Semester Credit Hours (3 Lecture Hours)
One-semester introductory Earth science course for students majoring in a non-science subject area. Covers basic geologic material and concepts, such as minerals, rocks, the rock cycle, and plate tectonics theory. Origin, composition, and evolution of our planet, as well as the importance of geology in everyday life, including geologic resources, global change, earthquakes, and volcanism are examined. This course is not recommended for students majoring in Geology or Environmental Sciences. Course counts toward the natural science component of the Core Curriculum Program.
TCCNS: GEOL 1303
GEOL 1403 Physical Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the origin, classification, and composition of Earth materials. Study of internal and surface processes which shape and modify Earth. Laboratory studies of minerals and rocks, as well as topographic maps, geologic maps and geologic cross-sections.
Co-requisite: SMTE 0094.
TCCNS: GEOL 1403

GEOL 1404 Historical Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the origin and evolution of Earth and other planets. Changes in the form and distribution of Earth’s continents and oceans, and succession of plants and animals through geologic time. Laboratory studies of fossils, geological maps, and the interpretation of ancient environments of rock formation.
Prerequisite: GEOL 1403 or 1303.
Co-requisite: SMTE 0094.
TCCNS: GEOL 1404

GEOL 2102 Undergraduate Seminar in Geology-Careers in the Geosciences
1 Semester Credit Hour (1 Lecture Hour)
Introductory level seminar featuring diverse topics and speakers. Focus on careers in the geosciences as well as on how to successfully plan a college career. In-house as well as external speakers. May not be repeated for credit but attendance in subsequent semesters is encouraged.

GEOL 2103 Undergraduate Seminar in Geology-Research in the Geosciences
1 Semester Credit Hour (1 Lecture Hour)
Introductory level seminar featuring diverse topics and speakers. Focus on current geologic research. In-house as well as external speakers. May not be repeated for credit but attendance in subsequent semesters is highly encouraged. Credit/no credit

GEOL 2222 Karst Geology and Paleoclimatology
2 Semester Credit Hours (1 Lecture Hour)
This course describes the different types of caves and karst rocks, the water rock interactions in carbonate rock systems, and it explains cave formation via hydrological and geochemical processes. It also deals with how speleothem proxies such as oxygen and carbon stable isotope, trace elements, carbonate petrography are used to decipher past changes in climate.

GEOL 2490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours, 6 Lab Hours)
May be repeated for credit if topics are significantly different. Subject material variable. Faculty approval required.

GEOL 3326 Introduction to Geological Field Methods
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to the basic techniques of geological fieldwork. Note taking in the field, proper use of geological field equipment, measurement and description of rock sections by several methods and degrees of detail, plus small area mapping of several types of terrain with topographic maps. Reports, sections, and maps will be produced from the field notes. Field trips required.
Prerequisite: GEOL 1403 and 1404 and (GEOL 3411 or 3411').
* May be taken concurrently.
Co-requisite: SMTE 0094.

GEOL 3329 Geology of National Parks
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the regional geology of the United States using selected U.S. National Parks representing a wide variety of geologic settings as examples. Application of major geologic principles and basic geologic concepts such as plate tectonics, rock cycle, stratigraphy, and geologic time.
Prerequisite: GEOL 1303, 1403 or 1404.

GEOL 3411 Mineralogy
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of the physical and chemical properties of minerals. Introduction to the crystallography of minerals, optical mineralogy, and the use of the polarized light microscope. Laboratory study of mineral identification in hand specimens and thin sections.
Prerequisite: GEOL 1403 and 1303 or 1404.

GEOL 3414 Igneous and Metamorphic Petrology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Genesis and occurrence of igneous and metamorphic rocks. Mineralogical composition and thermodynamics of geologic systems. Determination of rock types in hand specimens and thin sections.
Prerequisite: GEOL 1403, CHEM 1411, 1412 and GEOL 3411.
Co-requisite: SMTE 0094.

GEOL 3441 Invertebrate Paleontology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Morphology, classification, and paleoecology of fossil invertebrates. Applications to marine geology including paleoceanography, stratigraphy, economic geology. Field trip to Texas invertebrate fossil beds.
Prerequisite: GEOL 1404.
Co-requisite: SMTE 0094.

GEOL 3442 Geomorphology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of landscapes and landforms at the surface of the Earth, and the processes and mechanisms by which they are developed.
Prerequisite: GEOL 1403.
Co-requisite: SMTE 0094.

GEOL 3443 Environmental Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of the relationships of humans to Earth’s physical environment. Geologic aspects of waste disposal, resources, conservation, land reclamation, geologic hazards, and land-use planning.
Prerequisite: GEOL 1403.
Co-requisite: SMTE 0094.

GEOL 3490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
May be repeated for credit if topics are significantly different. Subject materials variable.

GEOL 4050 Geology Field Safety Seminar
0 Semester Credit Hours
Restricted to geology majors attending field camp. Students required to meet with geology program coordinator prior to registration for this course.
GEOL 4311 Paleoclimatology
3 Semester Credit Hours (3 Lecture Hours)
Reconstruction of Earth's climate system through time using natural
archives and proxy evidence. Focus is mostly towards the Quaternary,
though longer time spans will be considered, too. Mixed format with
lectures, hand-on activities involving paleoclimatic data sets, and seminar-
style readings and discussions.
Prerequisite: GEOL 1404 and 3441.

GEOL 4316 Marine Geoscience
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the geology of the marine environment. Review of plate
tectonic processes relevant to the evolution of continental margins
and plate boundaries; geophysics and ocean morphology; geology of
ocean crust; controls on the types, origin, and distribution of marine
sediments; marine geochemistry; nearshore geological processes and
the continental shelf; introduction to paleoceanography; global
paleoceanographic evolution; critical events in ocean history. Special
focus on the Gulf of Mexico.
Prerequisite: GEOL 1403, 1404, CHEM 1411 and 1412.

GEOL 4321 Introduction to Soil and Groundwater Restoration
3 Semester Credit Hours (3 Lecture Hours)
Introduction to methods for restoring contaminated soil and groundwater
by examining the factors and processes influencing the efficacy of
remediation systems. An emphasis will be placed on the scientific
principles upon which soil and groundwater remediation is based.
Prerequisite: (GEOL 1403, CHEM 1411, 1412 and GEOL 3443).

GEOL 4326 Field Seminar in Geology
3 Semester Credit Hours (4 Lecture Hours, 1 Lab Hour)
Designed to prepare students for summer field camp. Basic techniques of
geologic mapping in the field, data analysis and interpretation, and report
writing.
Prerequisite: GEOL 4411 and 4421.
Co-requisite: SMTE 0094.

GEOL 4411 Sedimentation and Stratigraphy
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Composition and origin of sediments and sedimentary rocks. Description
and classification of rocks in hand specimen. Principles of stratigraphy,
including stratigraphic units and correlation. Facies models for major
depositional systems. Field trips.
Prerequisite: (GEOL 1403) and (GEOL 1404) and (GEOL 3411*).
* May be taken concurrently.
Co-requisite: SMTE 0094.

GEOL 4415 Economic Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of geologic and tectonic parameters of mineral and metals
formation. Ore geology and geochemistry. Mining, processing, fabrication,
and marketing of natural resources. Field trip to mining operations.
Prerequisite: GEOL 1403 and 3411.
Co-requisite: SMTE 0094.

GEOL 4416 Introduction to Geochemistry
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introductory study of the Earth processes using principles of chemical
equilibrium, thermodynamics, isotope geochemistry and organic
geochemistry. Applications of low-temperature geochemistry to geologic
problems.
Prerequisite: CHEM 1411, 1412, MATH 2413 and GEOL 3411.
Co-requisite: SMTE 0094.

GEOL 4421 Structural Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
PHYS 1401 Geometric and quantitative description of deformation of
the Earth's crust, mechanics of brittle and crystal-plastic deformation
processes of Earth materials, introduction to continuum mechanics of
geoelastic systems, crustal deformation from micro-scale to global
tectonics. Laboratory introduces principles of three-dimensional data
representation and analysis, geologic map interpretation, cross-section
techniques, and problems in stress and strain analysis.
Prerequisite: GEOL 3411 and MATH 2413 and (PHYS 1401 or 2425).
Co-requisite: SMTE 0094.

GEOL 4422 Geophysics
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to quantitative techniques to assess physical properties and
processes of the Earth. Topics include earthquake seismology, refraction
and reflection seismology, gravimetry, magnetism, electrical methods,
and radioactivity of Earth materials. Application of geophysical methods
to the study of the Earth, in oil and gas exploration, and in economic and
environmental geology.
Prerequisite: (GEOL 4421, PHYS 1401 or 2425) and (PHYS 1402 or 2426)
and (MATH 2413).

GEOL 4423 Seismic Methods
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the acquisition, processing, and interpretation of 2D
and 3D seismic data. Lectures and field exercises are covered. Topics
include conceptual and historical foundations of modern reflection
seismology; an overview of seismic wave phenomena in acoustic, elastic,
and porous media; acquisition principles for land and marine seismic
surveys; methods used to create 2D and 3D seismic images from field
data; concepts of dip moveout, prestack migration, and depth migration;
concepts and limitations of 3D seismic interpretation for structure,
stratigraphy, and rock property estimation; and the interpretation role of
attributes, impedance estimation, and AVO.
Prerequisite: GEOL 4322.

GEOL 4424 Environmental and Engineering Geophysics
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Geophysical techniques for exploring the shallow subsurface for
environmental and engineering purposes. Topics include seismic,
resistivity, ground penetrating radar, electromagnetic, gravity, and
magnetic methods. This course includes both lectures and labs (field
exercises) components.
Prerequisite: (PHYS 1401 or 2425) and (PHYS 1402 or 2426) and
(MATH 2413).

GEOL 4430 Internship in Geology
1-4 Semester Credit Hours
One to four semester hours of credit may be earned by working in an
internship position in industry, with local government, a private firm, or an
independent geologist.

GEOL 4436 Introduction to Petroleum Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Basic concepts of petroleum geology and techniques used in the
exploration and production of hydrocarbon systems. Lectures and
lab exercises will cover principles of stratigraphy, sedimentology,
hydrocarbon generation, hydrocarbon-trapping mechanisms, reservoir
characterization, seismic interpretation, well-log interpretation, and
geologic risk analysis.
Prerequisite: GEOL 4411 or 4411*.
* May be taken concurrently.
Co-requisite: SMTE 0094.
GEOL 4444 Hydrogeology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the fundamentals of groundwater and surface water flow; well hydraulics and evaluation of groundwater as a resource; chemical properties of groundwater and groundwater contamination; groundwater and the environment; and groundwater modeling. This course also examines some of the techniques associated with field hydrogeology and laboratory methods in hydrogeology.
Prerequisite: GEOL 1403 and MATH 2413 and (PHYS 1401 or 2425).
Co-requisite: SMTE 0094.

GEOL 4490 Selected Topics
4 Semester Credit Hours (1-4 Lecture Hours, 1-4 Lab Hours)
May be repeated for credit if topics are significantly different. Subject materials variable.

GEOL 4496 Directed Independent Study
1-4 Semester Credit Hours
DIRECTED INDEPENDENT STUDY Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the chairperson, and the Dean of the College.

GEOL 4649 Karst of the Yucatan Peninsula
6 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
This course describes the different types of caves and karst rocks, the water rock interactions in carbonate rock systems, and it explains cave formation via hydrogeological and geochemical processes. It offers field work experience such as sample collection, determining field parameters, karst and cave surveys, measuring spring discharges in the Yucatan Peninsula of Mexico and laboratory experience on the Texas A&M University-Corpus Christi campus.
Prerequisite: (GEOL 1403 and 4411) or GEOL 4444, 4416 or 4311.

GEOL 4650 Field Geology
6 Semester Credit Hours (12 Lab Hours)
Field course involving practical application of geologic principles to field problems. Locations visited and material covered depends on hosting institution. Generally should include: mapping and outcrop data collection; measurement of stratigraphic sections; mapping and preparation of geologic cross-sections; preparation of geologic reports.
Prerequisite: GEOL 3326, 3414, 3441, 4411 and 4421.
Co-requisite: SMTE 0094.

Mathematics, Minor
Program Requirements
Students majoring in other academic fields who wish to earn a minor in mathematics must complete the following courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
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<tr>
<td></td>
<td>Required Courses</td>
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<tr>
<td>MATH 2305</td>
<td>Discrete Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3313</td>
<td>Foundations of Number Theory</td>
<td>3</td>
</tr>
<tr>
<td>or MATH 3314</td>
<td>Foundations of Real Numbers</td>
<td></td>
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<tr>
<th></th>
<th>Electives</th>
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<tr>
<td></td>
<td>Select one MATH elective</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Select one upper division MATH elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total Hours</td>
<td>20-21</td>
</tr>
</tbody>
</table>

1 May be waived with suitable placement; see placement section below for more details. If needed, upper-level mathematics electives must be taken to bring the total to 18 hours.

Courses
MATH 0099 Math Non-Course Based Development
0 Semester Credit Hours
Preparation workshop to help students achieve College Readiness in mathematics under the Texas Success Initiative. Topics include five general areas: fundamental mathematics, algebra, geometry, statistics, and problem solving.

MATH 0200 Brief Developmental Mathematics
1-2 Semester Credit Hours (1-2 Lecture Hours)
Topics as in MATH 0300. For students who have completed most topics in MATH 0300. Requires permission of MATH department. (Not counted toward graduation) Fall, Spring, Maymester, Summer.
Co-requisite: MATH 1314, MATH 1442.

MATH 0214 Brief Developmental Mathematics-Algebra
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1314. Support will focus on essential skills required for success in College Algebra (Math 1314). Supporting topics include review of intermediate algebra, polynomial equations, graphing techniques, and applications. Course provides the necessary academic support for TSI liable students concurrently enrolled in MATH 1314 as the co-requisite with MATH 0214. Students who register for MATH 0214 must co-register in MATH 1314. MATH 0214 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1314.

MATH 0224 Brief Developmental Mathematics-Business Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is the co-requisite course supporting for MATH 1324. Support will focus on essential skills required for success in Business Math (Math 1324). Supporting topics include the use of calculators and technology. Topics focus on basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and financial management, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1324 as the co-requisite with MATH 0224. Students who register for MATH 0224 must co-register in MATH 1324. MATH 0224 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1324.

MATH 0232 Brief Developmental Mathematics-Contemporary Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1332. Support will focus on essential skills required for success in Contemporary Mathematics (Math 1332). Supporting topics include a basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and descriptive statistics, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1332 as the co-requisite with MATH 0232. Students who register for MATH 0232 must co-register in MATH 1332. MATH 0232 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1332.
MATH 0242  Brief Developmental Mathematics-Statistics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1442. Support will focus on essential skills required for success in Statistics for Life (MATH 1442). Supporting topics include the use of calculators and technology. Topics focus on descriptive and inferential statistics, probabilities including notation, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1442 as the co-requisite with MATH 0242. Students who register for MATH 0242 must co-register in MATH 1442. Math 0242 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1442.

MATH 0300  Developmental Mathematics
3 Semester Credit Hours (3 Lecture Hours)
Topics include number concepts, computation, elementary algebra, geometry, and mathematical reasoning. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0310  Developmental Mathematics-Algebra
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
3 sem. hrs. (2:2) Topics include number concepts, computation, elementary algebra, and geometry. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0398  Introduction to Algebra
3 Semester Credit Hours (3 Lecture Hours)
Number concepts, computation, elementary algebra, geometry, and mathematical reasoning.

MATH 0399  Intermediate Algebra
3 Semester Credit Hours (3 Lecture Hours)
Topics include linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems.
Prerequisite: MATH 0398.

MATH 1314  College Algebra
3 Semester Credit Hours (3 Lecture Hours)
Quadratic equations, inequalities, graphs, logarithms and exponentials, theory of polynomial equations, systems of equations.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT1 Math', MATH 0320 or minimum score of 350 in 'TSI Math'.
Co-requisite: MATH 0214.
TCCNS: MATH 1314

MATH 1316  Trigonometry
3 Semester Credit Hours (3 Lecture Hours)
Trigonometric functions, identities, equations involving trigonometric functions, solutions of right and oblique triangles.
Prerequisite: (MATH 1314, minimum score of 550 in 'SAT MATH SECTION' or minimum score of 21 in 'ACT1 Math') or minimum score of 21 in 'ACT Math'.
TCCNS: MATH 1316

MATH 1324  Mathematics for Business and Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will learn how the properties and language of mathematics can be used in business and real-world problem solving and understand the techniques and applications of finance problems, basic matrix operation, basic counting principles, and probability analysis in modeling real-world scenarios.
Prerequisite: minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
Co-requisite: MATH 0224.
TCCNS: MATH 1324

MATH 1325  Calculus for Business & Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will develop and combine the concepts in and relationships between Mathematics and Business from the fundamentals of calculus and optimization in all Business fields. Students are expected to learn the materials algebraically with technology. Students will combine the concepts of limits, continuation, differentiation and integration techniques to solve problems in business, economics, and social sciences.
Prerequisite: MATH 1324, minimum score of 550 in 'SAT Math', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 1325

MATH 1332  Contemporary Mathematics
3 Semester Credit Hours (3 Lecture Hours)
This course serves as a terminal course and supplies a brief overview of several topics in mathematics. Topics may include introductory treatments of sets, logic, number systems, number theory, relations, functions, probability and statistics. Appropriate applications are included. This course emphasizes using critical thinking to make decisions based on information.
Co-requisite: MATH 0232.
TCCNS: MATH 1332

MATH 1390  Introduction to Mathematical Topics
1-3 Semester Credit Hours (1-3 Lab Hours)
A course to introduce students to mathematical topics in a formal setting. The course may support problem solving, or systematic investigations of topics outside the current mathematical catalog. May not be substituted for regularly scheduled offerings.

MATH 1442  Statistics for Life
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
An introduction to statistical concepts and methods used in all disciplines to enhance decision making based on data analysis, including: basic experimental design models, measurement and data collection through sampling; display and summary of information, and assessment of relationship through descriptive techniques; probability concepts leading to estimation and hypothesis testing of means, variance and proportions, regression analysis, one-factor ANOVA and chi-square test of independence; and applications through case studies. The laboratory component of the course offers applications of the theory presented during the classroom sessions.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT1 Math', MATH 0310, 0320, minimum score of 350 in 'TSI Math' or minimum score of 19 in 'ACT Math'.
Co-requisite: MATH 0242.
TCCNS: MATH 1442
MATH 2305 Discrete Mathematics I
3 Semester Credit Hours (3 Lecture Hours)
An introduction to topics in Discrete Mathematics with an emphasis on applications in Mathematics and Computer Science. Topics include formal logic, graphs, trees and related algorithms, and combinatorics and discrete probability.
**Prerequisite:** MATH 2413, minimum score of 620 in 'SAT Math', minimum score of 620 in 'SAT Mathematics', minimum score of 640 in 'SAT MATH SECTION', minimum score of 27 in 'ACT Math' or minimum score of 27 in 'ACT Math'.
**TCCNS:** MATH 2305

MATH 2312 Precalculus
3 Semester Credit Hours (3 Lecture Hours)
A more rapid treatment of the material in MATH 1314 and MATH 1316, this course is designed for students who wish a review of the above material, or who are very well prepared. Functions, graphs, trigonometry, and analytic geometry.
**Prerequisite:** MATH 1314, minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT Math'.
**TCCNS:** MATH 2312

MATH 2413 Calculus I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Limits, continuity, derivatives, applications of the derivative, and an introduction to integrals. Contains a laboratory component.
**Prerequisite:** MATH 1316, 2312, minimum score of 640 in 'SAT MATH SECTION' or minimum score of 27 in 'ACT Math'.
**TCCNS:** MATH 2413

MATH 2414 Calculus II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
**Prerequisite:** MATH 2413.
**TCCNS:** MATH 2414

MATH 2415 Calculus III
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green’s, Stokes’, and the Divergence Theorems. Contains a laboratory component. Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green’s, Stokes’, and the Divergence Theorems. Contains a laboratory component.
**Prerequisite:** MATH 2414.
**TCCNS:** MATH 2415

MATH 3300 Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications. Students may not receive credit for both MATH 3300 and GISC 3300.
**Prerequisite:** MATH 2413 and 2414.

MATH 3301 Introduction to Complex Analysis
3 Semester Credit Hours (3 Lecture Hours)
This course introduces functions of a complex variable and their applications. Contents include differentiation and integration; zeros, poles and residues; conformal mappings.
**Prerequisite:** (MATH 2415) or (MATH 2414 and 3314).

MATH 3310 Mathematical Analysis for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming and probability and statistics into mechanical engineering. May not count towards the MATH major. Students may not receive credit for both MATH 3310 and MEEN 3310.
**Prerequisite:** MATH 3315.

MATH 3311 Linear Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of linear algebra and matrix theory. Topics include vectors, matrix operations, linear transformations, fundamental properties of vector spaces, systems of linear equations, eigenvalues and eigenvectors. Applications.
**Prerequisite:** MATH 2413.

MATH 3312 College Geometry
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
A careful study of the foundations of Euclidean geometry by synthetic methods with an introduction to non-Euclidean geometries. An introduction to transformational geometry.
**Prerequisite:** MATH 2413.

MATH 3313 Foundations of Number Theory
3 Semester Credit Hours (3 Lecture Hours)
This course assists a student’s transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to topics from elementary number theory.
**Prerequisite:** MATH 2305 and 2414.

MATH 3314 Foundations of Real Numbers
3 Semester Credit Hours (3 Lecture Hours)
This course assists a student’s transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to development of the real number line.
**Prerequisite:** MATH 2414 and 2305.

MATH 3315 Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
An introduction to both theoretical and applied aspects of ordinary differential equations. Topics include: first order equations, linear second order equations, elementary numerical methods, and the Laplace transform.
**Prerequisite:** MATH 2414.

MATH 3342 Applied Probability and Statistics
3 Semester Credit Hours (3 Lecture Hours)
A calculus based introduction to probability and statistics. Emphasis will be on development of statistical thinking and working with data. Topics include probability theory, descriptive statistics, common distributions, and statistical inference.
**Prerequisite:** MATH 2413.
MATH 3345 Statistical Modeling and Data Analysis
3 Semester Credit Hours (3 Lecture Hours)
An introduction to probability/statistical modeling and data analysis techniques to investigate data. Topics include: exploratory data analysis, probability models and simulation, sampling distributions, statistical inference. Applications to real world problems. Students will be expected to present and justify results orally and in writing.
Prerequisite: MATH 2413 and (COSC 1330 or 1435).

MATH 3347 Introduction to Probability
3 Semester Credit Hours (3 Lecture Hours)
This is an introduction to probability. In the course, key fundamental concepts of probability, random variables and their distributions, expectations, and conditional probabilities will be covered. Topics include counting rules, combinatorial analysis, sample spaces, axioms of probability, conditional probability and independence, discrete and continuous random variables, jointly distributed random variables, characteristics of random variables, law of large numbers and central limit theorem, random processes, Markov chains, Markov chain-Monte Carlo, Poisson Process and Entropy.
Prerequisite: MATH 2415.

MATH 3385 Linear Optimization and Decisions
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the linear programming and optimization problems arising in many applications. Contents include linear programming models with solutions, the simplex method, duality theory and its use for management decision making, dual simplex method and sensitivity analysis.
Prerequisite: MATH 3311 and 2413.

MATH 3390 Problem Solving in Mathematics
1-3 Semester Credit Hours (1-3 Lecture Hours)
A problem solving course for students who want to participate in math problem solving competitions, train for the actuarial or other professional examinations, work on research aimed at conference presentations, or perform research projects at the junior level that are not at the level of directed independent study material.
Prerequisite: MATH 2414.

MATH 4185 Senior Mathematics Seminar
1 Semester Credit Hour (1 Lecture Hour)
This course introduces a weekly mathematics seminar. Students will generate a viable project for the capstone course.

MATH 4285 Mathematics Major Capstone
2 Semester Credit Hours (2 Lecture Hours)
Development of projects as proposed in MATH 4185, as well as mathematics communication skills. Students will present their projects, and take a national level assessment.
Prerequisite: MATH 4185.

MATH 4301 Introduction to Analysis
3 Semester Credit Hours (3 Lecture Hours)
An advanced treatment of the foundations of calculus stressing rigorous proofs of theorems. Topics include: elements of propositional and predicate logic, topology of the real numbers, sequences, limits, the derivative, and the Riemann integral.
Prerequisite: MATH 2415 and 3314.

MATH 4306 Modern Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of set operations, maps and relations, groups, rings and field theory. Topics include permutation groups, cosets, homomorphisms and isomorphisms, direct product of groups and rings, integral domains of quotients, fundamental properties of integers, the ring of integers modulo n, and rings of polynomials. Applications.
Prerequisite: MATH 3311 and 3313.

MATH 4312 Differential Geometry
3 Semester Credit Hours (3 Lecture Hours)
Differential forms on R1, R2, R3, and Rn; integration and differentiation of differential forms; Stokes' Theorem; manifolds; Gaussian curvature and the Gauss-Bonnet Theorem.
Prerequisite: MATH 2415.

MATH 4315 Partial Differential Equations
3 Semester Credit Hours (3 Lecture Hours)
An introduction to partial differential equations emphasizing the wave, diffusion and potential (Laplace) equations. A focus on understanding the physical meaning and mathematical properties of solutions of partial differential equations. Methods include fundamental solutions and transform methods for problems on the line, and separation of variables using orthogonal series for problems in regions with boundary. Additional topics include higher dimensional problems and special topics like Harmonic functions, the maximum principle, Green's functions etc.
Prerequisite: MATH 3315 and 2415.

MATH 4321 Applied Regression Analysis
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the formulation of linear models and the estimation of the parameters of such models, with primary emphasis on least squares. Application of multiple regression and curve fitting and the design of experiments for fitting regression models.
Prerequisite: MATH 1342, 2342 or 1470.

MATH 4328 Discrete Mathematics II
3 Semester Credit Hours (3 Lecture Hours)
A continued study of topics from Discrete Mathematics I with additional topics from discrete mathematics that have strong application to the field of computer science. Additional topics include: recurrence relations, formal languages, and finite-state machines.
Prerequisite: MATH 2305 and COSC 2437.

MATH 4342 Introduction to Mathematical Statistics
3 Semester Credit Hours (3 Lecture Hours)
This is a first course in mathematical statistics, topics include: moment-generating functions, functions of random variables, sampling distributions, methods of estimation including Bayesian estimation, characteristics of estimators, interval estimation, hypothesis testing, Neyman-Pearson Lemma, likelihood ratio test, tests involving means and variances, regression and correlation, multiple linear regression, introduction to ANOVA, non-parametric tests.
Prerequisite: MATH 2415.

MATH 4385 Applied Modeling
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for mathematics majors. The construction of mathematical models from areas such as economics, refining, biology and mariculture, etc. Where possible, local phenomena will be modeled with the assistance of outside consultants.
Prerequisite: MATH 3315 and 3342 or MATH 3345.

MATH 4390 Selected Topics
3 Semester Credit Hours (3 Lecture Hours)
Offered on sufficient demand.
Physics, Minor

Program Description

Introduction
A minor in physics is offered for students who are interested in a broad foundation in classical and modern physics. For students majoring in physical sciences, geographic information science, engineering and technology, the physics minor offers a solid foundational base in the application of fundamental physical laws in their disciplines. It provides training in computation and applied mathematics for computer science and mathematics students.

Substitutions
Students majoring in technical areas may ask the Physics faculty to support a Degree Plan Exceptions Form to list Course Substitutions in their pursuit of a physics minor. Possibilities include:

- EEEN 3310 Electromagnetic Theory (3 sch) for PHYS 3332 Electromagnetism (3 sch)
- ENGR 3316 Thermodynamics (3 sch) for PHYS 3333 Thermodynamics (3 sch)
- MATH 4315 Partial Differential Equations (3 sch) for PHYS 4330 Mathematical Methods for Physicists (3 sch)

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Required Courses</td>
<td></td>
</tr>
<tr>
<td>PHYS 2425</td>
<td>University Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>University Physics II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Select 12 hours of upper-level physics courses of the following:</td>
<td>12</td>
</tr>
<tr>
<td>PHYS 3334</td>
<td>Modern Physics I</td>
<td></td>
</tr>
<tr>
<td>PHYS 3331</td>
<td>Mechanics I</td>
<td></td>
</tr>
<tr>
<td>PHYS 3332</td>
<td>Electromagnetism</td>
<td></td>
</tr>
<tr>
<td>PHYS 3333</td>
<td>Thermodynamics</td>
<td></td>
</tr>
<tr>
<td>PHYS 4330</td>
<td>Mathematical Methods for Physicists</td>
<td></td>
</tr>
<tr>
<td>PHYS 4335</td>
<td>Quantum Physics</td>
<td></td>
</tr>
<tr>
<td>PHYS 4337</td>
<td>Nuclear Physics</td>
<td></td>
</tr>
<tr>
<td>PHYS 4340</td>
<td>Advanced Physics Lab</td>
<td></td>
</tr>
<tr>
<td>PHYS 3490</td>
<td>Selected Topics</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 20

1. The upper-level physics courses are offered from one of the members of the Texas Physics Consortium (possibly from TAMUCC) via live two-way video conference.

Prerequisites
Students pursuing a minor in physics may need to take one or more of the following prerequisite courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2413</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II</td>
<td>4</td>
</tr>
</tbody>
</table>

Courses

PHYS 1303 Introduction to Astronomy: Stars and Galaxies
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
This is one of two courses in the introduction to astronomy sequence which emphasizes the nature of astronomical phenomena over the mathematical analysis of them. This course will focus mostly on the nature of light, the nature and evolution of stars, the material between the stars, the Milky Way Galaxy, external galaxies, and the structure and evolution of the universe as a whole.

Co-requisite: SMTE 0095.
TCCNS: PHYS 1303

PHYS 1304 Introduction to Astronomy: Solar System
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
This is one of two courses in the introduction to astronomy sequence which emphasizes the nature of astronomical phenomena over the mathematical analysis of them. This course introduces astronomical phenomena related to the Solar System such as apparent motion of the Sun, phases of the Moon and apparent and true motion of the planets. Main focus will be on the objects comprising the Solar System: planets, their moons, asteroids, comets and trans-Neptunian bodies. A portion of the course will be dedicated to the formation and development of the Solar System and other, extrasolar planetary systems. The course also will touch the aspects of human exploration of the Solar System and the role of technology in our learning and understanding of the Solar System. This includes the history and the basics of robotic and manned spaceflights. Offered every Spring and Summer.

Co-requisite: SMTE 0095.
TCCNS: PHYS 1304

PHYS 1401 General Physics I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to Newtonian physics. Topics include Aristotelian physics and its overthrow, Newton’s laws of motion and gravitation, and the motion of particles, rigid bodies and fluids. The idea of the universe as a law-governed system will be developed. Laboratory activities provide introduction to empirical methods in science.

Prerequisite: (MATH 1314, 1316, 1324, 1325, 2312, 2413, 2414, 2415, minimum score of 21 in ‘ACT1 Math’, minimum score of 500 in ‘SAT Mathematics’ or minimum score of 615 in ‘Local Placement Test’).

Co-requisite: SMTE 0095.
TCCNS: PHYS 1401

PHYS 1402 General Physics II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to oscillatory and wave phenomena, electricity and magnetism. The classical theory of fields will be used to study electric and magnetic phenomena, including light, and their role in modern technology. Laboratory activities provide introduction to empirical methods in science.

Prerequisite: (PHYS 1401* or 2425*).

* May be taken concurrently.

Co-requisite: SMTE 0095.
TCCNS: PHYS 1402
PHYS 2425 University Physics I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A calculus based introduction to Newtonian physics. Topics include Aristotelian physics and its overthrow, Newton's laws of motion and gravitation, and the motion of particles, rigid bodies, and fluids. The idea of the universe as a law-governed system will be developed. Laboratory activities provide introduction to empirical methods in science.
Prerequisite: MATH 2413.
Co-requisite: SMTE 0095.
TCCNS: PHYS 2425

PHYS 2426 University Physics II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A calculus based introduction to oscillatory and wave phenomena, electricity and magnetism. The classical theory of fields will be used to study electric and magnetic phenomena, including light, and their role in modern technology.
Prerequisite: PHYS 2425 and MATH 2414.
Co-requisite: SMTE 0095.
TCCNS: PHYS 2426

PHYS 3331 Mechanics I
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of classical mechanics. Topics include particle dynamics in one, two and three dimensions: conservation laws; dynamics of a system of particles; motion of rigid bodies; central force problems; accelerating coordinate systems; Newton's theory of gravitation; Lagrange's and Hamilton's formulations of classical mechanics. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 3315 or 3315*).
* May be taken concurrently.

PHYS 3332 Electromagnetism
3 Semester Credit Hours (3 Lecture Hours)
Electrostatics; Laplace's equation; the theory of dielectrics; magnetostatic fields; electromagnetic induction; magnetic fields of currents; Maxwell's equations. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 3315* or 2415*).
* May be taken concurrently.

PHYS 3333 Thermodynamics
3 Semester Credit Hours (3 Lecture Hours)
Concept of temperature, equations of state; the first and the second law of thermodynamics; entropy; change of phase; the thermodynamics functions. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 2415 or 2415*).
* May be taken concurrently.

PHYS 3334 Modern Physics I
3 Semester Credit Hours (3 Lecture Hours)
A course in special relativity and elementary quantum mechanics. Topics include relativistic description of space-time, relativistic energy and momentum, the uncertainty principle, Schrödinger's equation, observables and operators, bound states, potential barriers, and the quantum description of the hydrogen atom. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 3315 or 3315*).
* May be taken concurrently.

PHYS 3335 Quantum Physics
3 Semester Credit Hours (3 Lecture Hours)
The Schroedinger equation; one dimensional systems; the Heisenberg uncertainty principle; magnetic moments and angular momentum; two and three dimensional systems; approximation methods; spin. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 3334 and (MATH 3315* or 2415*).
* May be taken concurrently.

PHYS 3336 Advanced Modern Physics
1 Semester Credit Hour (1 Lecture Hour)
Selected topics in advanced modern physics. Subject materials will be chosen from Electromagnetic Field Theory, Thermodynamics, Mathematical Methods of Physics, Waves and Optics, Advanced Modern Physics, Quantum Theory, Computational Physics, General Relativity. May be repeated for credit if topics selected are different. This course will be used for upper-level physics electives offered from other Texas Physics Consortium (TPC) schools. See their website (http://www.tarleton.edu/tpc/) for details.

PHYS 3337 Nuclear Physics
3 Semester Credit Hours (3 Lecture Hours)
The study of nuclear phenomena and properties including mass, stability, magnetic moment, radioactive decay processes and angular momentum. The use of nuclear techniques as applied to other scientific fields including electronics and medicine. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 3334 and (PHYS 4335* or 4335) and (MATH 3315* or 2415*).
* May be taken concurrently.

PHYS 3338 Advanced Modern Physics
1 Semester Credit Hour (1 Lecture Hour)
Selected topics in advanced modern physics. Subject materials will be chosen from Electromagnetic Field Theory, Thermodynamics, Mathematical Methods of Physics, Waves and Optics, Advanced Modern Physics, Quantum Theory, Computational Physics, General Relativity. May be repeated for credit if topics selected are different. This course will be used for upper-level physics electives offered from other Texas Physics Consortium (TPC) schools. See their website (http://www.tarleton.edu/tpc/) for details.

PHYS 3390 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject materials will be chosen from Electromagnetic Field Theory, Thermodynamics, Mathematical Methods of Physics, Waves and Optics, Advanced Modern Physics, Quantum Theory, Computational Physics, General Relativity. May be repeated for credit if topics selected are different. This course will be used for upper-level physics electives offered from other Texas Physics Consortium (TPC) schools. See their website (http://www.tarleton.edu/tpc/) for details.

PHYS 4161 Physics Research Project
1 Semester Credit Hour (1 Lecture Hour)
The first half of a two semester course. The student will work with a faculty member to develop and conduct a senior research project including a search of the relevant literature and presentation of the proposed research idea. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 4161.

PHYS 4162 Physics Research Seminar
1 Semester Credit Hour (1 Lecture Hour)
The second half of a two semester sequence. The student will work with a faculty member to conduct a senior research project including giving an oral presentation of the final results and writing up the results in a form suitable for publication. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 4162.

PHYS 4330 Mathematical Methods for Physicists
3 Semester Credit Hours (3 Lecture Hours)
Mathematical techniques from the following areas: infinite series; integral transforming; applications of complex variables; vectors, matrices, and tensors; special functions; partial differential equations; Green's functions; perturbation theory; integral equations; calculus of variations; and groups and group representatives. This course offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: (MATH 3315 or 3315*).
* May be taken concurrently.

PHYS 4335 Quantum Physics
3 Semester Credit Hours (3 Lecture Hours)
The Schroedinger equation; one dimensional systems; the Heisenberg uncertainty principle; magnetic moments and angular momentum; two and three dimensional systems; approximation methods; spin. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 3334 and (MATH 3315* or 2415*).
* May be taken concurrently.

PHYS 4337 Nuclear Physics
3 Semester Credit Hours (3 Lecture Hours)
The study of nuclear phenomena and properties including mass, stability, magnetic moment, radioactive decay processes and angular momentum. The use of nuclear techniques as applied to other scientific fields including electronics and medicine. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 3334 and (PHYS 4335* or 4335) and (MATH 3315* or 2415*).
* May be taken concurrently.
PHYS 4340  Advanced Physics Lab  
3 Semester Credit Hours (1 Lecture Hour, 4 Lab Hours)  
A laboratory course focusing on experimental design, advanced data analysis and reduction, and experimental laboratory techniques and instrumentation. Experiments will be drawn from a variety of physics areas. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.  
Prerequisite: (PHYS 3334 or 3334)*.  
May be taken concurrently.  
Co-requisite: SMTE 0095.  

PHYS 4496 Directed Independent Study  
1-4 Semester Credit Hours (1-4 Lecture Hours)  
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College.

Minors - School of Engineering & Computing Sciences  

- Computer Science, Minor (p. 546)  
- Geographic Information Science, Minor (p. 550)  
- Geography, Minor (p. 552)  
- Mechanical Engineering Technology, Minor (p. 554)

Computer Science, Minor  

Program Requirements  
Students majoring in other academic fields who wish to complete a minor in computer science must complete at least 18 hours of computer science, of which at least 6 semester hours must be at or above the 3000 level. The content of the course work for the minor must include the equivalent of:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSC 1435</td>
<td>Introduction to Problem Solving with Computers I</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1436</td>
<td>INTRODUCTION TO PROBLEM SOLVING WITH COMPUTERS II</td>
<td>4</td>
</tr>
<tr>
<td>COSC 2437</td>
<td>Data Structures 1</td>
<td>4</td>
</tr>
</tbody>
</table>

Electives  
Select 6 hours of Approved Computer Science electives (at or above the 3000 level) (p. 546)  

Total Hours  
18

1 It is assumed that the student has completed all mathematics prerequisites and corequisites for the required courses.

Approved Electives  
Any 3000 level COSC course will satisfy except:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSC 3371</td>
<td>Computer Information Systems Economics</td>
<td>3</td>
</tr>
<tr>
<td>COSC 3400</td>
<td>Skills for Computing Professionals</td>
<td>4</td>
</tr>
<tr>
<td>COSC 4100</td>
<td>Skills for Computing Professionals II</td>
<td>1</td>
</tr>
<tr>
<td>COSC 4354</td>
<td>Senior Capstone Project</td>
<td>3</td>
</tr>
</tbody>
</table>

COSC 4690  CONTRACTED FIELD EXPERIENCE IN COMPUTER SCIENCE  
1-6

Courses  

COSC 1315  Computer Literacy  
3 Semester Credit Hours (3 Lecture Hours)  
A balanced introduction to the use and application of computers in modern society involving both descriptive information and hands-on laboratory participation. Includes a discussion of the general principles of operation of a computer and a brief history of the development of computing. The use of a personal computer operating system, common application software, and simple computer programming concepts are introduced. Satisfies university computer literacy requirement.  
TCCNS: COSC 1301

COSC 1320  C Programming  
3 Semester Credit Hours (3 Lecture Hours)  
Introduces the fundamental concepts of structured programming in the C language. Topics include data types; control structures; functions, structures, arrays, pointers, pointer arithmetic, unions, and files; the mechanics of running, testing, and debugging programs; introduction to programming; and introduction to the historical and social context of computing.  
Prerequisite: (MATH 1314).

COSC 1330  Programming for Scientists, Engineers, and Mathematicians  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to computer programming for solving discipline specific problems using computers. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes coverage of language syntax, data and file structures, input/output devices, and disks/files.  
TCCNS: ENGR 2304

COSC 1345  Introduction to Problem Solving with Computers I  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course introduces the fundamental concepts of problem solving and algorithms. A brief introduction to computers and the programming life cycle is covered. The C++ programming language is used to develop basic computer programs demonstrating data types, fundamental control structures, functions, and arrays.  
Prerequisite: MATH 1314 or 2312.  
TCCNS: COSC 1436

COSC 1435  INTRODUCTION TO PROBLEM SOLVING WITH COMPUTERS II  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course is a continuation of COSC 1435. An introduction to abstract data types and object-oriented programming is covered. Topics include basic searching and sorting algorithms, dynamic allocation, linked lists, inheritance, polymorphism, and recursion.  
Prerequisite: COSC 1435.  
TCCNS: COSC 1437

COSC 2325  Game Design  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
This course will teach students the techniques for computer game design and how to work as part of a game development team from initial conception through release, including the game design process, game concepts, how and why we play games, character development, storytelling, user experience, game play, and core mechanics of games.
COSC 2334 Computer Architecture
3 Semester Credit Hours (3 Lecture Hours)
A concentrated study of internal computer concepts. Computer organization, machine and assembly language are emphasized.
Prerequisite: (COSC 1435 and MATH 2305).

COSC 2348 Introduction to Scripting
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to Windows and Unix/Linux shell scripting. The course covers basic scripting concepts including decision statements, control statements, functions and file manipulation. Advanced scripting tools such as grep, awk and sed are covered in this course.
Prerequisite: (COSC 1435).

COSC 2360 Cyber Security
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to cyber security. A broad range of cyber security issues will be covered, including social engineering attacks, secure coding, computer security, internet of things (IoT) security, mobile security, data security, network security, physical security and forensics. This course will cover the concepts of prevention, detection, and response to cyber security threats.
Prerequisite: (COSC 1435).

COSC 2390 Selected Topics I
1,3 Semester Credit Hours (1,3 Lecture Hours)
Variable content. May be repeated for credit depending on topic. Offered on sufficient demand. Does not count toward total hours required for BS inComputer Science.

COSC 2391 Selected Topics II
1-3 Semester Credit Hours (1-3 Lecture Hours)
This is a selected topics course with no lab component. Variable content. May be repeated for credit depending on topic. Offered on sufficient demand. Does not count toward total hours required for BS in Computer Science.

COSC 2437 Data Structures
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course provides a thorough study of standard structures used in the storing and retrieving of data and the processes by which these structures are created and manipulated. Topics include: object oriented design, linked lists, classes, trees, graphs, hashing, stacks, queues, sorting, searching, and recursion. A grade of C or better is required in the course to receive credit towards the Computer Science BS program.
Prerequisite: (COSC 1436) and (MATH 2305 or 2305*).
*May be taken concurrently.

TCCC: COSC 2436

COSC 2465 Linux Systems
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course focuses on providing students with essential knowledge and skills to implement, administer, and troubleshoot servers in a networked environment. Operating system concepts, such as installing a standalone system, file systems, authentication, and user support services are explored. Topics will include security issues, user and group administration, active directory services, DHCP, DNS, SSH, backup and restoration strategies and techniques, integrated mass storage technologies and alternative client technologies.
Prerequisite: COSC 1435.

COSC 2466 Network Systems
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course focuses on the standards and technologies used to establish inter-network structures that will support a TCP/IP data stream for higher-level services to operate over. This course introduces local area networks (LAN) and wide area networks (WAN). Topics include the TCP/IP and open system interconnection (OSI) models, cabling, switches, routers, protocols, subnetting, and networking hardware and software. Initial switch and router configuration will be examined and evaluated.
Prerequisite: (COSC 1435 and 2465).

COSC 2470 COBOL Programming
4 Semester Credit Hours (4 Lecture Hours)
A concentrated study of the COBOL language as applied to fundamental business computing problems and other data management applications.
Prerequisite: COSC 1435.

COSC 3100 Skills for Computing Professionals I
1 Semester Credit Hour (1 Lecture Hour)
This course focuses on developing professional skills that computer scientists will need to be successful in their careers and lives. Communication skills will include writing and giving oral presentations. Ethical issues will be explored. This is a class for computing professionals. As such, professional decorum will be required at all times.

COSC 3301 Cyber Security
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to cyber security. A broad range of cyber security issues will be covered, including social engineering attacks, secure coding, computer security, Internet of Things (IoT) security, mobile security, data security, network security, physical security and forensics. This course will cover the concepts of prevention, detection, and response to cyber security threats.

COSC 3304 Introduction to Scripting
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the student to techniques and tools used for system administration in various platforms (Windows and Unix/Linux). The course will cover the basics of Unix/Linux shell scripting. Students will be introduced to basic scripting concepts including decision statements, control statements, functions and file manipulation.
Prerequisite: COSC 2465.

COSC 3307 Game Programming
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the student to techniques and tools used for developing games for various platforms (Windows and Unix/Linux). The course will cover the basics of Unix/Linux shell scripting. Students will be introduced to basic scripting concepts including decision statements, control statements, functions and file manipulation. The course will cover the concepts of object-oriented design, linked lists, classes, trees, graphs, hashing, stacks, queues, sorting, searching, and recursion. A grade of C or better is required in the course to receive credit towards the Computer Science BS program.
Prerequisite: (COSC 1435 and COSC 2437).

COSC 3325 Game Programming
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the student to techniques and tools used for all aspects of programming games. Topics will include game graphics, game physics, game AI, and sound. The course will contain lectures and hands-on labs. Students will work independently and in teams.
Prerequisite: COSC 2437.

COSC 3335 Programming for Unmanned Aircraft Systems
3 Semester Credit Hours (3 Lecture Hours)
This course introduces software development for Unmanned Systems (US). Students will be introduced to a variety of relevant topics including the different US platforms, design and implementation of algorithms for US, user interface for US, and state-of-the-art US applications, challenges & solutions.
Prerequisite: (COSC 1435 or 1330) and (MEEN 3335).
COSC 3336 Introduction to Database Systems  
3 Semester Credit Hours (3 Lecture Hours)  
A study of contemporary database management system concepts, terminology, and methodology for use and implementation. Commercially available systems are discussed and used with emphasis upon the relational model. 
Prerequisite: COSC 2437.

COSC 3346 Operating Systems  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to operating systems concepts, principles, and design. Topics include: processes and threads, CPU scheduling, mutual exclusion and synchronization, deadlock, memory management, file systems, security and protection, networking, and distributed systems. Selected existing operating systems are discussed, compared, and contrasted. 
Prerequisite: (COSC 2437 and 2334).

COSC 3351 Internet Programming  
3 Semester Credit Hours (3 Lecture Hours)  
Study of prominent web technologies with a focus on creating interactive web applications. Both client-side and server-side programming will be covered. Students will design and implement a web based project using technologies covered in class. 
Prerequisite: COSC 3336 or 3336*. 
May be taken concurrently.

COSC 3352 Mobile Programming  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces software development for mobile platforms. Students will learn skills for creating and deploying mobile applications. Includes software engineering topics as related to mobile programming, primarily in how software design differs on mobile platforms. 
Prerequisite: COSC 2437.

COSC 3353 Survey of Programming Languages  
3 Semester Credit Hours (3 Lecture Hours)  
A study of selected programming languages for students familiar with programming. Students will write programs in a variety of languages. 
Prerequisite: COSC 2437.

COSC 3360 Human-computer Interaction  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces concepts and techniques for Human Computer Interaction. Particular emphasis will be placed on vision, audio, and language solutions for use in human-computer interactive systems. In addition, the students will learn how to apply the methods to solve simple HCI problems. 
Prerequisite: COSC 1436.

COSC 3370 Software Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to software engineering principles for the development and maintenance of high quality large software systems. Topics include: software life cycle, delivering on time and within budget, and the development and application of processes and tools for managing the complexities inherent in creating these systems. 
Prerequisite: COSC 2437.

COSC 3371 Computer Information Systems Economics  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to concepts in information technology and software engineering with a focus on economics and managerial issues. Topics include cost benefit analysis, software and effort estimation, feasibility analysis, information systems proposals, software team coordination, and project management. May not be used as a CS elective for CS majors.

COSC 3372 Network Security  
3 Semester Credit Hours (3 Lecture Hours)  
This course provides an introduction to the fundamentals of computer and network security and security laws and ethics, topics include, identification of vulnerabilities, forms of attack, appropriate countermeasures, and the detection and defense of the same. Techniques for the securing of hardware, software and data, including physical security are covered. 
Prerequisite: COSC 2465.

COSC 3373 Software Project Management  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to the principles for software project management for small and medium-size projects. Many aspects of software project management, including management process, scope definition, time and cost estimation, quality control, human resources, communication, risks and project procurement management will be discussed. A number of applications and tools will be used to implement a class project. 
Prerequisite: (COSC 3370).

COSC 3385 Numerical Methods  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces concepts for solving problems numerically using computers. Students will learn about number systems, errors of finite representation, and iteration. A survey of basic numerical methods including: solutions to nonlinear equations, solutions to linear systems, approximation, interpolation, zeros of functions, numerical differentiation and integration, and Monte-Carlo methods. 
Prerequisite: MATH 2413 and (COSC 1330 or 1435).

COSC 3400 Skills for Computing Professionals  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course focuses on technical writing, workplace scenarios and professional skills that computer scientists will need to be successful in their careers. There are two key areas of study, communication skills needed by computer scientists and their ethical responsibilities. Communication skills will include: technical writing from a computer science perspective, presentation skills, client interviewing, and reading technical articles. Ethical issues will be explored from a computer science perspective. 
Prerequisite: ENGL 1302.

COSC 3474 Cyber Defense I  
4 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
This course covers cryptographic tools, cryptographic algorithms, types of malicious software, forms of attacks and software security. Strengths and weaknesses of cryptographic systems are covered as well as the types of attacks on cryptographic systems. Malicious activity signatures, analysis as well as detection will be covered. This course will also cover secure coding principles and types of software issues. 
Prerequisite: COSC 3372.

COSC 4100 Skills for Computing Professionals II  
1 Semester Credit Hour (2 Lab Hours)  
This course focuses on technical writing, workplace scenarios and professional skills that computer scientists will need to be successful in their careers and lives. This is a class for computing professionals. As such, professional decorum will be required at all times. 
Prerequisite: COSC 1100 and ENGL 3310.
COSC 4310  Digital Forensics  
3 Semester Credit Hours (3 Lecture Hours) 
This course will introduce undergraduate students to the fundamentals of computer forensics and cyber-crime scene analysis. The various laws and regulations dealing with computer forensic analysis will be discussed. Students will be introduced to the emerging international standards for computer forensic analysis, as well as a formal methodology for conducting computer forensic investigations. Several Forensics tools such as Encase and FTK will be used to conduct digital forensics investigations. 
Prerequisite: COSC 2437. 

COSC 4324  Image Processing  
3 Semester Credit Hours (3 Lecture Hours) 
This course introduces concepts and techniques for image processing. The objective of this course is to introduce the fundamental techniques and algorithms used for processing and extracting useful information from digital images. The students will learn how to apply the image processing methods to solve real-world problems. 
Prerequisite: COSC 2437. 

COSC 4325  Advanced Game Programming  
3 Semester Credit Hours (3 Lecture Hours) 
This course will introduce advanced concepts for game programming to the student. Topics will include game physics, game AI, advanced shaders, 3D techniques, multiplayer techniques, and networking. The course will contain lectures and hands-on labs. 
Prerequisite: COSC 3325. 

COSC 4328  Computer Graphics  
3 Semester Credit Hours (3 Lecture Hours) 
Basic principles and techniques for computer graphics on modern graphics hardware. Students will gain experience in interactive computer graphics using the OpenGL API. Topics include: 2D viewing, 3D viewing, perspective, lighting, and geometry. 
Prerequisite: COSC 2437 and MATH 2413. 

COSC 4330  Introduction to Artificial Intelligence  
3 Semester Credit Hours (3 Lecture Hours) 
Foundations, directions, and applications of artificial intelligence including search algorithms, knowledge acquisition, representation, and processing. Students will gain practical experience by implementing many of the basic algorithms. 
Prerequisite: COSC 2437. 

COSC 4342  Computer Networks  
3 Semester Credit Hours (3 Lecture Hours) 
Computer-based communication systems. Topics include: advanced computer network architectures, protocols, and programming. 
Prerequisite: (COSC 2437 and MATH 2413). 

COSC 4343  Algorithms  
3 Semester Credit Hours (3 Lecture Hours) 
Advanced programming techniques for algorithmic and heuristic solutions of problems. Topics include: analysis and design of algorithms, testing of algorithms, optimum and exhaustive solutions, and recursion. 
Prerequisite: (COSC 2437 and MATH 2413). 

COSC 4345  Introduction to Machine Learning  
3 Semester Credit Hours (3 Lecture Hours) 
This course gives a broad introduction to machine learning with more emphasis on intelligent system design. Topics to be covered include linear and logistic regression, neural networks, clustering, classification, decision tree, evolutionary computation, feature selection, and reinforcement learning. The courses will explore various applications of machine learning to computer science, process modeling, pattern and speech recognition, data mining, and bioinformatics. 

COSC 4348  Systems Programming  
3 Semester Credit Hours (3 Lecture Hours) 
The design and implementation of system software such as device drivers, application support libraries, and interprocess communication. Students will study and use systems programming tools. 
Prerequisite: COSC 3346 and (COSC 3353 or 3324). 

COSC 4353  Compiler Construction  
3 Semester Credit Hours (3 Lecture Hours) 
This course introduces the basic concepts and mechanisms traditionally employed in language translators, with emphasis on compilers. Topics include: strategies for syntactic and semantic analysis, techniques of code optimization and approaches toward code generation. 
Prerequisite: COSC 3353. 

COSC 4354  Senior Capstone Project  
3 Semester Credit Hours (3 Lecture Hours) 
Teamwork and formal methods of systems analysis and design are emphasized. Students will complete a large team project. Fall, Spring. 
Prerequisite: (COSC 3370, 3336 and ENGL 3310). 

COSC 4360  Theory of Programming Languages  
3 Semester Credit Hours (3 Lecture Hours) 
The study of programming language design including syntax, semantics, behavior, and implementation issues in imperative, functional, logic, and object-oriented languages. Other topics include type theory, concurrency, data dependency, and nondeterminism. 
Prerequisite: COSC 2437. 

COSC 4365  Windows Security  
3 Semester Credit Hours (3 Lecture Hours) 
This course focuses on advanced system administration topics. An in depth understanding of various concepts such as operating systems, servers, file systems authentication, and user support services are explored. Topics include security issues, user and group administration, server and work-station integration, central repositories for updates, Active directory, DMZ, web servers, email servers, electronic system update and maintenance, backup and restoration strategies and techniques, integrated mass storage technologies and alternative client technologies. 
Prerequisite: (COSC 2438) and (COSC 2465). 

COSC 4367  Firewall and Intrusion Detection Systems  
3 Semester Credit Hours (3 Lecture Hours) 
This is an applied course which focuses on the standards and technologies used to establish inter-network structures that will support a TCP/IP data stream for higher-level services to operate over. This course introduces firewalls, Intrusion Prevention Systems (IPS), and Intrusion Detection Systems (IDS) technology. Topics include Windows, Linux, Check Point and Cisco firewalls, TCP/IP and open system interconnection (OSI) models, attack traffic analysis, and network based and host based hardware and software. Device configuration will be examined and evaluated with appropriate exercises. 
Prerequisite: (COSC 4365) and COSC 3372.
Geographic Information Science, Minor

Program Requirements

Students majoring in other academic fields who wish to earn a minor in Geographic Information Science must complete the following courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GISC 1336</td>
<td>Digital Drafting and Design</td>
<td>3</td>
</tr>
<tr>
<td>GISC 1470</td>
<td>Geospatial Systems I</td>
<td>4</td>
</tr>
<tr>
<td>GISC 2301</td>
<td>Geospatial Systems II</td>
<td>3</td>
</tr>
<tr>
<td>GISC 2470</td>
<td>Geospatial Plane Measurement I</td>
<td>4</td>
</tr>
<tr>
<td>GISC 3421</td>
<td>Visualization for GIS</td>
<td>4</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GISC 3005</td>
<td>Legal Aspects of Spatial Information</td>
<td></td>
</tr>
<tr>
<td>GISC 4431</td>
<td>Remote Sensing</td>
<td></td>
</tr>
<tr>
<td>GISC 4590</td>
<td>Selected Topics (Approved by GIS faculty)</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours: 19-23

1 It is assumed that the student has completed all prerequisites and corequisites for the required courses.

Courses

**GISC 1301 Physical Geography**
3 Semester Credit Hours (3 Lecture Hours)
The goal of this course is to encourage you to think geographically, examining the interactions between physical systems and human activities. Introduction to topics covered include elements of Physical Geography (studies of atmosphere, ocean and land surface environments), Geographic Information Systems (computer systems that capture, analysis, and display of geographic information), and human environmental interactions. Cross listed with GEOG 1301.

TCCNS: GEOG 1301

**GISC 1336 Digital Drafting and Design**
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)An introduction to graphic and drafting principles and practices in surveying and mapping science. This course includes the development of the basic drafting skills needed to produce surveying plats and graphical presentations. The elements of descriptive geometry are addressed. A major component of the course is an introduction to the fundamentals of computer-aided drafting and design (CADD). Spring.

**GISC 1470 Geospatial Systems I**
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)Introduction to geographic information systems (GIS) and its theoretical foundations. Topics covered include vector and raster data models, acquisition and manipulation of data, cartography, current topics, data quality, and basic spatial analysis. Principles and uses of GIS software also covered. Fall and Spring.

**GISC 2250 Field Camp I**
2 Semester Credit Hours (6 Lab Hours)A one-week field camp with intensive field data collection and computations. Traversing between control points. Digital contour data and leveling control. Detail spatial data by total station. Construction set out using total station and steel band. Taken during the sophomore or junior year. Spring.

Prerequisite: GISC 2470.

**GISC 2301 Geospatial Systems II**
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)An intermediate level course in the concepts and applications of geographic information systems (GIS). Topics covered include spatial database design and management, raster analysis, terrain mapping, analysis, and applications. Spring.

Prerequisite: (GISC 1470).

**GISC 2438 Geospatial Software Systems I**
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)Introduction to the design and development of GIS software to solve spatial problems. Topics covered include programming basics, design and implementation common tasks in GIS applications. Fall.

Prerequisite: GISC 1470 and COSC 1330 or COSC 1335.
GISC 2470  Geospatial Plane Measurement I  
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)  
Historical introduction to field measurement and mapping; distance measurement using electronic distance meters; calibration and reduction. Leveling instruments; principles, construction, testing and adjustment; ancillary equipment. Optical and electronic theodolites. Traverse computations and adjustment. Coordinate systems. Map projections. Fall.  
**Prerequisite:** MATH 1316 or 2413.

GISC 3300  Geospatial Mathematical Techniques  
3 Semester Credit Hours (3 Lecture Hours)  
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications.  
**Prerequisite:** MATH 2413 and 3342.

GISC 3325  Geodetic Science  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
**Prerequisite:** GISC 2470.

GISC 3412  Geospatial Plane Measurement II  
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)  
Principles and reduction of observations and errors in spatial measurement. Techniques of horizontal and vertical angle measurement for precise positioning. Trigonometric heighting and vertical staff tacheometry. Setting out of structures. Design and computation of horizontal and vertical curves. Spring.  
**Prerequisite:** (GISC 2470 and 1336).  
*May be taken concurrently.*

GISC 3420  Geospatial Software Systems II  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Advanced programming course focusing on the design and implementation of GIS scripts and GIS web applications. Topics covered include GIS web applications, web mashups, GIS scripts, GIS tool creation, and advanced user interface design and implementation. Spring.  
**Prerequisite:** GISC 2438.

GISC 3421  Visualization for GIS  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Basic elements of thematic cartography, cartographic theory, and cartographic projections. Integration of cartographic principles with GIS visualization. Principles of map design with GIS data. Spring.  
**Prerequisite:** GISC 2301.

GISC 4180  Geospatial Systems Internship  
1 Semester Credit Hour (1 Lecture Hour)  
Internship education requires work with approved Geospatial Systems related industry employer. Students provide weekly written reports and final presentation to program at the end of internship. Must have completed 60 semester hours before attempting. Fall, Spring, and Summer.  
**Prerequisite:** GISC 2470, MATH 3342 and GISC 3300.

GISC 4305  Legal Aspects of Spatial Information  
3 Semester Credit Hours (3 Lecture Hours)  
Legal ownership of spatial data and information collected in the public sector. Public access to large digital databases. Copyright law as applied to spatial data. Legal issues related to property boundaries, statutory boundaries, voter district boundaries, and jurisdictional boundaries. Government fees and charges for access to spatial data. Social and economic value of spatial data. Spring.  
**Prerequisite:** GISC 2470.

GISC 4315  Satellite Positioning  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
**Prerequisite:** GISC 2470 and MATH 2413.

GISC 4318  Cadastral Systems  
3 Semester Credit Hours (3 Lecture Hours)  
Land ownership recording systems used in Texas and U.S. Investigation and research for artificial and natural boundaries. Title searches at the county courthouse, title plants, and other sources for cadastral research. Riparian and littoral boundaries. Boundary marking and preparation of cadastral plans. Metes and bounds descriptions. Writing field notes. Urban and rural cadastral issues. Use of coordinate systems in cadastral mapping. Fall.  
**Prerequisite:** GISC 2470.

GISC 4320  Hydrography  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
Introduction to offshore and inshore hydrographic mapping. Tidal datums and their computation. Review of hydrographic and nautical charts. Electronic position finding and bathymetric data collection. Echo sounding, side scan sonar. Seafloor mapping and underwater locating. Beach (combined land and hydrographic) mapping. Spring even years.  
**Prerequisite:** GISC 2470 and MATH 2413.

GISC 4326  Geomatics Professional Practice  
3 Semester Credit Hours (3 Lecture Hours)  
An intensive one-week summer course presented by practicing geomatics professionals covering many of the aspects of operating a professional surveying practice in the State of Texas. Topics cover surveyor responsibility and liability, the surveyor in court, standards of practice, surveying mathematics, Texas coordinate system, celestial observations, and project control.  
**Prerequisite:** GISC 2250.

GISC 4335  Geospatial Systems III  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
Advanced spatial analysis and modeling in GIS. Topics covered include exploratory analysis of spatial data, network analysis, spatial point patterns, area objects and spatial autocorrelation, and spatial interpolation. Also covers new approaches to spatial analysis. Fall.  
**Prerequisite:** GISC 2301, 3421 and MATH 3342.

GISC 4340  Geospatial Computations and Adjustment  
3 Semester Credit Hours (3 Lecture Hours)  
**Prerequisite:** GISC 2470, MATH 3342 and GISC 3300.
GISC 4350  Field Camp II
3 Semester Credit Hours (6 Lab Hours)
A one-week field camp undertaking projects in cadastral, engineering, hydrographic, and geodetic positioning. Reduction of digital field data to produce final plans and reports. Taken during the senior year. Spring.
Prerequisite: GISC 3412, 4318 and 2250.

GISC 4351  Geospatial Systems Project
3 Semester Credit Hours
This course allows students to employ knowledge attained in other courses to create a project to spatially analyze information of interest to you and your field of study. Students will either undertake a GIS project to manage, analyze, and visualize spatial data, or a survey camp using remote sensing. May be repeated for credit. Spring.
Prerequisite: GISC 4350 or 4335.

GISC 4371  History of Land Ownership
3 Semester Credit Hours (3 Lecture Hours)
This course prepares students by providing proper knowledge of how land transferred throughout history and techniques for researching land ownership in the present. Students receive an overview of legal aspects and other topics relative to land issues applicable for Land Surveyors, Civil Engineers, and GIS professionals, among others. Spring.
Prerequisite: GISC 3412.

GISC 4431  Remote Sensing
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Provides the foundations to interpret, process, and apply remotely sensed data acquired by satellites and sub-orbital platforms (aircraft, UAVs) for mapping and analysis of our natural and built environment. Principles of electromagnetic energy-matter interaction, remote sensing systems and data characteristics, digital image processing, and information extraction methods will be covered. Included is treatment of: aerial photogrammetry; multispectral, thermal, and hyperspectral sensing; earth observation satellites; radar and lidar; emergent topics. Emphasis will be on their use for geospatial and environmental applications. Fall.
Prerequisite: (PHYS 2425, MATH 3342 and GISC 3300) or (MEEN 3310 and PHYS 2425).

GISC 4590  Selected Topics
1-5 Semester Credit Hours (1-5 Lecture Hours)
May be repeated for credit depending on topic. Variable content.

GISC 4596  Directed Independent Study
1-5 Semester Credit Hours
See College description. Offered on request. May be repeated for credit.

GISC 4690  Co-operative Education
1 Semester Credit Hour (1 Lecture Hour)
Co-op education allows students to take time off their full-time studies to gain valuable experience-based learning with employers willing to put on students for a semester (14 weeks), six months, or over the summer. The Co-op program allows students to maintain their full-time status as a student (continue health insurance coverage with parents, not effect student loan repayment, access to college activities, etc.) while undertaking work in their field of interest. The Co-op program is a partnership between the employer, the student, and the university.

### Geography, Minor

#### Program Description

**Introduction**

An Interdisciplinary Geography minor offers undergraduate students in-depth study of Geography. The purpose of the Geography minor is to give students an understanding of the breadth of the discipline of geography, the tools of geography, and an appreciation for human and environmental spatial interactions. Students electing a minor in Geography should, prior to completing 6 hours of course work for the program, contact the College of Science and Engineering to be assigned an advisor for the minor. The advisor will aid the student in filing a minor plan.

#### Program Requirements

The minor must contain at least 19 semester hours of course work from the below courses. All courses used to satisfy the minor requirement must be passed with a grade of "C" or better.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required Courses</strong></td>
<td></td>
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</tr>
<tr>
<td>GISC 1301</td>
<td>Physical Geography</td>
<td>3</td>
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<tr>
<td>GEOG 1300</td>
<td>World Geography</td>
<td>3</td>
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<tr>
<td>GISC 1470</td>
<td>Geospatial Systems I</td>
<td>4</td>
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<tr>
<td>Select one of the following:</td>
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<tr>
<td>MATH 3342</td>
<td>Applied Probability and Statistics **</td>
<td>3-4</td>
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<tr>
<td>MATH 1442</td>
<td>Statistics for Life **</td>
<td></td>
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<tr>
<td><strong>Electives</strong> F</td>
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<td></td>
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<tr>
<td>Select at least six hours of upper division electives of the following:</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>GISC 2301</td>
<td>Geospatial Systems II</td>
<td></td>
</tr>
<tr>
<td>GISC 3421</td>
<td>Visualization for GIS</td>
<td></td>
</tr>
<tr>
<td>GEOG 3331</td>
<td>Geography of North America</td>
<td></td>
</tr>
<tr>
<td>ESCI 1401</td>
<td>Environmental Science I: Intro to Environmental Science</td>
<td></td>
</tr>
<tr>
<td>ESCI 3403</td>
<td>Introduction to Meteorology</td>
<td></td>
</tr>
<tr>
<td>SOCI 3312</td>
<td>Racial and Ethnic Relations</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours** 19-20

* Online offering
^ Blended offering

#### Courses

**Geographic Information Science Courses**

GISC 1301  Physical Geography
3 Semester Credit Hours (3 Lecture Hours)
The goal of this course is to encourage you to think geographically, examining the interactions between physical systems and human activities. Introduction to topics covered include elements of Physical Geography (studies of atmosphere, ocean and land surface environments), Geographic Information Systems (computer systems that capture, analysis, and display of geographic information), and human environmental interactions. Cross listed with GEOG 1301.

TCCNS: GEOG 1301
GISC 1336 Digital Drafting and Design
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
An introduction to graphic and drafting principles and practices in surveying and mapping science. This course includes the development of the basic drafting skills needed to produce surveying plats and graphical presentations. The elements of descriptive geometry are addressed. A major component of the course is an introduction to the fundamentals of computer-aided drafting and design (CADD). Spring.

GISC 1470 Geospatial Systems I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to geographic information systems (GIS) and its theoretical foundations. Topics covered include vector and raster data models, acquisition and manipulation of data, cartography, current topics, data quality, and basic spatial analysis. Principles and uses of GIS software also covered. Fall and Spring.

GISC 2250 Field Camp I
2 Semester Credit Hours (6 Lab Hours)
A one-week field camp with intensive field data collection and computations. Traversing between control points. Digital contour data and leveling control. Detail spatial data by total station. Construction set out using total station and steel band. Taken during the sophomore or junior year. Spring.
Prerequisite: GISC 2470.

GISC 2301 Geospatial Systems II
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
An intermediate level course in the concepts and applications of geographic information systems (GIS). Topics covered include spatial database design and management, raster analysis, terrain mapping, analysis, and applications. Spring.
Prerequisite: (GISC 1470).

GISC 2438 Geospatial Software Systems I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the design and development of GIS software to solve spatial problems. Topics covered include programming basics, design and implementation common tasks in GIS applications. Fall.
Prerequisite: GISC 1470 and COSC 1435 or COSC 1330.

GISC 2470 Geospatial Plane Measurement I
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Historical introduction to field measurement and mapping; distance measurement using electronic distance meters; calibration and reduction. Leveling instruments; principles, construction, testing and adjustment; ancillary equipment. Optical and electronic theodolites. Traverse computations and adjustment. Coordinate systems. Map projections. Fall.
Prerequisite: MATH 1316 or 2413.

GISC 3300 Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications.
Prerequisite: MATH 2413 and 3342.

GISC 3325 Geodetic Science
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Prerequisite: GISC 2470.

GISC 3412 Geospatial Plane Measurement II
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Principles and reduction of observations and errors in spatial measurement. Techniques of horizontal and vertical angle measurement for precise positioning. Trigonometric heighting and vertical staff tacheometry. Setting out of structures. Design and computation of horizontal and vertical curves. Spring.
Prerequisite: (GISC 2470 and 1336 *). * May be taken concurrently.

GISC 3420 Geospatial Software Systems II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced programming course focusing on the design and implementation of GIS scripts and GIS web applications. Topics covered include GIS web applications, web mashups, GIS scripts, GIS tool creation, and advanced user interface design and implementation. Spring.
Prerequisite: GISC 2438.

GISC 3421 Visualization for GIS
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Basic elements of thematic cartography, cartographic theory, and cartographic projections. Integration of cartographic principles with GIS visualization. Principles of map design with GIS data. Spring.
Prerequisite: GISC 2301.

GISC 4180 Geospatial Systems Internship
1 Semester Credit Hour (1 Lecture Hour)
Internship education requires work with approved Geospatial Systems related industry employer. Students provide weekly written reports and final presentation to program at the end of internship. Must have completed 60 semester hours before attempting. Fall, Spring, and Summer.

GISC 4305 Legal Aspects of Spatial Information
3 Semester Credit Hours (3 Lecture Hours)
Legal ownership of spatial data and information collected in the public sector. Public access to large digital databases. Copyright law as applied to spatial data. Legal issues related to property boundaries, statutory boundaries, voter district boundaries, and jurisdictional boundaries. Government fees and charges for access to spatial data. Social and economic value of spatial data. Spring.
Prerequisite: GISC 2470.

GISC 4315 Satellite Positioning
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Prerequisite: GISC 2470 and MATH 2413.
GISC 4318  Cadastral Systems
3 Semester Credit Hours (3 Lecture Hours)
Land ownership recording systems used in Texas and U.S. Investigation and research for artificial and natural boundaries. Title searches at the county courthouse, title plants, and other sources for cadastral research. Riparian and littoral boundaries. Boundary marking and preparation of cadastral plans. Metes and bounds descriptions. Writing field notes. Urban and rural cadastral issues. Use of coordinate systems in cadastral mapping. Fall.
Prerequisite: GISC 2470.

GISC 4320  Hydrography
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Introduction to offshore and inshore hydrographic mapping. Tidal datums and their computation. Review of hydrographic and nautical charts. Electronic position finding and bathymetric data collection. Echo sounding, side scan sonar. Seafloor mapping and underwater locating. Beach (combined land and hydrographic) mapping. Spring even years.
Prerequisite: GISC 2470 and MATH 2413.

GISC 4326  Geomatics Professional Practice
3 Semester Credit Hours (3 Lecture Hours)
An intensive one-week summer course presented by practicing geomatics professionals covering many of the aspects of operating a professional surveying practice in the State of Texas. Topics cover surveyor responsibility and liability, the surveyor in court, standards of practice, surveying mathematics, Texas coordinate system, celestial observations, and project control.
Prerequisite: GISC 2250.

GISC 4335  Geospatial Systems III
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Advanced spatial analysis and modeling in GIS. Topics covered include exploratory analysis of spatial data, network analysis, spatial point patterns, area objects and spatial autocorrelation, and spatial interpolation. Also covers new approaches to spatial analysis. Fall.
Prerequisite: GISC 2301, 3421 and MATH 3342.

GISC 4340  Geospatial Computations and Adjustment
3 Semester Credit Hours (3 Lecture Hours)
Prerequisite: GISC 2470, MATH 3342 and GISC 3300.

GISC 4350  Field Camp II
3 Semester Credit Hours (6 Lab Hours)
A one-week field camp undertaking projects in cadastral, engineering, hydrographic, and geodetic positioning. Reduction of digital field data to produce final plans and reports. Taken during the senior year. Spring.
Prerequisite: GISC 3412, 4318 and 2250.

GISC 4351  Geospatial Systems Project
3 Semester Credit Hours
This course allows students to employ knowledge attained in other courses to create a project to spatially analyze information of interest to you and your field of study. Students will either undertake a GIS project to manage, analyze, and visualize spatial data, or a survey project in cadastral, topographic, engineering, hydrographic, or geodetic positioning survey. Spring.
Prerequisite: GISC 4350 or 4335.

GISC 4371  History of Land Ownership
3 Semester Credit Hours (3 Lecture Hours)
This course prepares students by providing proper knowledge of how land transferred throughout history and techniques for researching land ownership in the present. Students receive an overview of legal aspects and other topics relative to land issues applicable for Land Surveyors, Civil Engineers, and GIS professionals, among others. Spring.
Prerequisite: GISC 3412.

GISC 4431  Remote Sensing
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Provides the foundations to interpret, process, and apply remotely sensed data acquired by satellites and sub-orbital platforms (aircraft, UAVs) for mapping and analysis of our natural and built environment. Principles of electromagnetic energy-matter interaction, remote sensing systems and data characteristics, digital image processing, and information extraction methods will be covered. Included is treatment of: aerial photogrammetry; multispectral, thermal, and hyperspectral sensing; earth observation satellites; radar and lidar; emergent topics. Emphasis will be on their use for geospatial and environmental applications. Fall.
Prerequisite: (PHYS 2425, MATH 3342 and GISC 3300) or (MEEN 3310 and PHYS 2425).

GISC 4590  Selected Topics
1-5 Semester Credit Hours (1-5 Lecture Hours)
May be repeated for credit depending on topic. Variable content.

GISC 4596  Directed Independent Study
1-5 Semester Credit Hours
See College description. Offered on request. May be repeated for credit.

GISC 4690  Co-operative Education
1 Semester Credit Hour (1 Lecture Hour)
Co-op education allows students to take time off their full-time studies to gain valuable experience-based learning with employers willing to put on students for a semester (14 weeks), six months, or over the summer. The Co-op program allows students to maintain their full-time status as a student (continue health insurance coverage with parents, not effect student loan repayment, access to college activities, etc.) while undertaking work in their field of interest. The Co-op program is a partnership between the employer, the student, and the university.

Geography Courses
GEOG 1300  World Geography
3 Semester Credit Hours (3 Lecture Hours)
This is a survey course of the major regions of the world. The significant physical and cultural aspects of each region will be covered. TCCNS: GEOG 1303

GEOG 3331  Geography of North America
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the five themes in geography and uses these themes to analyze the relationships between the physical and cultural aspects of the United States. The textbook information will be supplemented with satellite images and visual materials to enhance the learning experience of the student.

Mechanical Engineering Technology, Minor

Program Requirements
This minor is designed to serve students who are interested in supplementing their major with technical skills in alternative energy
technologies. A minimum of 12 hours must be taken at Texas A&M University-Corpus Christi. For additional information contact an academic advisor in the College of Science and Engineering.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<td>ENTC 2326</td>
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<td>ENTC 3415</td>
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<td>ENTC 3320</td>
<td>Thermodynamics</td>
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</tr>
<tr>
<td>ENTC 4335</td>
<td>Energy Conversion</td>
<td>3</td>
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</table>

Total Hours: 19

Courses

**ENTC 2414 Circuit Analysis I**
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Fundamental aspects of DC circuit analysis: charge, voltage, resistance, current, and power; Ohm’s Law; methods of analysis; series and parallel circuits; Kirchhoff’s Voltage and Current Laws; Thevenin and Norton Theorems; electrical measurement instruments; and use of analysis software. Offered: Fall/Spring.
Prerequisite: MATH 2413.
Co-requisite: PHYS 2426, SMTE 0099.
TCCNS: ENGT 1401

**ENTC 2490 Special Topics**
1-4 Semester Credit Hours (1-4 Lecture Hours, 3 Lab Hours)
Subject matter variable. May be repeated for different topics.

**ENTC 3220 Thermal-Fluids Laboratory**
2 Semester Credit Hours (4 Lab Hours)
Application of measurement instrumentation and experimental techniques utilized in thermodynamics and fluid mechanics. Experiments and project in hydrostatics, hydrodynamics, and thermodynamics. Offered in Spring.
Prerequisite: (ENTC 3306 and 3320). *May be taken concurrently.
Co-requisite: SMTE 0099.

**ENTC 3302 Manufacturing Processes**
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to metal and non-metallic manufacturing processes; casting, forging, rolling, extrusion, sheet metal forming, cutting tools turning and milling operations, abrasive machining, welding and joining, powder compaction, molding, forming of plastics, surface treatment, human factors and safety. Offered: Fall/Spring.
Prerequisite: (ENGR 1312) and (ENTC 3308) and (ENTC 2326) or (ENGR 2326).
Co-requisite: SMTE 0099.

**ENTC 3306 Fluid Mechanics**
3 Semester Credit Hours (3 Lecture Hours)
Fluid properties, fluid statics, dynamics, and kinematics, conservation of energy and momentum incompressible, laminar and turbulent flow. Similarity and dimensional analysis, and viscous flow. Offered: Fall (Spring as needed).
Prerequisite: (ENTC 2326 or ENGR 2326).

**ENTC 3308 Strength of Materials**
3 Semester Credit Hours (3 Lecture Hours)
Concepts in strength of materials, stress, strain; torsion; deformation under load; direct, shear, and combined stresses; shear and moment diagrams; Mohr’s circle; stress concentrations, bending stresses and torsional shear stresses, deflection in beams and shafts; columns, connections, and pressure vessels. Offered: Fall (Spring as needed).
Prerequisite: (ENTC 2325 or ENGR 2325) and (ENTC 3410).

**ENTC 3320 Thermodynamics**
3 Semester Credit Hours (3 Lecture Hours)
Theory and application of energy methods in engineering; conservation of mass and energy; energy transfer by heat, work and mass; thermodynamic properties; analysis of open and closed systems; the second law of thermodynamics and entropy; gas, vapor and refrigeration cycles. Offered: Fall/Spring.
Prerequisite: PHYS 2425 and MATH 2414.

**ENTC 3323 Robotics and Automation**
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Automation in a manufacturing and assembly setting, material handling systems, remote guided vehicles, automated storage and retrieval systems, computer numerical machine tools, robotics. Offered: Spring.
Prerequisite: ENTC 3415.
Co-requisite: SMTE 0099.

**ENTC 3350 Human Factors Engineering**
3 Semester Credit Hours (3 Lecture Hours)
Application of human factors engineering principles utilized in mechanical system and product design. Overview of human characteristics and research and design techniques.
Prerequisite: (ENTC 3302 or 3302*).
*May be taken concurrently.

**ENTC 3455 Solid Modeling and Finite Elements**
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Use of computer aided design and solid modeling tools in engineering design and manufacturing including: solid modeling, stress, flow and heat transfer analysis using finite element methods, and rapid prototyping. Offered: Spring.
Prerequisite: ENTC 3308.

**ENTC 4210 Solid Mechanics Laboratory**
2 Semester Credit Hours (4 Lab Hours)
Prerequisite: (ENTC 4330*).
*May be taken concurrently.
Co-requisite: SMTE 0099.

**ENTC 4320 Heat Transfer**
3 Semester Credit Hours (3 Lecture Hours)
Fundamental study of convection, conduction and radiation as applied to heat transfer, heat exchangers, boilers, other heat transfer equipment. Offered: Spring.
Prerequisite: ENTC 3306 and 3320.

**ENTC 4322 Programmable Logic Controllers**
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to PLCs and their use in industrial automation. Topics include programming, counters, timers, interrupts, and process control applications. Offered: As needed.
Prerequisite: ENTC 3416.
Co-requisite: SMTE 0099.
ENTC 4330  Solid Mechanics
3 Semester Credit Hours (3 Lecture Hours)
Stress analysis of deformable bodies and mechanical elements; stress transformation; combined loading; failure modes; material failure theories; fracture and fatigue; deflections and instabilities; thick cylinders; curved beams; design of structural/mechanical members; design processes for shafts, bearings, springs, fasteners, and mechanical joints.
Prerequisite: ENTC 3308.

ENTC 4331  Unit Processes
3 Semester Credit Hours (3 Lecture Hours)
Principles and methods for staged separation processes including distillation, absorption and stripping, extraction, and adsorption systems.
Offered in Fall and Spring
Prerequisite: ENTC 4320.

ENTC 4332  Process Modeling and Control
3 Semester Credit Hours (3 Lecture Hours)
Prerequisite: ENTC 3306.

ENTC 4333  Chemical Reaction Engineering
3 Semester Credit Hours (3 Lecture Hours)
Fundamental principles of chemical reaction engineering and application to design and analysis of basic chemical reactors containing both homogeneous and heterogeneous reactions. Offered Fall and Spring.
Prerequisite: ENTC 4331 and 4332.

ENTC 4335  Energy Conversion
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Installation, design characteristics, operational performance, and maintenance of motors, turbines, pumps and compressors. Introduction to global energy concerns; fossil and nuclear fuels; energy consumption analysis; energy management and conservation techniques; renewable and alternative energy sources. Modern energy conversion devices such as fuel cells, photovoltaic cells, and micro-power turbines.
Prerequisite: ENTC 3320.

ENTC 4350  Capstone Projects
3 Semester Credit Hours (1 Lecture Hour, 5 Lab Hours)
This course allows students to employ the knowledge attained in other courses to implement (including building, testing, and documenting) the project approved in ENTC 4415 - Project Justification and Management, within budget and on schedule. Course requirements include a written report and oral presentations. Normally taken in the student's last semester.
Prerequisite: ENTC 4415.
Co-requisite: SMTE 0099.

ENTC 4360  Mechanical System Design
3 Semester Credit Hours (3 Lecture Hours)
Analysis, management and cost, team work, optimal design, and computer simulation of mechanical systems and components; Applications in fluid flow and heat transfer, machine elements, and stress analysis. Selected course topics are assigned as projects.
Prerequisite: ENTC 4330.

ENTC 4415  Project Justification and Management
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Foundations of engineering economy, cash flow and equivalence, and project justification. Introduction to project management, planning, scheduling, and control, use of project management software, GANTT charts, PERT charts, critical path. Students prepare proposals, including specifications, timelines, schedule, and budget, for projects to be implemented in ENTC 4350 - Capstone Projects.
Co-requisite: SMTE 0099.

ENTC 4446  Control Systems I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to control systems; open and feedback; Laplace transform and frequency response; control valves; electric motors; P, PI, and PID modes of control; analog and digital controllers Process characteristics; analysis of control systems; gain and phase margin; stability.
Prerequisite: ENTC 2414.

ENTC 4490  Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject material variable. May be repeated for different topics.

ENTC 4496  Directed Independent Study
1-4 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration, approval of supervising faculty and chairperson.

Course Description Information
Course Abbreviations or Prefixes
The University offers undergraduate courses in a variety of subjects. The following table lists

<table>
<thead>
<tr>
<th>Subject</th>
<th>Prefix</th>
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**Course Numbers**

Each course number includes a four-character prefix (identifying the discipline or subject) and a four-digit number. The first digit indicates the level of the course. The second digit usually indicates the credit hour value of the course. The third and fourth digits differentiate the courses in a particular discipline.

Courses numbered in the 1000 and 2000 series are lower-division (freshman or sophomore) courses. The University uses the Texas Common Course Numbering System as the basis for numbering most lower-division courses.

Courses numbered in the 3000 and 4000 series are upper-division (junior or senior) courses.

Courses numbered 5000 or higher are graduate courses. Courses at the 5000 level are open only to students with graduate status and senior undergraduates who meet specific criteria. (See “Graduate Study by Undergraduates” in the “Undergraduate Program (p. 43)s” section of this catalog.) Graduate courses are listed in the Graduate Catalog.

Courses at the 6000 level are open only to students admitted to a doctoral program, or with permission from the program coordinator.

Courses numbered in the 0000 series, such as 0399, are remedial or developmental courses that do not count toward graduation.
Prerequisite/Corequisite
A prerequisite is a requirement that must be completed before a course may be attempted. A corequisite is a requirement that must be completed at the same time a course is attempted.

List of Undergraduate Courses
Undergraduate courses are listed here. Course descriptions may include projected scheduling information. Individual courses, however, are subject to change or withdrawal at any time and may not be offered every semester or every year. When registering for courses, please consult the semester class schedule, a separate publication that provides specific course offering information for a particular semester or session.

Common Courses Designated in Course Descriptions
Freshman and sophomore-level courses that are considered equivalent to courses in the Texas Common Course Numbering System (TCCNS) are identified at the beginning of their course descriptions. The TCCNS prefix and number may be found immediately after the A&M-Corpus Christi prefix and number. Examples follow:

ACCT 2301 Financial Accounting (3 sch) (ACCT 2301)
COMM 1315 Public Speaking (3 sch) (SPCH 1315)

For a list of all common courses taught at A&M-Corpus Christi, see the appendix titled “Lower-Division Transfer Courses: Common Courses (p. 685).”

Online and Blended Courses
Courses that are offered online or blended will have an * or ^ after the title.

* - indicate online offerings
^ - indicate blended offerings

For example:

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<tr>
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<tr>
<td>BUSI 3315</td>
<td>Statistics for Life ^</td>
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<td>MATH 1442</td>
<td>Statistics for Life **</td>
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For list of undergraduate courses see here (http://catalog.tamucc.edu/undergraduate/courses-az/UG-Courses.pdf).

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- Arabic (ARAB) (http://catalog.tamucc.edu/undergraduate/courses-az/arab/)
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- Biology (BIOL) (p. 577)
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- Business Law (BLAW) (p. 584)

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- Clinical Lab Science (CLSC) (p. 588)
- Communication (COMM) (p. 589)
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- Educational Curriculum & Instr (EDCI) (p. 600)
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- German (GERM) (p. 618)
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H
- Health Care Administration (HCAD) (p. 619)
- Health Education (HLTH) (p. 621)
- Health Sciences (HLSA) (p. 621)
- History (HIST) (p. 622)
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Accounting (ACCT)
ACCT 2301 Financial Accounting
3 Semester Credit Hours (3 Lecture Hours)
Financial accounting concepts and their application in the accounting
process for business organizations including financial statement
preparation, analysis and communication of financial information.
TCCNS: ACCT 2301

ACCT 2302 Managerial Accounting
3 Semester Credit Hours (3 Lecture Hours)
The use of accounting information as an aid to management decision
making, including performance measurement and budgets.
Prerequisite: ACCT 2301.
TCCNS: ACCT 2302

ACCT 3311 Intermediate Accounting I
3 Semester Credit Hours (3 Lecture Hours)
An intensive study of the balance sheet accounts and the related income
statement accounts. It exposes the student to the various Accounting
Principles Board opinions and Financial Accounting Standards Board
statements, and International Financial Reporting standards, as these
publications affect the various accounts and transactions. It covers the
various working capital accounts and operational assets.
Prerequisite: (ACCT 2301 and 2302).

ACCT 3312 Intermediate Accounting II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of Intermediate Accounting I involving current and non-
current liabilities and owner equity accounts, the Statement of Cash
Flows, deferred income tax, financial statement analysis and several
special problem areas.
Prerequisite: (ACCT 3311).

ACCT 3314 Cost Accounting
3 Semester Credit Hours (3 Lecture Hours)
A study of procedures and concepts in allocating the costs of firm
inputs to outputs, determination and use of standard costs in the control
function, profit planning and control techniques used in management
decision-making.
Prerequisite: (ACCT 2301 and 2302).

ACCT 3315 Multinational Entities: Accounting and Consolidations
3 Semester Credit Hours (3 Lecture Hours)
A study of the similarities and differences between U.S. and other
countries’ accounting and reporting procedures. Basic consolidation of
international segments will be covered. Use of spreadsheets and web
technology required.
Prerequisite: (ACCT 2302).

ACCT 3316 Governmental and Not-for-Profit Accounting
3 Semester Credit Hours (3 Lecture Hours)
A study of fund accounting used in governmental entities and non-profit
organizations. Emphasis on budgetary and fund accounts.
Prerequisite: (ACCT 2301 and 2302).
ACCT 3317 Oil, Gas, & Energy Accounting  
3 Semester Credit Hours (3 Lecture Hours)  
This course covers the basic principles of oil and gas accounting. Course topics include upstream oil and gas operations, successful efforts accounting, full cost pool accounting, accounting for production, exploration and construction, joint interest accounting, international operations, and taxation and analysis of oil and gas financial statements.  
Prerequisite: (ACCT 3311).

ACCT 3321 Federal Income Tax I  
3 Semester Credit Hours (3 Lecture Hours)  
Emphasizes the role of taxation in the business decision-making process. The course introduces the tools to conduct basic tax research and planning.  
Prerequisite: (ACCT 2301 and 2302).

ACCT 3322 Federal Income Tax II  
3 Semester Credit Hours (3 Lecture Hours)  
Examines additional, more complex topics in business decision-making, tax research, and tax planning.  
Prerequisite: (ACCT 3321).

ACCT 3340 Fraud Examination  
3 Semester Credit Hours (3 Lecture Hours)  
This course covers the basic principles of fraud examination. Course topics include the behavioral aspects of fraud and common fraud schemes including skimming, larceny, check tampering, register disbursement schemes, billing schemes, payroll and expense reimbursement, non-cash misappropriations, corruption and bribery, and fraudulent financial statements.  
Prerequisite: (ACCT 2301 and 2302).

ACCT 4311 Auditing Principles and Procedures  
3 Semester Credit Hours (3 Lecture Hours)  
Auditing principles and techniques underlying the audit process; procedures used in conducting external audits, reviews and compilations.  
Prerequisite: (ACCT 3312).

ACCT 4314 Advanced Accounting Problems  
3 Semester Credit Hours (3 Lecture Hours)  
A study of advanced accounting topics, including leases, pensions, consolidations, asset retirement obligations, accounting for not-for-profit organizations and government entities and other special problem areas.  
Prerequisite: (ACCT 3312).

ACCT 4345 Ethics for Texas CPA Candidates and Business Executives  
3 Semester Credit Hours (3 Lecture Hours)  
This course will cover ethical theory, ethical reasoning, integrity, objectivity, independence and other core values and regulatory requirements associated with the practice of professional accounting and decision making of other executives, with an emphasis on corporate governance in the post-Sarbanes-Oxley regulatory environment. This course satisfies the ethics requirement of the Texas State Board of Public Accountancy (TSBPA); however, it does not count for advanced accounting hours required to sit for the CPA exam. Students who receive credit for ACCT 4345 cannot also receive credit for ACCT 5345.

ACCT 4355 Accounting Information Systems  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the role of accounting information systems and related subsystems in both for profit and not-for-profit entities. The relationship of accounting information systems to other systems, including management information systems, is addressed. Concepts are reinforced by the completion of computer-based projects.  
Prerequisite: (ACCT 2301, 2302 and MISY 2305).

ACCT 4390 Current Topics in Accounting  
3 Semester Credit Hours (3 Lecture Hours)  
Selected topics for special study related to accounting functions, processes or issues. May be repeated for credit when topics vary.

ACCT 4396 Directed Individual Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Individual supervised study and completion of a final report.

ACCT 4398 Accounting Internship  
3 Semester Credit Hours (3 Lecture Hours)  
Supervised full-time or part-time, off-campus training in public accounting, industry, or government. Oral and written reports required.

Applied Music (MUAP)

MUAP 1101 SECONDARY VIOLIN STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1102 SECONDARY VIOLIN STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1103 PRINCIPAL VIOLIN STUDIO  
1 Semester Credit Hour (1 Lecture Hour)  
NCD.

MUAP 1104 PRINCIPAL VIOLIN STUDIO  
1 Semester Credit Hour (1 Lecture Hour)  
NCD.

MUAP 1105 SECONDARY VIOLONCELLO STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1106 SECONDARY VIOLONCELLO STUDIO  
1 Semester Credit Hour (1 Lecture Hour)  
NCD.

MUAP 1107 PRINCIPAL VIOLA STUDIO  
1 Semester Credit Hour (1 Lecture Hour)  
NCD.

MUAP 1108 PRINCIPAL VIOLA STUDIO  
1 Semester Credit Hour (1 Lecture Hour)  
NCD.

MUAP 1109 SECONDARY VIOLONCELLO STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1110 SECONDARY VIOLONCELLO STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1111 PRINCIPAL VIOLONCELLO STUDIO  
1 Semester Credit Hour (1 Lecture Hour)  
NCD.

MUAP 1112 PRINCIPAL VIOLONCELLO STUDIO  
1 Semester Credit Hour (1 Lecture Hour)  
NCD.

MUAP 1113 SECONDARY DOUBLE BASS STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1114 SECONDARY DOUBLE BASS STUDIO  
1 Semester Credit Hour (1 Lecture Hour)  
NCD.

MUAP 1115 PRINCIPAL DOUBLE BASS STUDIO  
1 Semester Credit Hour (1 Lecture Hour)  
NCD.

MUAP 1116 PRINCIPAL DOUBLE BASS STUDIO  
1 Semester Credit Hour (1 Lecture Hour)  
NCD.
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MUAP 1159  PRINCIPAL PERCUSSION STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1160  PRINCIPAL PERCUSSION STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1161  SECONDARY GUITAR STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1162  SECONDARY GUITAR STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1163  PRINCIPAL GUITAR STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1164  PRINCIPAL GUITAR STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1165  SECONDARY ORGAN STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1166  SECONDARY ORGAN STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1167  PRINCIPAL ORGAN STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1168  PRINCIPAL ORGAN STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1169  SECONDARY PIANO STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1170  SECONDARY PIANO STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1171  PRINCIPAL PIANO STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1172  PRINCIPAL PIANO STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1181  SECONDARY VOICE STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1182  SECONDARY VOICE STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1183  PRINCIPAL VOICE STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1184  PRINCIPAL VOICE STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1185  FIRST YEAR PRINCIPAL STUDIO I  
1 Semester Credit Hour (1 Lecture Hour)  
The second semester of applied music studio for all students pursuing any of the three music degrees. Offered in voice, guitar, keyboard, percussion, and most wind instruments. Normally unavailable to students not majoring in music. One hour of private instruction and on-hour studio class each week.

MUAP 1186  FIRST YEAR PRINCIPAL STUDIO II  
1 Semester Credit Hour (1 Lecture Hour)  
The second semester of applied music studio for all students pursuing any of the three music degrees. Offered in voice, guitar, keyboard, percussion, and most wind instruments. Normally unavailable to students not majoring in music. One hour of private instruction and on-hour studio class each week.

MUAP 1187  SECONDARY JAZZ GUITAR STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1188  SECONDARY JAZZ GUITAR STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 1189  PRINCIPAL JAZZ GUITAR STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1190  PRINCIPAL JAZZ GUITAR STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 1211  PRINCIPAL VIOLONCELLO STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 1212  PRINCIPAL VIOLONCELLO STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 2101  SECONDARY VIOLIN STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 2102  SECONDARY VIOLIN STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 2103  PRINCIPAL VIOLIN STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 2104  PRINCIPAL VIOLIN STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 2105  SECONDARY VIOLA STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 2106  SECONDARY VIOLA STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 2107  PRINCIPAL VIOLA STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 2108  PRINCIPAL VIOLA STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 2109  SECONDARY VIOLONCELLO STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 2110  SECONDARY VIOLONCELLO STUDIO  
1 Semester Credit Hour  
NCD.

MUAP 2111  PRINCIPAL VIOLONCELLO STUDIO  
1 Semester Credit Hour (1 Lecture Hour)

MUAP 2112  PRINCIPAL VIOLONCELLO STUDIO  
1 Semester Credit Hour (1 Lecture Hour)
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MUAP 2159 PRINCIPAL PERCUSSION STUDIO  
1 Semester Credit Hour (1 Lecture Hour) 
MUAP 2160 PRINCIPAL PERCUSSION STUDIO  
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MUAP 2162 SECONDARY GUITAR STUDIO  
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MUAP 2163 PRINCIPAL GUITAR STUDIO  
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MUAP 2164 PRINCIPAL GUITAR STUDIO  
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MUAP 2168 PRINCIPAL ORGAN STUDIO  
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MUAP 2172 PRINCIPAL PIANO STUDIO  
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MUAP 2182 SECONDARY VOICE STUDIO  
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MUAP 2183 PRINCIPAL VOICE STUDIO  
1 Semester Credit Hour (1 Lecture Hour) 
MUAP 2184 PRINCIPAL VOICE STUDIO  
1 Semester Credit Hour (1 Lecture Hour) 
MUAP 2185 BA PRINCIPAL STUDIO  
1 Semester Credit Hour (1 Lecture Hour) 
The third semester of applied music studio for students pursuing the Bachelor of Arts in Music degree. Offered in voice, guitar, keyboard, percussion, and most wind instruments. Normally unavailable to students not majoring in music. One hour of private instruction and a one-hour studio class each week. 
MUAP 2186 BA PRINCIPAL STUDIO  
1 Semester Credit Hour (1 Lecture Hour) 
The fourth semester of applied music studio for students pursuing the Bachelor of Arts in Music degree. Offered in voice, guitar, keyboard, percussion, and most wind instruments. Normally unavailable to students not majoring in music. One hour of private instruction and a one-hour studio class each week. 
MUAP 2187 SECONDARY JAZZ GUITAR STUDIO  
1 Semester Credit Hour 
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MUAP 2188 SECONDARY JAZZ GUITAR STUDIO  
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MUAP 2189 PRINCIPAL JAZZ GUITAR STUDIO  
1 Semester Credit Hour (1 Lecture Hour) 
MUAP 2190 PRINCIPAL JAZZ GUITAR STUDIO  
1 Semester Credit Hour (1 Lecture Hour) 
MUAP 2252 PRINCIPAL EUPHONIUM STUDIO  
2 Semester Credit Hours 
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MUAP 2303 PRINCIPAL VIOLIN STUDIO  
3 Semester Credit Hours 
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MUAP 2304 PRINCIPAL VIOLIN STUDIO  
3 Semester Credit Hours 
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MUAP 2307 PRINCIPAL VIOLA STUDI  
3 Semester Credit Hours 
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MUAP 2308 PRINCIPAL VIOLA STUDIO  
3 Semester Credit Hours (3 Lecture Hours) 
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MUAP 2311 PRINCIPAL VIOLONCELLO STUDIO  
3 Semester Credit Hours 
NCD. 
MUAP 2312 PRINCIPAL VIOLONCELLO STUDIO  
3 Semester Credit Hours 
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MUAP 2315 PRINCIPAL DOUBLE BASS STUDIO  
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MUAP 2316 PRINCIPAL DOUBLE BASS STUDIO  
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MUAP 2319 PRINCIPAL FLUTE STUDIO  
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MUAP 3212 PRINCIPAL VIOLONCELLO STUDIO  
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MUAP 3215 PRINCIPAL DOUBLE BASS STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 3216 PRINCIPAL DOUBLE BASS STUDIO  
2 Semester Credit Hours  
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MUAP 3219 PRINCIPAL FLUTE STUDIO  
2 Semester Credit Hours  
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MUAP 3220 PRINCIPAL FLUTE STUDIO  
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MUAP 3223 PRINCIPAL OBOE STUDIO  
2 Semester Credit Hours  
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MUAP 3224 PRINCIPAL OBOE STUDIO  
2 Semester Credit Hours  
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MUAP 3227 PRINCIPAL BASSOON STUDIO  
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MUAP 3228 PRINCIPAL BASSOON STUDIO  
2 Semester Credit Hours  
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MUAP 3231 PRINCIPAL CLARINET STUDIO  
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MUAP 3232 PRINCIPAL CLARINET STUDIO  
2 Semester Credit Hours  
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MUAP 3235 PRINCIPAL SAXOPHONE STUDIO  
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MUAP 3236 PRINCIPAL SAXOPHONE STUDIO  
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MUAP 3239 PRINCIPAL TRUMPET STUDIO  
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MUAP 3240 PRINCIPAL TRUMPET STUDIO  
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MUAP 3243 PRINCIPAL HORN STUDIO  
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MUAP 3244 PRINCIPAL HORN STUDIO  
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MUAP 3247 PRINCIPAL TROMBONE STUDIO  
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MUAP 3248 PRINCIPAL TROMBONE STUDIO  
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MUAP 3251 PRINCIPAL EUPHONIUM STUDIO  
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MUAP 3252 PRINCIPAL EUPHONIUM STUDIO  
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MUAP 3255 PRINCIPAL TUBA STUDIO  
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MUAP 3256 PRINCIPAL TUBA STUDIO  
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MUAP 3259 PRINCIPAL PERCUSSION STUDIO  
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MUAP 3260 PRINCIPAL PERCUSSION STUDIO  
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MUAP 3263 PRINCIPAL GUITAR STUDIO  
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MUAP 3264 PRINCIPAL GUITAR STUDIO  
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MUAP 3268 PRINCIPAL ORGAN STUDIO  
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MUAP 3271 PRINCIPAL PIANO STUDIO  
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MUAP 3272 PRINCIPAL PIANO STUDIO  
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MUAP 3283 PRINCIPAL VOICE STUDIO  
2 Semester Credit Hours  
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MUAP 3284 PRINCIPAL VOICE STUDIO  
2 Semester Credit Hours  
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MUAP 3287 BA PRINCIPAL STUDIO  
2 Semester Credit Hours (2 Lecture Hours)  
The fifth semester of applied music studio for students pursuing the Bachelor of Arts in Music degree. Offered in voice, guitar, keyboard, percussion, and most wind instruments. Normally unavailable to students not majoring in music. One hour of private instruction and a one-hour studio class each week.
The sixth semester of applied music studio for students pursuing the Bachelor of Arts in Music degree. Offered in voice, guitar, keyboard, percussion, and most wind instruments. Normally unavailable to students not majoring in music. One hour of private instruction and a one-hour studio class each week.

MUAP 3289 PRINCIPAL JAZZ GUITAR STUDIO
2 Semester Credit Hours
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MUAP 3290 PRINCIPAL JAZZ GUITAR STUDIO
2 Semester Credit Hours
NCD.

MUAP 3303 PRINCIPAL VIOLIN STUDIO
3 Semester Credit Hours
NCD.

MUAP 3304 PRINCIPAL VIOLIN STUDIO
3 Semester Credit Hours
NCD.

MUAP 3307 PRINCIPAL VIOLA STUDIO
3 Semester Credit Hours
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MUAP 3308 PRINCIPAL VIOLA STUDIO
3 Semester Credit Hours
NCD.

MUAP 3311 PRINCIPAL VIOLONCELLO STUDIO
3 Semester Credit Hours
NCD.

MUAP 3312 PRINCIPAL VIOLONCELLO STUDIO
3 Semester Credit Hours
NCD.

MUAP 3315 PRINCIPAL DOUBLE BASS STUDIO
3 Semester Credit Hours
NCD.

MUAP 3316 PRINCIPAL DOUBLE BASS STUDIO
3 Semester Credit Hours
NCD.

MUAP 3319 PRINCIPAL FLUTE STUDIO
3 Semester Credit Hours
NCD.

MUAP 3320 PRINCIPAL FLUTE STUDIO
3 Semester Credit Hours
NCD.

MUAP 3323 PRINCIPAL OBOE STUDIO
3 Semester Credit Hours
NCD.

MUAP 3324 PRINCIPAL OBOE STUDIO
3 Semester Credit Hours
NCD.

MUAP 3327 PRINCIPAL BASSOON STUDIO
3 Semester Credit Hours
NCD.

MUAP 3328 PRINCIPAL BASSOON STUDIO
3 Semester Credit Hours
NCD.

MUAP 3331 PRINCIPAL CLARINET STUDIO
3 Semester Credit Hours
NCD.

MUAP 3332 PRINCIPAL CLARINET STUDIO
3 Semester Credit Hours
NCD.

MUAP 3335 PRINCIPAL SAXOPHONE STUDIO
3 Semester Credit Hours
NCD.

MUAP 3336 PRINCIPAL SAXOPHONE STUDIO
3 Semester Credit Hours
NCD.

MUAP 3339 PRINCIPAL TRUMPET STUDIO
3 Semester Credit Hours
NCD.

MUAP 3340 PRINCIPAL TRUMPET STUDIO
3 Semester Credit Hours
NCD.

MUAP 3343 PRINCIPAL HORN STUDIO
3 Semester Credit Hours
NCD.

MUAP 3344 PRINCIPAL HORN STUDIO
3 Semester Credit Hours
NCD.

MUAP 3347 PRINCIPAL TROMBONE STUDIO
3 Semester Credit Hours
NCD.

MUAP 3348 PRINCIPAL TROMBONE STUDIO
3 Semester Credit Hours
NCD.

MUAP 3351 PRINCIPAL EUPHONIUM STUDIO
3 Semester Credit Hours
NCD.

MUAP 3352 PRINCIPAL EUPHONIUM STUDIO
3 Semester Credit Hours
NCD.

MUAP 3355 PRINCIPAL TUBA STUDIO
3 Semester Credit Hours
NCD.

MUAP 3356 PRINCIPAL TUBA STUDIO
3 Semester Credit Hours
NCD.

MUAP 3359 PRINCIPAL PERCUSSION STUDIO
3 Semester Credit Hours
NCD.

MUAP 3360 PRINCIPAL PERCUSSION STUDIO
3 Semester Credit Hours
NCD.
MUAP 3367 PRINCIPAL ORGAN STUDIO
3 Semester Credit Hours
NCD.

MUAP 3368 PRINCIPAL ORGAN STUDIO
3 Semester Credit Hours
NCD.

MUAP 3371 PRINCIPAL PIANO STUDIO
3 Semester Credit Hours
NCD.

MUAP 3372 PRINCIPAL PIANO STUDIO
3 Semester Credit Hours
NCD.

MUAP 3383 PRINCIPAL VOICE STUDIO
3 Semester Credit Hours
NCD.

MUAP 3384 PRINCIPAL VOICE STUDIO
3 Semester Credit Hours
NCD.

MUAP 4101 SECONDARY VIOLIN STUDIO
1 Semester Credit Hour
NCD.

MUAP 4102 SECONDARY VIOLIN STUDIO
1 Semester Credit Hour
NCD.

MUAP 4105 SECONDARY VIOLA STUDIO
1 Semester Credit Hour
NCD.

MUAP 4106 SECONDARY VIOLA STUDIO
1 Semester Credit Hour
NCD.

MUAP 4109 SECONDARY VIOLONCELLO STUDIO
1 Semester Credit Hour
NCD.

MUAP 4110 SECONDARY VIOLONCELLO STUDIO
1 Semester Credit Hour
NCD.

MUAP 4113 SECONDARY DOUBLE BASS STUDIO
1 Semester Credit Hour
NCD.

MUAP 4114 SECONDARY DOUBLE BASS STUDIO
1 Semester Credit Hour
NCD.

MUAP 4117 SECONDARY FLUTE STUDIO
1 Semester Credit Hour
NCD.

MUAP 4118 SECONDARY FLUTE STUDIO
1 Semester Credit Hour
NCD.

MUAP 4121 SECONDARY OBOE STUDIO
1 Semester Credit Hour
NCD.

MUAP 4122 SECONDARY OBOE STUDIO
1 Semester Credit Hour
NCD.

MUAP 4125 SECONDARY BASSOON STUDIO
1 Semester Credit Hour
NCD.

MUAP 4126 SECONDARY BASSOON STUDIO
1 Semester Credit Hour
NCD.

MUAP 4129 SECONDARY CLARINET STUDIO
1 Semester Credit Hour
NCD.

MUAP 4130 SECONDARY CLARINET STUDIO
1 Semester Credit Hour
NCD.

MUAP 4133 SECONDARY SAXOPHONE STUDIO
1 Semester Credit Hour
NCD.

MUAP 4134 SECONDARY SAXOPHONE STUDIO
1 Semester Credit Hour
NCD.

MUAP 4137 SECONDARY TRUMPET STUDIO
1 Semester Credit Hour (1 Lecture Hour)
NCD.

MUAP 4138 SECONDARY TRUMPET STUDIO
1 Semester Credit Hour
NCD.

MUAP 4141 SECONDARY HORN STUDIO
1 Semester Credit Hour
NCD.

MUAP 4142 SECONDARY HORN STUDIO
1 Semester Credit Hour
NCD.

MUAP 4145 SECONDARY TROMBONE STUDIO
1 Semester Credit Hour
NCD.

MUAP 4146 SECONDARY TROMBONE STUDIO
1 Semester Credit Hour
NCD.

MUAP 4149 SECONDARY EUPHONIUM STUDIO
1 Semester Credit Hour
NCD.

MUAP 4150 SECONDARY EUPHONIUM STUDIO
1 Semester Credit Hour
NCD.

MUAP 4153 SECONDARY TUBA STUDIO
1 Semester Credit Hour
NCD.

MUAP 4154 SECONDARY TUBA STUDIO
1 Semester Credit Hour
NCD.

MUAP 4157 SECONDARY PERCUSSION STUDIO
1 Semester Credit Hour
NCD.

MUAP 4158 SECONDARY PERCUSSION STUDIO
1 Semester Credit Hour
NCD.
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<th>Course Title</th>
<th>Credit Hours</th>
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<td>SECONDARY GUITAR STUDIO</td>
<td>1 Semester</td>
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<td>MUAP 4162</td>
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MUAP 4255  PRINCIPAL TUBA STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4256  PRINCIPAL TUBA STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4259  PRINCIPAL PERCUSSION STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4260  PRINCIPAL PERCUSSION STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4263  PRINCIPAL GUITAR STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4264  PRINCIPAL GUITAR STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4267  PRINCIPAL ORGAN STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4268  PRINCIPAL ORGAN STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4271  PRINCIPAL PIANO STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4272  PRINCIPAL PIANO STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4283  PRINCIPAL VOICE STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4284  PRINCIPAL VOICE STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4287  BA PRINCIPAL STUDIO  
2 Semester Credit Hours (2 Lecture Hours)  
The seventh semester of applied music studio for students pursuing the Bachelor of Arts in Music degree. Offered in voice, guitar, keyboard, percussion, and most wind instruments. Normally unavailable to students not majoring in music. One hour of private instruction and a one-hour studio class each week.

MUAP 4288  BA PRINCIPAL STUDIO  
2 Semester Credit Hours (2 Lecture Hours)  
BA PRINCIPAL STUDIO The eighth semester of applied music studio for students pursuing the Bachelor of Arts in Music degree. Offered in voice, guitar, keyboard, percussion, and most wind instruments. Normally unavailable to students not majoring in music. One hour of private instruction and a one-hour studio class each week.

MUAP 4289  PRINCIPAL JAZZ GUITAR STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4290  PRINCIPAL JAZZ GUITAR STUDIO  
2 Semester Credit Hours  
NCD.

MUAP 4303  PRINCIPAL VIOLIN STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4304  PRINCIPAL VIOLIN STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4307  PRINCIPAL VIOLA STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4308  PRINCIPAL VIOLA STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4311  PRINCIPAL VIOLONCELLO STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4312  PRINCIPAL VIOLONCELLO STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4315  PRINCIPAL DOUBLE BASS STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4316  PRINCIPAL DOUBLE BASS STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4319  PRINCIPAL FLUTE STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4320  PRINCIPAL FLUTE STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4323  PRINCIPAL OBOE STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4324  PRINCIPAL OBOE STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4327  PRINCIPAL BASSOON STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4328  PRINCIPAL BASSOON STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4331  PRINCIPAL CLARINET STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4332  PRINCIPAL CLARINET STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4335  PRINCIPAL SAXOPHONE STUDIO  
3 Semester Credit Hours  
NCD.

MUAP 4336  PRINCIPAL SAXOPHONE STUDIO  
3 Semester Credit Hours  
NCD.
MUAP 4337 PRINCIPAL BASSOON
3 Semester Credit Hours
MUAP 4338 PRINCIPAL BASSOON
3 Semester Credit Hours
MUAP 4339 PRINCIPAL TRUMPET STUDIO
3 Semester Credit Hours
MUAP 4340 PRINCIPAL TRUMPET STUDIO
3 Semester Credit Hours
MUAP 4343 PRINCIPAL HORN STUDIO
3 Semester Credit Hours
MUAP 4344 PRINCIPAL HORN STUDIO
3 Semester Credit Hours
MUAP 4347 PRINCIPAL TROMBONE STUDIO
3 Semester Credit Hours
MUAP 4348 PRINCIPAL TROMBONE STUDIO
3 Semester Credit Hours
MUAP 4351 PRINCIPAL EUPHONIUM STUDIO
3 Semester Credit Hours
MUAP 4352 PRINCIPAL EUPHONIUM STUDIO
3 Semester Credit Hours
MUAP 4355 PRINCIPAL TUBA STUDIO
3 Semester Credit Hours
MUAP 4356 PRINCIPAL TUBA STUDIO
3 Semester Credit Hours
MUAP 4359 PRINCIPAL PERCUSSION STUDIO
3 Semester Credit Hours
MUAP 4360 PRINCIPAL PERCUSSION STUDIO
3 Semester Credit Hours
MUAP 4363 PRINCIPAL GUITAR STUDIO
3 Semester Credit Hours
MUAP 4364 PRINCIPAL GUITAR STUDIO
3 Semester Credit Hours
MUAP 4367 PRINCIPAL ORGAN STUDIO
3 Semester Credit Hours
MUAP 4368 PRINCIPAL ORGAN STUDIO
3 Semester Credit Hours
MUAP 4371 PRINCIPAL PIANO STUDIO
3 Semester Credit Hours
MUAP 4372 PRINCIPAL PIANO STUDIO
3 Semester Credit Hours
MUAP 4383 PRINCIPAL VOICE STUDIO
3 Semester Credit Hours
MUAP 4384 PRINCIPAL VOICE STUDIO
3 Semester Credit Hours

Art (ARTS)

ARTS 1301 Art and Society
3 Semester Credit Hours (3 Lecture Hours)
Designated for non-art majors. Establishes a working vocabulary for evaluating works of art in various media. Objects are interpreted in terms of their specific historical contexts and the changing relationships between art and society. This course does not fulfill the art history requirement for art majors.

TCCNS: ARTS 1301

ARTS 1303 Art History Survey I
3 Semester Credit Hours (3 Lecture Hours)
An examination of painting, sculpture, architecture, and other arts from the ancient through medieval periods.

TCCNS: ARTS 1303

ARTS 1304 Art History Survey II
3 Semester Credit Hours (3 Lecture Hours)
A further examination of painting, sculpture, architecture, and other arts from the Renaissance through Modern periods. This course satisfies the university core curriculum requirement in fine arts.

Prerequisite: ARTS 1303.

TCCNS: ARTS 1304

ARTS 1311 Design I
3 Semester Credit Hours
A studio course concerning the fundamentals of art with emphasis on two-dimensional concepts.

TCCNS: ARTS 1311

ARTS 1312 Design II
3 Semester Credit Hours
A studio course concerning the fundamentals of art with emphasis on three-dimensional concepts. This 3D foundations course utilizes creative problem-solving strategies and basic sculpture tools to explore spatial relationships and to create sculptural forms in space.

Co-requisite: SMTE 0097.

TCCNS: ARTS 1312

ARTS 1316 Drawing I
3 Semester Credit Hours (3 Lecture Hours)
A studio course investigating a variety of media techniques, including their descriptive and expressive possibilities.

TCCNS: ARTS 1316

ARTS 1317 Drawing II
3 Semester Credit Hours
A further investigation of media techniques explored in Drawing I, including their descriptive and expressive possibilities.

Prerequisite: ARTS 1316.

Co-requisite: SMTE 0097.

TCCNS: ARTS 1317
ARTS 2311  Design III: Color
3 Semester Credit Hours
Investigation of the properties of color. Color is studied and applied to studio-oriented design assignments.
Co-requisite: SMTE 0097.

ARTS 2316  Painting I
3 Semester Credit Hours (3 Lecture Hours)
A studio course exploring the potentials of painting media.
Prerequisite: ARTS 1316.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2316

ARTS 2323  Drawing III
3 Semester Credit Hours
A studio course continuing the investigation of media and techniques explored in Drawing I and Drawing II. Students investigate how formal aspects and selected media along with conceptual choices create specific visual ideas.
Prerequisite: ARTS 1317.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2323

ARTS 2326  Sculpture I
3 Semester Credit Hours
An introductory studio course exploring sculptural approaches, materials, concepts, and technical processes. Materials include wood, plaster, steel, and plastics.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2326

ARTS 2333  Printmaking I
3 Semester Credit Hours
An introductory studio course in basic printmaking processes and techniques.
Prerequisite: ARTS 1316 or 1311.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2333

ARTS 2346  Ceramics I
3 Semester Credit Hours (3 Lecture Hours)
An introductory studio course in basic ceramic processes.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2346

ARTS 2356  Photography I
3 Semester Credit Hours
This course is an introduction to digital photography capture, processing, and basic editing software. While focusing on the fundamentals of digital photography and printing techniques, it will introduce students to the theory and practice of photography and assist them in producing a conceptually devised and technically consistent portfolio.
Co-requisite: SMTE 0097.
TCCNS: ARTS 2356

ARTS 2367  Watercolor
3 Semester Credit Hours (3 Lecture Hours)
A studio course exploring techniques in water-base media.
Co-requisite: SMTE 0097.

ARTS 3301  Life Drawing
3 Semester Credit Hours
Drawing from the model using a variety of techniques and media.
Prerequisite: ARTS 1317.
Co-requisite: SMTE 0097.

ARTS 3302  Screen Printing
3 Semester Credit Hours
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to screenprinting.
Prerequisite: ARTS 1311 or 1316.
Co-requisite: SMTE 0097.

ARTS 3303  Intermediate Painting
3 Semester Credit Hours (3 Lecture Hours)
Explores the issues of content, imagery, application, and influences of master artists.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.

ARTS 3304  Fabrication Sculpture
3 Semester Credit Hours
Building upon introductory skills, this course explores construction and fabrication in sculpture focusing on a primary material for the semester and applying advanced techniques and processes for this material. Through this material and techniques, students begin defining and developing their visual vocabulary relative to art history and contemporary sculptural issues.
Prerequisite: ARTS 2326.
Co-requisite: SMTE 0097.

ARTS 3305  Mold Making and Casting Sculpture
3 Semester Credit Hours
This course is designed to build upon the fundamental principles of mold making and casting while exploring more complex concepts, materials, and techniques. Creating multi-part molds, flexible molds, and investment molds, the project assignments incorporate the unique versatility of mold making and casting for exchanging media and making a series of multiples. In addition to making casts, students compare methods for assembling cast forms together to create larger sculptural artworks and installations.
Co-requisite: SMTE 0097.

ARTS 3306  Figurative Sculpture
3 Semester Credit Hours
A study of the human figure from an anatomical and artistic perspective. Examines the skeletal and muscular components of the figure in order to create lifelike and emotive sculptures. Discussion of the figure in both classical and contemporary art. Working with armature and modeling clay.
Co-requisite: SMTE 0097.

ARTS 3307  Lithography and Planographic Process
3 Semester Credit Hours
Traditional printmaking processes will be explored using black and white and color techniques, including but not limited to lithography and monoprinting.
Prerequisite: ARTS 2311 or 1316.
Co-requisite: SMTE 0097.

ARTS 3311  Color Theory
3 Semester Credit Hours
This course develops an understanding of color properties and relationships through formal exercises, research and creative thinking. Students build a vocabulary for analyzing and identifying color and color phenomena. Concepts of color theorists and color use in a variety of fields are examined to understand the application of color theory. Students will investigate the use of color in their own work and in the work of others to understand the conceptual and aesthetic application of color.
Prerequisite: ARTS 1311.
ARTS 3313  Figure Painting
3 Semester Credit Hours
This course addresses the structure and anatomy of the human figure using oil paint. Painting techniques and color theory exercises will familiarize students with tradition painting methods. Students will render proportions, balance, form and mass of the human figure. Research and discussions will address the human form throughout history as well as in the contemporary context. Image presentations, critiques and live model sessions will supplement studio work.
Prerequisite: ARTS 2316.
Co-requisite: SMTE 0097.

ARTS 3316  Art Activities I
3 Semester Credit Hours (3 Lecture Hours)
Practical experience with basic design, drawing, painting, and sculpture, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the elementary school.

ARTS 3322  Art Activities II
3 Semester Credit Hours (3 Lecture Hours)
Practical experiences with basic design, drawing, painting, printmaking, sculpture, and crafts, along with a study of art history and criticism. Includes a consideration of how these experiences relate to art curricula in the secondary school.

ARTS 3324  Wheel Throwing
3 Semester Credit Hours
Covers wheel-thrown ceramics (other production techniques may be included), basic glazemaking, and an introduction to kiln firing and loading.
Prerequisite: ARTS 2346.
Co-requisite: SMTE 0097.

ARTS 3325  Handbuilt Ceramic Techniques
3 Semester Credit Hours
This course is a continuation of hand-building covered in Ceramics I ARTS 2346. The course will cover more advanced forming techniques such as extrusion, hump, slump, and press molds, and slip-casting. New surface and firing techniques will include more advanced techniques such as underglazes, onglaze techniques such as majolica, fired decal application, raku, and an introduction to low fire glazes and surfaces.
Prerequisite: ARTS 2346.

ARTS 3350  Art of the United States
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major developments in the art of North America from Pre-Columbian times to the modern era

ARTS 3352  Modern Art
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major movements of 20th century art and aesthetics, which developed primarily in Europe. Includes a review of late 19th century modernist antecedents with emphasis placed on the principal movements of the early 20th century: Fauvism, German Expressionism, Cubism, Futurism, Abstract Art, Dada, and Surrealism.

ARTS 3353  Art Since 1945
3 Semester Credit Hours (3 Lecture Hours)
An examination of the dispersal of European artists and Modernism, primarily to America, as a result of World War II. Examines the development of Abstract Expressionism in New York in the 1940s and 50s, followed by a survey of recent trends in contemporary art to the present day.

ARTS 3360  Graphic Design I
3 Semester Credit Hours (3 Lecture Hours)
Introduce fundamental graphic communication techniques, software and theory. Explores hand skills by using tools and techniques to produce professional presentations as well as the correct procedures for presenting designs to a client.

ARTS 3365  Photography II
3 Semester Credit Hours
An intermediate studio course using digital cameras and image manipulation software. Prior completion of ARTS 2356 is required. This course will enhance and expand skills developed in Photography I. It is geared toward informing students in the many ways we can make photographs; by seeking them out, framing them, forming them, extracting them, building them, and finally sequencing and presenting them. Students will engage in the theory and practice of photography, refine their photographic technique, and create a conceptually devised and technically consistent portfolio. Emphasis is placed on the development of a strong conceptual foundation from which to approach the making and understanding of photography as an art form. This knowledge will be achieved through photographic assignments, slide lectures of relevant works, and in-class critiques. It can be repeated twice for credit.
Prerequisite: (ARTS 2356).
Co-requisite: SMTE 0097.

ARTS 3366  Analogue Photography
3 Semester Credit Hours
An introductory studio course in analogue photography using film cameras and the silver gelatin darkroom process. While focusing on the fundamentals of black and white, analogue photography and printing techniques this course will assist students in producing a conceptually devised and technically consistent portfolio.
Prerequisite: (ARTS 2356).
Co-requisite: SMTE 0097.

ARTS 3367  Digital Design Tools and Applications
3 Semester Credit Hours
This studio course explores the fundamental principles, standard creative processes and basic digital tools utilized in graphic design. The concepts and software learned are employed in projects specifically targeted to serve the professional and promotional needs of studio artists and design enthusiasts.

ARTS 4085  Senior Capstone
0 Semester Credit Hours
Required for all art students in partial fulfillment of the requirements for the BA in Art, BFA in Art studio track and the BFA with Teacher Certification in Art tracks. This course collects capstone materials for ARTS degrees. The course must be taken in the student’s final semester before graduation.

ARTS 4301  Advanced Drawing
3 Semester Credit Hours
Emphasis on the development of content through drawing. Research on contemporary trends and process investigation will aid students in the development of visual ideas and lead to a cohesive body or work. May be taken three times for credit.
Prerequisite: ARTS 2323.
Co-requisite: SMTE 0097.
ARTS 4302 Advanced Printmaking
3 Semester Credit Hours
Furthers competencies attained in Printmaking I and Intermediate I & II courses. May be taken three times for credit.
Prerequisite: ARTS 3302 and 3307.
Co-requisite: SMTE 0097.

ARTS 4303 Advanced Painting
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3303. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4304 Advanced Sculpture
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3304. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4324 Advanced Ceramics
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3324. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4350 Pre-Columbian Art of Mesoamerica
3 Semester Credit Hours (3 Lecture Hours)
Explores the history of Pre-Columbian art from Mexico and Central America, from the Olmec through the Aztec cultures. May be taken three times for credit.

ARTS 4352 Modern Art of Mexico
3 Semester Credit Hours (3 Lecture Hours)
Explores the history of art during the nineteenth and twentieth centuries in Mexico. May be taken three times for credit.

ARTS 4354 Global Currents in Contemporary Art
3 Semester Credit Hours (3 Lecture Hours)
The course will cover key developments in contemporary art from the post-World War II era in the Western context to global currents in the present international arena. From a socio-political perspective, artistic tendencies will be considered as part of a trajectory that saw the center of the art world shift from being Euro- and Anglo-centric in the mid-twentieth century, to one without a discernible center in the early twenty-first century. Analysis of artworks from this decentralized cultural climate will focus on the evolution of conceptualism, the persistence of traditional modes of aesthetic practice, the role of the art market, and notions of environmentalism and sustainability as related to these "transnational transition." The course will consider works from Eastern Europe, South and Central America, the Caribbean, East/West/South/ Southeast Asia, Oceania, and Africa.

ARTS 4356 Contemporary Art Since 1980
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the evolution of architecture, sculpture, painting, digital media, installation, and interdisciplinary arts in the global context from 1980 to the present, in light of the historical and intellectual background of the period. Topics covered will include the transition from postmodernism to contemporaneity, considering notions of appropriation, commodification, consumerism, memory, history, and globalization. Lectures will be constructed upon thematic analysis of contemporary, primary sources coupled with secondary source material, and complemented by presentation opportunities and class discussion.

ARTS 4365 Advanced Photography
3 Semester Credit Hours (3 Lecture Hours)
Assumes competencies attained in ARTS 3365. Covers content as creative expression in addition to basic photographic skills. May be taken three times for credit.
Co-requisite: SMTE 0097.

ARTS 4390 Topics in Art History
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary.
ARTS 4391 Topics in Studio Art
3 Semester Credit Hours
May be repeated when topics vary.
Co-requisite: SMTE 0097.

ARTS 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description. Offered on application
Co-requisite: SMTE 0097.

ARTS 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description. Offered on application.
Co-requisite: SMTE 0097.

Atmospheric Science (ATSC)

ATSC 2101 Weathercasting
1 Semester Credit Hour (1 Lecture Hour)
This course is to practice in preparing and presenting weathercasts for radio and television. The instructors of this course will provide the students with: (1) information in the form of lectures and supplemental readings; (2) opportunities to practice weathercasting on video, and (3) advice, supervision, and guidance. In lecture, students will spend most of the course learning about geography and weathercasting rules. A large portion of the course is to practice the weathercasting and report.
Prerequisite: ATSC 3403.

ATSC 2301 Weather Observations
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction of the basic concept of meteorology. The focus is on the measurements of the atmosphere and weather related phenomenon. The principle of the instruments used to measure temperature, pressure, moisture, radiation, precipitation and other weather related properties of the atmosphere will be introduced. The differences among the observations from in-situ, balloon borne, airborne, and satellite borne instruments will be examined and discussed.
Prerequisite: ATSC 2403.

ATSC 2302 Introduction of Data Analysis in Atmospheric Sciences
3 Semester Credit Hours (3 Lecture Hours)
This course will enhance student skills for analyzing atmospheric science-related datasets under various scientific programming environments. The focus is on developing a data analysis and problem-solving skillsets using mostly Python. The course includes: basic concepts of operating systems and high-level programming languages; basics of programming in Python; general data analysis methods and tools; scientific data formats used in remote sensing data and numerical model output; publication-quality scientific graphics; and critical steps of building a large programming project. Examples with IDL and FORTRAN are also included.
ATSC 2403 Introduction to Meteorology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course is an introduction to meteorology and the dynamics of planetary atmospheres. Emphasis on atmospheric accretion, composition, evolution, structure, and dynamics. Lab exercises cover basic measurement techniques, weather maps, and forecasting.
Co-requisite: SMTE 0096.

ATSC 3305 Physical Meteorology
3 Semester Credit Hours (3 Lecture Hours)
This course will cover the fundamentals of atmospheric physics including the atmospheric composition, kinetic theory of gases, moist processes, aerosol, solar and terrestrial radiation, scattering of electromagnetic radiation and radiative transfer.
Prerequisite: ATSC 2403 and PHYS 2426.

ATSC 3306 Atmospheric Thermodynamics
3 Semester Credit Hours (3 Lecture Hours)
This course introduces a foundation in the thermodynamics of the atmosphere. After a brief review of general thermodynamics, the emphasis is given to the basic principles that are useful for the application to atmospheric problems. The course covers a number of atmospheric processes that are basically thermodynamic in nature. The specific topics include aerological diagrams, atmospheric statics, and vertical stability.
Prerequisite: ATSC 2403 and PHYS 2425.

ATSC 3401 Synoptic Meteorology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course focuses on introducing middle-latitude synoptic weather phenomenon, including planet waves, frontal systems etc. We will apply principles of Dynamic Meteorology in regards to processes in the atmosphere, weather elements and forecasting. We will examine the structure and dynamics of these systems by integrating weather observations with the current state of dynamic theory, numerical weather prediction models, and the physical principles of atmospheric thermodynamics and cloud and precipitation physics.
Prerequisite: ATSC 3306 and MATH 2414.
Co-requisite: SMTE 0096.

ATSC 3402 Mesoscale Meteorology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course focuses on introducing mesoscale weather systems including thunderstorms, squall lines and hurricanes, as well as the mechanisms of tornado and lighting. The methods of observing, analyzing, and predicting these severe weather systems with the interpretation of satellite and radar images will also be introduced in this class.
Prerequisite: ATSC 3306.
Co-requisite: SMTE 0096.

ATSC 4301 Dynamic Meteorology I
3 Semester Credit Hours (3 Lecture Hours)
This course focuses on introductory-level atmospheric dynamics. Basic concepts of geophysical fluid dynamics and its application to a variety of atmospheric phenomena are introduced. Specific topics include the equations of motion on rotating earth, vorticity, potential vorticity, divergence, circulation theorem, and planetary wave.
Prerequisite: ATSC 3306 and MATH 2414.

ATSC 4302 Dynamic Meteorology II
3 Semester Credit Hours (3 Lecture Hours)
This course is a continuation of ATSC 4301 (Dynamic Meteorology I), which covers the introductory-level atmospheric dynamics. The course introduces more advanced materials including equatorial waves, baroclinic and barotropic instability, two-dimensional turbulence, atmospheric teleconnection, El Nino/Southern Oscillation, Madden-Julian Oscillation, global warming, and numerical modeling of atmospheric circulations.
Prerequisite: ATSC 4301.

ATSC 4305 Remote Sensing
3 Semester Credit Hours (3 Lecture Hours)
This course aims to introduce the fundamentals of satellite/airborne remote sensing techniques and demonstrates its application to various aspects of Earth Sciences. Topics include physical principles of remote sensing from ultraviolet to the microwave, radiometry, sensors and sensor technology, calibration, and environmental applications for land, ocean and atmosphere research.
Prerequisite: PHYS 2426.

ATSC 4335 Climate and Climate Variability
3 Semester Credit Hours (3 Lecture Hours)
This course is intended to guide environmental science undergraduate students in developing a conceptual understanding of Earth’s global climate and its variability. Review past climates, present mean state of the climate system, climate variability from seasonal to multi-decadal time scales, and climate change. Special attention will be given to climates of the Gulf of Mexico, Caribbean Sea and surrounding land regions. Plausible climate-change scenarios, as well as mitigation and adaptation strategies will also be discussed. Cross listed with ESCI 4335.
Prerequisite: (ATSC 2403 or ESCI 3351).

ATSC 4496 Directed Independent Study
1-4 Semester Credit Hours (1-4 Lecture Hours, 4 Lab Hours)
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College.

ATSC 4498 Internship in Atmospheric Science
1-4 Semester Credit Hours
ATSC 4498 (Internship in Atmospheric Science) gives ATSC undergraduates an opportunity to obtain valuable paid or unpaid work experience related to atmospheric science, to better position them for employment after graduation. Students contract to work a specified number of hours weekly over a full semester with a state or federal agency or private industry related to atmospheric science, in return for college credit as follows: 3-6 hrs./week=1 sem. hr., 6-9 hrs./week =2 sem. hrs., 9-12 hrs./week=3 sem. hrs., 12-15 hrs./week=4 sem. hrs. Students may contract for 1-2 sem. hrs. in a single summer session (5.5 weeks) but may contract for up to 4 sem. hrs. if carrying out internship over a regular long semester or two summer sessions (11 weeks). If interning for the summer, students should increase the number of hours interned weekly to account for the shortened period worked, so total hours interned will be equivalent to those in a regular long semester. A student may intern only twice with a single office or agency. The internships will not apply towards graduate credit.

ATSC 4590 Selected Topics
1-5 Semester Credit Hours (1-5 Lecture Hours, 5 Lab Hours)
This course includes special topics with variable content. May be repeated for credit. Offered on sufficient demand.
Bilingual/ESL/Multicultural Ed (BIEM)

BIEM 4344 The Bilingual Child, Culture, & the Social Studies Curriculum
3 Semester Credit Hours (3 Lecture Hours)
Studies of the bilingual children, the effect of culture on psychological development, and the challenges of the social studies curriculum.

BIEM 4345 Language Acquisition and Development
3 Semester Credit Hours (3 Lecture Hours)
A study of language acquisition and development with special reference to implications for monolingual and bilingual learners.

BIEM 4349 Linguistics for Bilingual Teachers
3 Semester Credit Hours (3 Lecture Hours)
A study of the phonological, morphological, syntactical, lexical, and semantic characteristics of contemporary Spanish and English. The course focuses on Spanish-English bilingualism.

BIEM 4351 The Minority Child
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to themes and issues associated with the education of the minority child; modes of learning in various curriculum subjects; relation of materials and methods to affective and cognitive aspects of learning; information concerning the learning strengths and needs of children from various minority groups. (May be used to satisfy COE multicultural requirement.)

BIEM 4355 Language Arts Studies in the Bilingual Curriculum
3 Semester Credit Hours (3 Lecture Hours)
Basic methodological strategies and assessment skills required to teach language arts in the elementary bilingual classroom are provided. Emphasis is on teaching in Spanish.

BIEM 4356 Content Area Studies in the Bilingual Curriculum
3 Semester Credit Hours (3 Lecture Hours)
The concepts and skills required to teach mathematics and science in the elementary bilingual classroom are provided.

BIEM 4357 Methods of Teaching English as a Second Language
3 Semester Credit Hours (3 Lecture Hours)
Studies in methodology and techniques available for teaching those whose native language is not English. Testing and assessment of English language learners will be integrated into the course.

BIEM 4360 Foundations in Bilingualism
3 Semester Credit Hours (3 Lecture Hours)
The philosophical and legal foundations of bilingual schooling in the United States through a sociohistorical approach. The rationale for bilingual education is examined, as are the basic program models. An overview of bilingual education in Texas is also provided.

BIEM 4393 Field Studies in Family Literacy
3 Semester Credit Hours (3 Lecture Hours)
Field experiences designed to develop skills regarding the orientation of the adult population to bilingual/ESL purposes and philosophy, improving parental involvement, and English literacy skills.

BIEM 4696 Directed Individual Study
1-6 Semester Credit Hours (1-6 Lecture Hours)
Programs will be designed for individual cases through special permission of the Department Chair and Dean. May be repeated for credit when the topic varies.

Biology (BIOL)

BIOL 1308 Science for Life I (Non-Majors Biology)
3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A non-majors science course in which students will learn basic biological principles, identify the relevance of science in everyday life, and will understand the scientific method. Hands-on lab activities will reinforce course concepts. This course does not substitute for BIOL 1406 - Biology I or BIOL 1407 - Biology II for science majors.
Co-requisite: SMTE 0091.
TCCNS: BIOL 1308

BIOL 1406 Biology I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Presentation of basic biological concepts including scientific method, cytology, energetics, nucleic acids and genetics. This course is suitable for all majors.
Prerequisite: (MATH 1314, 1316, 2305, 2413, minimum score of 21 in 'ACT Math' or minimum score of 550 in 'SAT Math').
Co-requisite: SMTE 0091.
TCCNS: BIOL 1406

BIOL 1407 Biology II
4 Semester Credit Hours (4 Lecture Hours)
This course is an overview of the major concepts in biological diversity and plant and animal biology. Laboratory work will include individual/team activities as well as technology-related assignments.
Prerequisite: BIOL 1406.
Co-requisite: SMTE 0091.
TCCNS: BIOL 1407

BIOL 2300 Science Communication
3 Semester Credit Hours (3 Lecture Hours)
This course involves presentation and discussion of selected topics relating to the professional skills of practicing biological scientists, including basic software instruction, a review of library services pertinent to science, the application of scientific literature research skills, hypothesis generation and statistical tests, critical reviews of scientific articles, and an introduction to ethical issues in science.

BIOL 2371 Principles of Evolution
3 Semester Credit Hours (3 Lecture Hours)
An overview of the mechanisms by which heritable information changes, adaptations develop, and species diversify. Provides a foundation for molecular, cellular, and organismal studies in the biological sciences.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 2401 Anatomy and Physiology I
4 Semester Credit Hours (4 Lecture Hours)
Structure and function of the human body emphasizing biological chemistry, cell biology, tissues, and the integumentary, skeletal, muscular, and nervous systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his or her career track and obtain approval for a substitution from his or her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.
Co-requisite: SMTE 0091.
TCCNS: BIOL 2401
BIOL 2402 Anatomy and Physiology II
4 Semester Credit Hours (4 Lecture Hours)
Structure and function of the human body emphasizing blood, growth, development, genetics, and the endocrine, digestive, respiratory, cardiovascular, lymphatic, immune and urogenital systems. Not recommended for majors in the College of Science and Engineering. To count this course toward a major in the Department of Life Sciences, a student must demonstrate that it is required by professional schools in his or her career track and obtain approval for a substitution from his or her faculty mentor. Students may not receive credit for both this course and either BIOL 3425 - Functional Anatomy or BIOL 3430 - Physiology.
Prerequisite: BIOL 2401.
Co-requisite: SMTE 0091.
TCCNS: BIOL 2402

BIOL 2416 Genetics
4 Semester Credit Hours (3 Lecture Hours)
Principles of genetic transmissions and molecular basis of heredity and variation. Weekly recitation periods will involve team assignments, problem solving activities, and seminars.
Prerequisite: BIOL 1406 and 1407.
TCCNS: BIOL 2416

BIOL 2420 Principles of Microbiology
4 Semester Credit Hours (4 Lecture Hours)
Introduction to microorganisms with emphasis on those of importance in patient care. Principles of disinfection, sterilization, immunity. This class is intended for nursing majors; it cannot substitute for BIOL 2421 - Microbiology.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2420

BIOL 2421 Microbiology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An introduction to microorganisms including the bacteria, fungi, and viruses. Laboratory involves microbiological techniques and development of basic laboratory skills.
Prerequisite: BIOL 1406, 1407, CHEM 1411 and 1412.
Co-requisite: SMTE 0092.
TCCNS: BIOL 2421

BIOL 2472 Principles of Botany
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the structure, function, diversity and application of plants. Laboratory focus on anatomical features, physiological adaptations, classification, and life cycles.
Prerequisite: BIOL 1407 and CHEM 1411.
Co-requisite: SMTE 0091.

BIOL 3300 Animal Nutrition
3 Semester Credit Hours (3 Lecture Hours)
Examines the dietary requirements of both companion animals and livestock. Includes the anatomy, physiology and biochemistry of the gastrointestinal system, nutrient procurement and use, feed additives, growth stimulants, metabolic diseases, and diet therapy. Crosslisted with BIMS 3300.
Prerequisite: BIOL 1407 and CHEM 3411 and (CHEM 3412 or 3412*).
* May be taken concurrently.

BIOL 3325 Biostatistics
3 Semester Credit Hours (3 Lecture Hours)
The application of statistical analyses to biological data. Students will gain an understanding of how to apply statistical analyses to biological data through study of the principles of experimental design including how to frame informative research questions. At a fundamental level, these concepts are linked to the philosophy of science and our understanding of the way the world works.

BIOL 3345 Cell Physiology
3 Semester Credit Hours (3 Lecture Hours)
Emphasis on cellular functions that underlie physiological processes, transport across membranes, membrane potential and excitability, the cell nucleus, and organelles and their relationship to energy, metabolism, and transport mechanisms within the cell. Offered during Spring semester of odd-numbered years.
Prerequisition: BIOL 2200 or BIMS 2200 and BIOL 3410.

BIOL 3403 Molecular Biology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Principles of molecular biology including advanced concepts of gene structure, expression and regulation, chromatin structure, recombination, and current molecular biology techniques. Laboratory emphasis is on basic skills for nucleic acid analyses, including extraction, PCR amplification, quantification, restriction, and electrophoresis. DNA sequencing-based approaches are covered including bioinformatics for sequence comparisons, polymorphisms, and molecular identification. Crosslisted with BIMS 3403.
Prerequisite: BIOL 2416 and 2421.
Co-requisite: SMTE 0092.

BIOL 3410 Cell Biology
4 Semester Credit Hours (4 Lecture Hours)
Study of cellular architecture and function. Topics include membranes, transport, organelles, cytoskeleton, and signaling mechanisms. Interrelationships of structure, function, energy and metabolism are explored. Laboratory will emphasize basic techniques of cell biology.
Prerequisite: BIOL 2416 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 3413 Invertebrate Zoology
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
Structure, life history, and evolution of the invertebrates with special emphasis on the phylogeny and ecological relationships of the major phyla. Laboratory will involve field trips and survey collections. Offered fall semester every year.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3414 Vertebrate Zoology
4 Semester Credit Hours (4 Lecture Hours)
Structure, life history, and evolution of the vertebrates with special emphasis on the phylogeny and ecological relationships of the classes. Laboratory will involve field trips and survey collections. Offered only in Spring semester.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.
BIOL 3425 Functional Anatomy
4 Semester Credit Hours (4 Lecture Hours)
General trends in morphological development and adaptation as demonstrated by the anatomy and embryology of living and extinct chordates. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3428 Principles of Ecology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the interrelationships of organisms and their environment. Population structure, community classification and regulation, and energy flow in ecosystems will also be covered. Laboratory sections will focus on experimental design and field techniques in ecology.
Prerequisite: BIOL 1407 and (BIOL 2200, 2300, BIMS 2200 or UNIV 1101 and UNIV 1102) and CHEM 1411 and (MATH 2413 or 2413*).
* May be taken concurrently.
Co-requisite: SMTE 0091.

BIOL 3430 Physiology
4 Semester Credit Hours (4 Lecture Hours)
The study of physiological processes that are the product of complex interactions between tissues, organs and organ systems, with emphasis on the circulatory, respiratory, endocrine, muscular, digestive, and urogenital systems. Particular focus on homeostasis, and the role of the environment and evolution on organ systems. Students may not receive credit for both this course and either BIOL 2401 - Anatomy and Physiology I or BIOL 2402 - Anatomy and Physiology II.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3455 Plant form and Function
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Anatomy of vegetative and reproductive organs of plants, unique cellular features, development and differentiation of cell and tissue types. Emphasis on physiological mechanisms of response and adaptation to the environment.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 3479 Plant Ecology
4 Semester Credit Hours (4 Lecture Hours)
Structure, physiology, life cycles, and economic impact of plants. Factors influencing diversity, succession and ecological distribution of plants.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4100 Research Ethics and Professionalism
1 Semester Credit Hour (1 Lecture Hour)
A course designed to enhance the professionalism of undergraduate researchers. This course discusses the codified aspects of research ethics, including fabrication, falsification and plagiarism of data; assigning authorship, submitting manuscripts to more than one journal and management of lab teams. It also addresses careers in science, resume writing, producing the successful application and interviewing skills.

BIOL 4101 Embryology
3 Semester Credit Hours (3 Lecture Hours)
Studies the events that occur just prior to and during gestation. Includes gametogenesis, chromosomal and single gene aberrations, teratology, and the development of the body systems.
Prerequisite: BIOL 2416.

BIOL 4302 Coral Reef Conservation
3 Semester Credit Hours (3 Lecture Hours)
Survey of challenges and threats facing coral reef ecosystems in the 21st century and discussion of conservation and management strategies. Topics include biology and ecology of reef ecosystems, climate change impacts, coral bleaching, over-fishing and the effectiveness and design of marine protected areas.

BIOL 4304 Biology of Viruses
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the study of viruses, including viral life cycles, replication schemes and Baltimore classification of representative bacteriophages, plant and animal viruses. Emphasis on analysis and review of primary literature on viruses.
Prerequisite: BIOL 2416, 2421 and CHEM 1411.

BIOL 4308 Biogeography
3 Semester Credit Hours (3 Lecture Hours)
This course offers an overview of the theories, methods, and current directions in modern biogeography, emphasizing marine and terrestrial plant and animal species and communities.

BIOL 4311 Biological Bases of Behavior
3 Semester Credit Hours (3 Lecture Hours)
This lecture-based course examines the processes by which neuronal circuits generate behaviors and the mechanisms by which experience modulates the activity of these circuits.
Prerequisite: BIMS 4323.

BIOL 4312 Mariculture Techniques
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
The study and hands-on application of biological, mechanical, and other concepts required to develop the skills and techniques necessary for efficient operation and management of public and private aquaculture facilities. Offered in Fall of odd-numbered years.
Prerequisite: BIOL 4370.

BIOL 4319 Biology of Marine Mammals
3 Semester Credit Hours (3 Lecture Hours)
Introduction to marine mammals, with a focus on their interactions with their biotic and abiotic environment
Prerequisite: BIOL 1407.

BIOL 4323 Global Change Ecology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the effects of climatic and anthropogenic change on terrestrial and aquatic structure and function. Includes readings from the current literature and discussion of controversial articles.
Prerequisite: BIOL 3428.

BIOL 4328 Fisheries
3 Semester Credit Hours (3 Lecture Hours)
A study of theory and techniques in fisheries science, including practical fisheries sampling designs and techniques, behavior of fisheries populations and application to resource management with emphasis in tide-influenced waters. Includes readings in the current literature.
Prerequisite: BIOL 1407.
Biol 4329 Fisheries Techniques
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
This class is designed to provide practical experience in the theory and application of traditional and modern fisheries sampling and analytical techniques used in Fisheries Science and Management. This is a hands-on field- and laboratory-based course that will develop skills that are most commonly used by fisheries biologists and technicians. Offered in Fall of even-numbered years.
Prerequisite: BIOL 4328.

BIOL 4334 Biology and Ecology of Coral Reefs
3 Semester Credit Hours (3 Lecture Hours)
This course will introduce the biology of corals, describe the abiotic and biotic interactions among coral reef ecosystem inhabitants, identify the threats of climate change, and discuss the conservation and management of reefs for the future. Offered every spring.
Prerequisite: BIOL 3428.

BIOL 4335 Conservation Biology
3 Semester Credit Hours (3 Lecture Hours)
Principles and theories relating to the conservation of biological diversity, including patterns and processes creating biological diversity, estimates of extinction rates, consequences of losses of biodiversity and causes of diversity loss.
Prerequisite: BIOL 3428.

BIOL 4336 Marine Ecology
3 Semester Credit Hours (3 Lecture Hours)
Habitats and community structure in marine environments; biotic and abiotic factors governing the distribution of marine organisms.

BIOL 4340 Genomics, Proteomics and Bioinformatics
3 Semester Credit Hours (3 Lecture Hours)
An introduction to integrative biological study using genome-wide approaches and bioinformatics. The "-omics" technologies (Genomics, Proteomics, Metabolomics, etc.) will be surveyed for current and potential contributions to understanding biological function at molecular, cellular, organismal and ecosystem levels.
Prerequisite: BIOL 2416 and 3410 or CHEM 4401.

BIOL 4343 Oceans and Human Health
3 Semester Credit Hours (3 Lecture Hours)
Healthy oceans are essential to the habitability of our planet — for humans and all other forms of life. Students will explore links between oceans, pollution, human well-being, ecosystem services, resource management, and the science and legislation governing the enforcement of water quality standards.

BIOL 4350 Research and Design
1-3 Semester Credit Hours (1-3 Lecture Hours)
Course will include experimental design, literature review of a research topic and laboratory work on the research topic.

BIOL 4353 Down the River: Biology of Gulf Coast Fishes
3 Semester Credit Hours (3 Lecture Hours)
This course covers aspects of ecology and biogeography of riverine and estuarine fishes while exposing students to field sampling techniques and museum preparation of specimens. This will be a unique opportunity for students to gain an in-depth understanding of the biological complexity of Texas Gulf Coast river systems while gaining hands-on experience in field and museum ichthyological techniques that are employed by state, federal and academic researchers alike.
Co-requisite: SMTE 0091.

BIOL 4355 Public Aquarium and Animal Care Operations
3 Semester Credit Hours (3 Lecture Hours)
This course examines the unique requirements needed for public aquariums and zoos to balance animal care and health with public display for general education and conservation research.
Co-requisite: SMTE 0091.

BIOL 4370 Mariculture
3 Semester Credit Hours (3 Lecture Hours)
Survey of the physiological, behavioral, environmental, and economic parameters governing the culture of selected aquatic species. Included are techniques employed worldwide to produce aquatic products.
Prerequisite: BIOL 1407.

BIOL 4371 Population Genetics
3 Semester Credit Hours (3 Lecture Hours)
An introduction to evolutionary processes and their genetic basis, this course focuses on theoretical and experimental approaches to the study of population genetics, quantitative genetics, evolutionary ecology, and molecular evolution.
Prerequisite: BIOL 2416 and MATH 2413.

BIOL 4396 Directed Independent Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
Research in areas of current interest. Project developed in conjunction with a faculty advisor. Written report required. May be repeated for a maximum of 6 semester hours.
Prerequisite: BIOL 1407 and CHEM 1412.

BIOL 4399 Directed Independent Research
3-6 Semester Credit Hours (3-6 Lecture Hours)
Independent laboratory- or field-based research project on topic of current interest. Project developed in conjunction with a faculty advisor. Written report required. May be repeated once for a total of 6 semester credit hours.

BIOL 4405 Limnology
4 Semester Credit Hours (4 Lecture Hours)
The study of the functional relationships and productivity of aquatic communities as they are affected by their physical, chemical, and biotic environment. The influence of man’s activities on these systems will be the focus of the course.
Prerequisite: BIOL 3428.
Co-requisite: SMTE 0091.

BIOL 4406 Immunology
4 Semester Credit Hours (4 Lecture Hours)
An overview of immunology with emphasis on current knowledge of the immune system. Detailed examination of the specific cells, cytokines, antibodies, and molecules that comprise the immune system. Laboratory exercises demonstrate the basic principles and techniques used in immunologic studies. Cross listed with BIMS 4406.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

BIOL 4408 Microbial Diversity and Ecology
4 Semester Credit Hours (4 Lecture Hours)
Biodiversity and roles of microorganisms in natural environments. Interactions with other micro- and macro-organisms (humans, animals and plants) and with abiotic factors. Unique abilities of microorganisms such as nitrogen fixation and adaptation to extreme environments.
Prerequisite: (BIOL 2421 or 4328).
Co-requisite: SMTE 0092.
BIOL 4410 Mammalogy
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics and ecology of mammals. Offered in even Fall semesters.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4411 Animal Behavior
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An understanding of why animals behave in the manner they do, through examination of both invertebrate and vertebrate species.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4413 Entomology
4 Semester Credit Hours (4 Lecture Hours)
A broad overview of the natural history, classification, phylogeny, ecology, behavior, development and physiology of insects and their kin. The lab will involve field work, collection and curation.
Prerequisite: BIOL 3413.
Co-requisite: SMTE 0091.

BIOL 4417 Field Biology
4 Semester Credit Hours (1 Lecture Hour, 6 Lab Hours)
is a hands-on course designed to teach students key concepts by immersing them in nature. Topics include adaptations of plants and animals in different habitats, food web interactions, and how biotic and abiotic forces interact to structure natural communities including spatial and temporal variation in communities.
Prerequisite: BIOL 3428.
Co-requisite: SMTE 0091.

BIOL 4422 Plant Taxonomy
4 Semester Credit Hours (4 Lecture Hours)
Principles and practice in the classification of flowering plants. Field trips are required.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4425 Ornithology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics, anatomy, physiology, ecology, behavior, and field identification of birds. Offered in odd Fall semester.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4429 Marine Botany
4 Semester Credit Hours (4 Lecture Hours)
The ecology of marine plants with emphasis on identification, life histories, and environmental factors of distribution.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4430 Marine Plankton
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
In this class we will investigate the systematics, distribution, and ecology of major marine plankton groups and introduce major concepts in biological oceanography. Offered in Spring of odd-numbered years.

BIOL 4432 Ichthyology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Systematics, evolution, biology, and ecology of fishes. Laboratory identification of marine and freshwater fishes collected during field excursions.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4433 Parasitology
4 Semester Credit Hours (4 Lecture Hours)
An introduction to parasitology with emphasis on internal parasites and appropriate references to human endoparasites and parasites of veterinary importance.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

BIOL 4435 Biological Microtechniques
4 Semester Credit Hours (4 Lecture Hours)
Theory and techniques of processing specimens for histochemistry and microscopic examination. Laboratory includes preparation of tissues and small specimens for analysis and display.
Prerequisite: BIOL 1407 and CHEM 3411.
Co-requisite: SMTE 0092.

BIOL 4442 Herpetology
4 Semester Credit Hours (4 Lecture Hours)
Systematics, ecology, and behavior of amphibians and reptiles.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0091.

BIOL 4444 Estuarine Organisms
4 Semester Credit Hours (4 Lecture Hours)
Systematics, distribution, and ecology of estuarine macrofauna and macroflora. Weekend field trips and individual study required.
Prerequisite: BIOL 3413.
Co-requisite: SMTE 0091.

BIOL 4446 Tropical Ecosystems & Conservation
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Survey of the ecology and conservation issues of the major ecosystems in the tropics and field techniques used to study tropical forest ecology.
Prerequisite: BIOL 3428.
Co-requisite: SMTE 0091.

BIOL 4452 Ecology and Evolution of Fishes
4 Semester Credit Hours (3 Lecture Hours, 4 Lab Hours)
This course covers aspects of fish ecology from individual, population, community, and ecosystem levels. We discuss the role of the environment on fish physiology and behavior, food-web dynamics, community assembly and diversity, ecosystem interactions, and anthropogenic impacts on fishes with a focus on conservation.
Prerequisite: BIOL 4432.
Co-requisite: SMTE 0091.

BIOL 4547 Marine Science Field Camp
5 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
Students learn techniques required to properly conduct marine science field research. Practical, hands-on experience is gained in a variety of topics including biotic and abiotic sample collection and processing, quantitative analysis of field data, evaluation of environmental factors, survival and distribution of living organisms, and the structure of biotic communities.

BIOL 4590 Selected Topics
5 Semester Credit Hours (5 Lecture Hours)
Variable content. May be repeated for credit.

BIOL 4598 Biology Internship
2-6 Semester Credit Hours
Two to six semester credit hours may be earned by working in an internship position in a governmental agency, private industry, or other appropriate venue.
Biomedical Sciences (BIMS)

BIMS 2171 Medical Terminology
1 Semester Credit Hour (2 Lecture Hours)
This course stresses familiarity with and facility in scientific terminology. Areas of focus include: an introduction to scientific terminology, word analysis, etymologies, spelling and pronunciation. Offered fall and spring semesters every year.
Prerequisite: (BIOL 1406 and 1407) or (BIOL 2401 and 2402).

BIMS 2200 Professional Skills
2 Semester Credit Hours (2 Lecture Hours)
Presentation and discussion of selected topics relating to the professional skills of practicing scientists including literature searches, reviews, paper presentation, professional opportunities and job requirements. Biomedical Sciences and Biology majors only.

BIMS 3100 Essentials for Applied Forensics Laboratory Sciences
1 Semester Credit Hour (1 Lecture Hour)
Introduction to general laboratory procedures related to the criminal investigation system and regulations (especially related to Texas), lab safety, quality assurance and quality control, professional ethics, specimen acquisition and maintenance and chain of custody.
Prerequisite: (BIOL 1407 and CHEM 1412).
Co-requisite: BIMS 3103, SMTE 0092.

BIMS 3103 Essentials Laboratory for Forensic Science
1 Semester Credit Hour (1 Lab Hour)
Application of essential practices for forensic science. Offered fall semester every year.
Prerequisite: BIMS 3200*
*May be taken concurrently.
Co-requisite: SMTE 0092.

BIMS 3200 Essentials for App Lab Science
2 Semester Credit Hours (1 Lecture Hour)
ESSENTIALS FOR LAB SCIENCE Introduction to general laboratory procedures, laboratory safety and regulations, quality assurance, professional ethics, specimen acquisition, sample maintenance and microscopy. Includes an introduction to the health care, public health and criminal investigation system.
Prerequisite: BIOL 1407 and CHEM 1412.
Co-requisite: SMTE 0092.

BIMS 3300 Animal Nutrition
3 Semester Credit Hours (3 Lecture Hours)
Examines the dietary requirements of both companion animals and livestock. Includes the anatomy, physiology and biochemistry of the gastrointestinal system, nutrient procurement and feed additives, growth stimulants, metabolic diseases, and diet therapy. Cross listed with BIOL 3300. Offered spring semester every year.
Prerequisite: BIOL 1407, CHEM 3411 and 3412 or CHEM 3412*
*May be taken concurrently.

BIMS 3301 Introduction to Animal Science
3 Semester Credit Hours (3 Lecture Hours)
This course is an orientation into animal science as it relates to agriculture and veterinary medicine. Students will also be guided on issues to ensure successful veterinary school matriculation.

BIMS 3302 Introduction to Forensic Anthropology
3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
This course introduces the student to the osteological examination of the human skeletal system as practiced by professional forensic anthropologists. It is designed to equip the student with introductory understanding of the anatomy and normal appearance of the human skeleton as well as some of its variations, including pathological conditions, traumatic injury, and postmortem damage.
Prerequisite: BIOL 2401.
Co-requisite: SMTE 0092.

BIMS 3320 Survey of Forensic Science
3 Semester Credit Hours (3 Lecture Hours)
A survey of the methods and materials used to gather and process evidence at potential crime scenes. Students are introduced to the legal rules of evidence and their practical ramifications during scientific criminal investigations. In laboratory, students use commonly available processing items and tools to investigate a simulated crime scene. Offered fall semester every year.
Co-requisite: SMTE 0092.

BIMS 3325 Professional Practice in Forensic Science
3 Semester Credit Hours (3 Lecture Hours)
An introduction to industry standards and ethics for professional forensic scientists. This course analyzes cognitive processes, scientific methods and quality control/quality assurance issues in forensic investigations. It also stresses maintaining credibility in an adversarial legal system through the development of technical/scientific speaking and writing skills. Offered spring semester every year.
Prerequisite: BIMS 3320.

BIMS 3401 Pathophysiology
4 Semester Credit Hours (4 Lecture Hours)
This course is a study of the biological basis of human disease. It includes an investigation of inflammation, immunity, and neoplasia, as well as the more common presenting dysfunctions of body systems. Offered every fall. Offered fall semester every year.
Prerequisite: CHEM 1411 and BIOL 1407 or BIOL 2401.

BIMS 3403 Molecular Biology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Principles of molecular biology including advanced concepts of gene structure, expression and regulation, chromatin structure, recombination, and current molecular biology techniques. Laboratory emphasis is on basic skills for nucleic acid analyses, including extraction, PCR amplification, quantification, restriction, and electrophoresis. DNA sequencing-based approaches are covered including bioinformatics for sequence comparisons, polymorphisms, and molecular identification. Cross listed with BIOL 3403. Offered spring semester every year.
Prerequisite: BIOL 2416, 2421 and SMTE 0092*
*May be taken concurrently.
Co-requisite: SMTE 0092.
BIMS 4085 Major Field Test in Biology
0 Semester Credit Hours
The Major Field Test (MFT) in Biology is a national examination given in the Fall and Spring semesters only. It is a graduation requirement for all Biology and some Biomedical Sciences students. Students enroll in this course during the semester that they plan to take the MFT. There is no cost to the student for either this course or for the MFT. Admission is limited to students who have completed 90 or more semester credit hours.

BIMS 4111 Contemporary Scientific Readings
1 Semester Credit Hour (1 Lecture Hour)
Students read one non-fiction book per month addressing some aspect of medicine, science or history (four books per semester), then meet once per month to discuss, analyze and defend their perceptions about the book. Only open to students accepted into the Partnership for Primary Care and the Joint Admissions Medical Program (JAMP), those who are seeking admission into JAMP by participating in the pre-JAMP and students in other sponsored programs. This course may be repeated once for full credit in subsequent semesters.

BIMS 4128 Medicolegal Death Investigations Practicum
1 Semester Credit Hour (3 Lab Hours)
This practicum course is designed to provide laboratory and practical experience for the investigation of deaths under the jurisdiction of Texas medical Examiners. This course may involve visits to the office of medical examiners and actual sites of deaths.
Prerequisite: BIMS 4328.
Co-requisite: BIMS 4328, SMTE 0092.

BIMS 4170 Biomedical Seminar
1 Semester Credit Hour (1 Lecture Hour)
A series of seminars on current topics of biomedical research. This course may be repeated once for full credit in subsequent semesters.
Prerequisite: BIOL 1407.

BIMS 4295 Biomedical Practicum
2 Semester Credit Hours
Supervised learning experience with a community professional in health care (e.g., physician, dentist, veterinarian, chiropractor, pharmacist, physician assistant or physical therapist). On-campus meetings, oral and written reports are required. (Cannot be taken by Clinical Laboratory Science students in lieu of CLSC 4297 - Professional Practicum I.) This course may be repeated once for full credit in subsequent semesters. Requires permission of instructor. Offered fall and spring semesters every year.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0092.

BIMS 4296 Clinical Research
2 Semester Credit Hours
Students will actively perform clinical research and learn from and interact with health care professionals such as physicians, nurses, physical therapists, pharmacists, etc. The student will be a functioning member of a research team with specific, measurable responsibilities in clinical studies.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0092.

BIMS 4297 Professional Practicum I
2 Semester Credit Hours (2 Lecture Hours)
PROFESSIONAL PRACTICUM I Supervised learning experience in selected departments of the clinical laboratories. Clinical Laboratory Science students only. Requires permission of instructor and application.

BIMS 4299 Directed Independent Research
1-2 Semester Credit Hours (1-2 Lab Hours)
Independent laboratory- or field-based research project on topic of current interest. Project developed and funded in conjunction with a faculty advisor. Written report required. May be repeated for a maximum of 4 semester credit hours. Offered any semester upon request by a student and consent of the instructor.
Prerequisite: BIOL 1407 and CHEM 1412.
Co-requisite: SMTE 0092.

BIMS 4311 Biology of Cancer
3 Semester Credit Hours (3 Lecture Hours)
This course is a study of the profile of a cancer cell, and the various causes of human cancer. Contribution of heredity, environmental factors, and infectious agents to oncogenesis will be studied. Cancer screening, diagnosis, and treatment will be discussed. Various types of cancer will be presented. Offered fall semester of even-numbered years.
Prerequisite: BIOL 2416.

BIMS 4323 Neurobiology
3 Semester Credit Hours (3 Lecture Hours)
Studies the anatomy and physiology of the nervous system. Includes an examination of evolutionary trends in nervous system development, neural function, nerve impulse transmission, sensory and motor systems, behavior, emotional states, learning and memory. Particular emphasis is placed on human functioning. Offered spring semester every year.
Prerequisite: BIOL 2416.

BIMS 4327 Introduction to Toxicology
3 Semester Credit Hours (3 Lecture Hours)
Principles of toxicology including absorption and excretion, biotransformation, chemical carcinogenesis, developmental toxicology and toxic agents.
Prerequisite: BIOL 1407 and CHEM 1412.

BIMS 4328 Medicolegal Death Investigations Lecture
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide an introduction to the essential procedures of forensic death investigation. Students are instructed in the process of investigating all aspects of a death case falling under the jurisdiction of medical examiners in Texas. The importance of scene management and documentation, case file management, review of physical and psychological evidence, autopsy procedures, and consultation with other forensic science experts leading to the correct classification of cause and manner of death are emphasized.
Prerequisite: BIMS 4128.
Co-requisite: BIMS 4128, SMTE 0092.

BIMS 4330 Biological Basis of Aging
3 Semester Credit Hours (3 Lecture Hours)
Molecular aspects of aging and disease, including biological mechanisms and theories involving cells, tissues, and organ systems.
Prerequisite: BIOL 1407 and CHEM 3411.

BIMS 4333 Medical Entomology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to arthropods of medical and veterinary importance with particular emphasis on the critical roles that they play in their host group's health and well-being.
Prerequisite: BIOL 1407.
BIMS 4334 Human Genetics
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the genetic aspects of health and disease. Classic Mendelian and chromosomal disorders are examined as well as the relationship of genetic predisposition to the healthy state and to diseases/conditions.
Prerequisite: BIOL 2416 and CHEM 3412.

BIMS 4335 Endocrinology
3 Semester Credit Hours (3 Lecture Hours)
Basic biochemical and molecular aspects of hormone physiology, basic endocrine function and hormone action, immune-endocrine interactions, and clinical examples of the outcomes of abnormal function in human disease.
Prerequisite: BIMS 2200 or BIOL 2200 and BIOL 2416 and CHEM 3412.

BIMS 4340 Forensic Science in Criminal Law
3 Semester Credit Hours (3 Lecture Hours)
Students will learn legal procedures, rules of evidence, and applications of forensic science in the area of criminal law. Students will also develop skills in report writing and testifying in court.
Prerequisite: BIMS 3320.

BIMS 4374 Medical Microbiology
3 Semester Credit Hours (3 Lecture Hours)
Study of common human pathogenic organisms. Includes bacterial, parasitic, viral and fungal infections with emphasis on pathogenesis and treatment.
Prerequisite: BIOL 2421.

BIMS 4375 Mechanisms of Microbial Pathogenesis
3 Semester Credit Hours (3 Lecture Hours)
Studies of how microorganisms invade the host and produce pathological symptoms associated with diseases. Emphasis is on the interaction between various host cells and pathogens, especially molecular mechanisms of pathogenesis and host immune responses.
Prerequisite: BIOL 2421.

BIMS 4395 Forensic Science Internship
3 Semester Credit Hours (3 Lecture Hours, 5 Lab Hours)
This course is designed to bridge the gap between academic instructions and the forensic science industry by providing real world experience in forensic investigations. Students attend lectures on campus, plus spend five hours/week at a crime laboratory. Students will accompany crime scene investigators to actual crime scenes and participate in several hands on forensic exercises involving mock as well as real investigations. Some activities may result in students spending more that five hours of laboratory or practicum time.
Prerequisite: BIMS 3320.
Co-requisite: SMTE 0092.

BIMS 4396 Directed Independent Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
Research in areas of current interest. Written report required.
Prerequisite: BIOL 1407 and CHEM 1312.
Co-requisite: SMTE 0092.

BIMS 4406 Immunology
4 Semester Credit Hours (4 Lecture Hours)
An overview of immunology with emphasis on current knowledge of the immune system. Detailed examination of the specific cells, cytokines, antibodies, and molecules that comprise the immune system. Laboratory exercises demonstrate the basic principles and techniques used in immunologic studies. Cross listed with BIOL 4406.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

BIMS 4410 Histology
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The study of cells and tissues, especially the manner in which they are organized to form organs and systems. Laboratories involve intensive use of the microscope to identify cells, tissues and organs.
Prerequisite: BIOL 2402 or 3425.
Co-requisite: SMTE 0092.

BIMS 4590 Selected Topics
1-5 Semester Credit Hours (1-5 Lecture Hours)
Variable content. May be repeated for credit.

Business Law (BLAW)

BLAW 3310 Legal Environment of Business
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the legal systems of government, business and society. Includes coverage of ethics, the judicial process, basics of contracts law, constitutional issues, business torts and crimes, creditor/debtor relationships, business organizations, international law, environmental law, and various aspects of regulation of business.
Prerequisite: BUSI 0011.

BLAW 3320 Law for Personal Business
3 Semester Credit Hours (3 Lecture Hours)
A study of the laws that influence each individual in the conduct of personal life and business affairs. Includes such topics as the court and legal system, family law, torts, property law, insurance, wills and trusts, contracts, and other areas of current interest.

BLAW 3342 Law for Professional Certification
3 Semester Credit Hours (3 Lecture Hours)
Designed as a second course in business law for students who desire a more in-depth knowledge. Individuals planning to take professional certification exams that contain a business law component are encouraged to enroll in this course.
Prerequisite: (BLAW 3310).

BLAW 4350 Human Resource Law
3 Semester Credit Hours (3 Lecture Hours)
A study of the laws relating to human resource management in today's business environment. Covers discrimination, labor law, retirement regulations, safety issues and employee/management topics. Emphasis on current issues, cases and legislation. May be used as a management major elective or business elective.

BLAW 4390 Current Topics in Business Law
1-3 Semester Credit Hours (1-3 Lecture Hours)
Selected topics for special study related to laws impacting business, organizations and human resources. May be repeated for credit when topics vary.

BLAW 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and a final report.
Chemistry (CHEM)

CHEM 1305 Introductory Chemistry
4 Semester Credit Hours (3 Lecture Hours)
A one-semester principles course for students in non-science related majors covering the major concepts of chemistry (atomic structure, bonding, stoichiometry, elementary thermodynamics) and the role of chemistry in contemporary society (polymers, energy, pollution, etc.). Will not substitute for CHEM 1411.
TCCNS: CHEM 1305

CHEM 1411 General Chemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The foundation course in chemistry. Stoichiometry, chemical equilibria, atomic structure, chemical bonding, periodic properties, thermodynamics, chemical kinetics, and descriptive chemistry of the elements. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum. Either CHEM 1305 - Introductory Chemistry or CHEM 1411, but not both, may be applied towards the core requirement. This course is offered in Fall, Spring and typically during both Summer sessions .
Co-requisite: SMTE 0093.
TCCNS: CHEM 1411

CHEM 1412 General Chemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The continuation of CHEM 1411 - General Chemistry I*, the foundation course in chemistry with emphasis on quantitative aspects. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum.
Prerequisite: CHEM 1411 and MATH 1314.
Co-requisite: SMTE 0093.
TCCNS: CHEM 1412

CHEM 2490 Special Topics
4 Semester Credit Hours (1-4 Lecture Hours, 3 Lab Hours)
May be repeated for credit. Subject materials variable. Offered on sufficient demand.

CHEM 3411 Organic Chemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The structure, nomenclature, synthesis, reactions, and reaction mechanisms of the principal classes of organic compounds. Stereochemistry and spectroscopy of organic compounds. Laboratory involves separation and synthetic techniques and development of basic skills. This course is offered in Fall, Spring and typically during the Summer I session.
Prerequisite: CHEM 1411.
Co-requisite: SMTE 0093.

CHEM 3412 Organic Chemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 3411 . The course concludes with a survey of the structures of biomolecules. Laboratory involves spectroscopy and qualitative analysis techniques. This course is offered in Fall, Spring and typically during the Summer II session.
Prerequisite: CHEM 3411.
Co-requisite: SMTE 0093.

CHEM 3417 Quantitative Analysis
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A course in quantitative analysis, which includes chemical statistics and the use of acid-base, complexation, precipitation, and redox reactions to perform analyses and separations. Laboratory includes standard volumetric and gravimetric methods and development of basic quantitative techniques. This course is typically offered in Spring.
Prerequisite: CHEM 1412.
Co-requisite: SMTE 0093.

CHEM 3418 Instrumental Analysis
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
An introduction to instrumental methods of analysis: spectroscopy, chromatography, and electrochemical methods. Laboratory involves use of instrumentation in chemical analysis. This course is typically offered in Fall and Spring.
Prerequisite: CHEM 1412.
Co-requisite: SMTE 0093.

CHEM 4085 Major Field Test in Chemistry
0 Semester Credit Hours
The Major Field Test (MFT) in Chemistry is a national examination given in the Fall and Spring semesters only. It is a graduation requirement for all Chemistry students. Students enroll in this course during the semester that they plan to take the MFT. There is no cost to the student for either this course or for the MFT.

CHEM 4292 Senior Chemistry Seminar
2 Semester Credit Hours (2 Lecture Hours)
Presentation and discussion of selected topics in chemistry. Includes literature searches and reviews, paper presentations, survey of professional opportunities and requirements, career guidance and job searching skills.

CHEM 4320 Drugs, Toxins and Natural Products Chemistry
3 Semester Credit Hours (3 Lecture Hours)
The chemistry and biological activity of pharmaceuticals, toxins and selected natural products. Examines how chemical structure relates to biological activity. Also examines action of antibiotics, chemotherapy agents, analgesics, steroids, and compounds targeting the central and peripheral nervous system. This course is typically offered in Fall and Spring .
Prerequisite: CHEM 4401.

CHEM 4344 Chemical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
The study of the oceans and seas as a chemical system, including interactions with both the biota and the solid earth. This course is typically offered in Spring.
Prerequisite: CHEM 1412.

CHEM 4350 Polymer Chemistry
3 Semester Credit Hours (3 Lecture Hours)
An advanced lecture course in organic chemistry. Characterization of polymers. Polymerization mechanisms. Current research directions such as biomedical applications and electroactive polymers. This course is offered on an irregular basis.
Prerequisite: CHEM 3412.
CHEM 4401 Biochemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
The structure and function of carbohydrates, lipids, proteins, and nucleic acids. An introduction to enzyme kinetics, cell membrane structure and biochemical signaling. Laboratory exercises demonstrate the basic principles and techniques used in Biochemistry. This course is typically offered in Fall, Spring and Summer.
Prerequisite: CHEM 3412 and (BIOL 1406 and 1407).
Co-requisite: SMTE 0093.

CHEM 4402 Biochemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 4401. Biochemical energetics, including glycolysis, fatty acid oxidation, amino acid oxidation, citric acid cycle, oxidative phosphorylation, photophosphorylation and photosynthesis. Carbohydrate, fatty acid and amino acid biosynthesis. Laboratory is a continuation of biochemical techniques. This course is typically offered in Fall and Spring.
Prerequisite: CHEM 4401.
Co-requisite: SMTE 0093.

CHEM 4407 Advanced Inorganic Chemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A survey of inorganic chemistry. Theories of atomic structure, covalent bonding, ionic solids, metallic solids, and coordination compounds. Modern acid?base concepts. Laboratory involves the synthesis of inorganic compounds.
Prerequisite: CHEM 3412.

CHEM 4420 Physical Biochemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A fundamental approach to the study of physical and chemical phenomena, including the study of thermodynamics, gases and phase equilibria. This course is typically offered on an irregular basis.
Prerequisite: CHEM 1412 and (PHYS 1402 or 2426) and MATH 2414.
Co-requisite: SMTE 0093.

CHEM 4423 Physical Chemistry I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A fundamental approach to the study of physical and chemical phenomena, including the study of thermodynamics, gases and phase equilibria. This course is typically offered in Fall.
Prerequisite: CHEM 1412 and (PHYS 1402 or 2426) and MATH 2414.
Co-requisite: SMTE 0093.

CHEM 4424 Physical Chemistry II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A continuation of CHEM 4423, including the study of chemical kinetics, electrochemistry, molecular structure, and quantum mechanics. This course is typically offered in Spring.
Prerequisite: CHEM 4423.
Co-requisite: SMTE 0093.

CHEM 4443 Environmental Chemistry
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A study of the impact of chemistry on the environment, including topics of air pollution, water pollution, and beneficial chemical modifications of the environment. Laboratory devoted to field techniques of sampling, sample preservation, and analytical techniques applied to the environment. This course is typically offered in Spring.
Prerequisite: CHEM 1412 and 3411.
Co-requisite: SMTE 0093.

CHEM 4490 Special Topics
4 Semester Credit Hours (1 Lecture Hour, 1 Lab Hour)
May be repeated for credit. Subject materials variable.

CHEM 4696 Directed Independent Study
1-6 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration, to be approved by the supervising faculty, the chairperson and the dean of the College.

Chinese (CHIN)

CHIN 1311 Chinese I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to listening, speaking, reading and writing skills within a Chinese cultural framework. For students without previous knowledge of Mandarin Chinese. (Language Laboratory required. One hour per week.) A lab fee is required for this course.

CHIN 1312 Chinese II
3 Semester Credit Hours (3 Lecture Hours)
Continued practice in listening, speaking, reading and writing skills within a Chinese cultural framework. For students without previous knowledge of Mandarin Chinese. CHIN 1311 - Chinese I or equivalent is required. (Language Laboratory required. One hour per week.) A lab fee is required for this course.

Civil Engineering (CEEN)

CEEN 2315 Geomatics and Surveying Engineering
3 Semester Credit Hours (3 Lecture Hours)
(3:0) Concepts, principles, and applications of surveying methods and technology for planar measurement, geo-positioning and mapping, and civil engineering project design and management are introduced. Topics include: land surveying methods for field measurement; principles of distances, elevation and angles; geodetic datums and coordinate systems; topographic mapping; basic error theory in measurement and computational adjustments; traverse calculations; introduction to Global Positioning System (GPS). Computational exercises to process, analyze, and adjust survey data will provide practical experience in civil survey design and assessment.
Prerequisite: MATH 1316 or 2413.

CEEN 3320 Geotechnical Engineering I
3 Semester Credit Hours (3 Lecture Hours)
(3:0) Geotechnical engineering focuses on how soil supports and affects the performance of structures built on or below the earth’s surface. This course will introduce the terminology used in geotechnical engineering and provide a basic understanding of important geotechnical principles and analytic methods. The topics to be covered in this class includes: index soil properties and soil classification; soil permeability and pore water movement; soil stresses; soil compressibility, consolidation and settlement; shear strength of soil; engineering soil properties and measurement.
Prerequisite: ENGR 3315 and 3320.
CEEN 3330 GIS for Civil and Environmental Engineering
3 Semester Credit Hours (3 Lecture Hours)
(3:0) Introductory design principles presented on the use of geographic information system (GIS) technology for modeling and analysis of civil and environmental engineering systems. Introduction to the integration of geospatial data and analysis for decision making and management for site selection, mitigation, change analysis, modeling and assessment. Topics covered include map projections and georeferencing, vector and raster data models, acquisition and manipulation of data, cartography, current topics, data quality, and basic spatial analysis. The course integrates commercial GIS software (ESRI ArcGIS) for performing engineering analysis and problem solving. Students will participate in both individual software labs and team projects.
Prerequisite: COSC 1330 and CEEN 2315.

CEEN 4302 Remote Sensing
3 Semester Credit Hours (3 Lecture Hours)
Provides the foundations to interpret, process, and apply remotely sensed data acquired by satellites and sub-orbital platforms (aircraft, UAVs) for mapping and analysis of our natural and built environment. Principles of electromagnetic energy-matter interaction, remote sensing systems and data characteristics, digital image processing, and information extraction methods will be covered. Included is treatment of: aerial photogrammetry; multispectral, thermal, and hyperspectral sensing; earth observation satellites; radar and lidar; emergent topics. Emphasis will be on their use for geospatial and environmental applications. Offered Fall.
Prerequisite: PHYS 2425 and GISC 3300.

CEEN 4304 Civil and Construction Materials
3 Semester Credit Hours (3 Lecture Hours)
(3:0) The course provides instruction on civil and construction engineering materials used in the construction of highway structures such as pavements, bridges, retaining walls, box culverts, etc. In particular, the course concentrates on the engineering properties of aggregates, metals, portland cement concrete (PCC) and hot-mix asphalt (HMA) as well as the mixture design of PCC and HMA. The course targets those interested in civil engineering or construction engineering and management.
Prerequisite: ENGR 3320.

CEEN 4306 Transportation Engineering
3 Semester Credit Hours (3 Lecture Hours)
(3:0) This course will give an introduction to the basic concepts, theory, and practice of transportation engineering as related to planning, design, and operations of the transportation system. The topics to be covered in this class includes: fundamental principles in planning, design and operation of transportation systems; issues and challenges in transportation; driver and vehicle performance capabilities; highway geometric and pavement design principles; traffic analysis and transportation planning.
Prerequisite: CEEN 2315.

CEEN 4310 Water Resources Engineering
3 Semester Credit Hours (3 Lecture Hours)
(3:0) This course will give an overview of the basic concepts, analysis methods, and design procedure. The topics to be covered includes: hydraulic processes, hydrological cycle, streamflow prediction, uncertainty analysis, water demands, water distribution systems, reservoir and dams, urban stormwater drainage, and water resources planning and management.
Prerequisite: ENGR 3315.

CEEN 4312 Principles of Hydraulics and Hydrology
3 Semester Credit Hours (3 Lecture Hours)
(3:0) This course will give an introduction to the basic concepts, theory, and analytic methods of hydraulics and hydrology. The topics to be covered in this class includes: water flow through pipes and pumping systems, water flow through open channels and hydraulic structures, watershed hydrology, and urban sewer systems.
Prerequisite: ENGR 3315.

CEEN 4322 Geotechnical Engineering II – Coastal Environment
3 Semester Credit Hours (3 Lecture Hours)
(3:0) This course introduces key concepts and basic analysis and design techniques in geotechnical engineering for coastal environments. Emphasis is on the interaction between oceanic dynamic processes (waves, currents, tides, and sediment transport) and coastal regions (harbors, structures, beaches and estuaries) and on the engineering approaches necessary to prevent adverse effects caused by this interaction. Geotechnical aspects of coastal engineering projects will include design of traditional structures and exposure to softer coastal engineering techniques.
Prerequisite: CEEN 3320.

CEEN 4324 Structural Engineering
3 Semester Credit Hours (3 Lecture Hours)
(3:0) This class will provide students with a solid background on principles of structural engineering. Students will be exposed to the theories and concepts of both concrete and steel design and analysis both at the element and system levels. Hands-on design experience and skills will be gained and learned through problem sets and a comprehensive design project. An understanding of real-world open-ended design issues will be developed.
Prerequisite: ENGR 3320 and MATH 3315.

CEEN 4330 Introduction to Bridge and Pavement Engineering
3 Semester Credit Hours (3 Lecture Hours)
(3:0) This course focuses on the materials, technology and procedures used to design and manage road pavements, with reference to the National Roads Authority (NRA) Design Manual for roads and bridges, and guidelines issued by the Department of Transport, Tourism and Sport (DTTS).
Prerequisite: CEEN 4304.

CEEN 4332 Traffic Engineering
3 Semester Credit Hours (3 Lecture Hours)
(3:0) The purpose of this course is to introduce fundamentals of traffic engineering including data collection, analysis, and design. Emphasis is on the safe and efficient operations of roadway intersections. Traffic engineering studies traffic control devices, capacity and level of service analysis of freeways and urban roads. Applications of traffic operations include computer simulation models to the design of isolated intersection and coordinated traffic signal control systems.
Prerequisite: CEEN 4306.

CEEN 4342 Construction Management
3 Semester Credit Hours (3 Lecture Hours)
The course focuses on management techniques to solve the unique problems associated with a construction project. Study of Construction Management functions including Project Management, Cost Management, Time Management, Quality Management, Contract Administration, and Safety Management will be covered. Emphasis is put on the application of each function throughout the project phases.
Prerequisite: CEEN 4304.
Clinical Lab Science (CLSC)

CLSC 3102 Essentials for Clinical Laboratory Science
1 Semester Credit Hour (1 Lecture Hour)
Application of essential practices for clinical laboratory science. Offered fall semester every year.
Co-requisite: SMTE 0092.

CLSC 3200 Essentials for Applied Laboratory Sciences
2 Semester Credit Hours (1 Lecture Hour)
Introduction to general laboratory procedures, laboratory safety and regulations, quality assurance, professional ethics, specimen acquisition, sample maintenance and microscopy. Includes an introduction to the health care, public health and criminal investigation system. Offered fall, spring and summer semesters every year.
Prerequisite: BIOL 1407 and CHEM 1412.

CLSC 4120 Hemostasis
1 Semester Credit Hour (1 Lecture Hour)
Studies of blood coagulation with an emphasis on the interaction of blood vessels, platelets, and certain plasma proteins. Disorders of hemostasis will be discussed along with diagnostic testing.

CLSC 4182 Seminar – Clinical Correlations
1 Semester Credit Hour (1 Lecture Hour)
Informal lectures covering the newest developments in laboratory medicine. Includes discussion of the patient's clinical laboratory results, selection and interpretation of laboratory tests, and presentation of research. Requires permission of instructor and application. Offered summer semester (summer II only) every year.

CLSC 4200 Professional Skills for Clinical Laboratory Scientists
2 Semester Credit Hours (2 Lecture Hours)
Study of the role of the medical laboratory professional in the health care system. Includes professional ethics, legal responsibility, medical laboratory management, instructional methods, evaluation of clinical laboratory methods, medical laboratory instrument selection, clinical research and current professional topics. Requires permission of instructor and application. Offered summer semester (summer I only) every year.

CLSC 4280 Introduction to the Clinical Laboratory Profession
2 Semester Credit Hours (2 Lecture Hours)
Studies of the latest instrumentation, instrument selection, basic research, quality assurance and statistics used in the clinical laboratory.
Prerequisite: (CLSC 3200, CHEM 4401 and MATH 1442).

CLSC 4297 Professional Practicum I
2 Semester Credit Hours (2 Lecture Hours)
Supervised learning experience in selected departments of the clinical laboratories.

CLSC 4325 Clinical Chemistry I
3 Semester Credit Hours (3 Lecture Hours)
Principles and practice of procedures found in general clinical chemistry. Includes the methodology of diagnostic tests and normal and abnormal human physiology as applied to diagnosis of pathological conditions.
Prerequisite: CHEM 4401.
Co-requisite: SMTE 0092.

CLSC 4326 Clinical Chemistry II
3 Semester Credit Hours (3 Lecture Hours)
Continuation of CLSC 4325 - Clinical Chemistry I. Emphasis on advanced clinical chemistry topics and procedures.
Prerequisite: CLSC 4325.

CLSC 4370 Clinical Microbiology I
3 Semester Credit Hours (3 Lecture Hours)
Lecture and laboratory studies of common pathogenic bacteria. Emphasis is on staining, cultural, and differential biochemical characteristics, methods of isolation from body fluids and susceptibility to therapeutic agents.
Prerequisite: BIOL 2421.
Co-requisite: SMTE 0092.

CLSC 4371 Clinical Microbiology II
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Lecture and laboratory studies of the newest development in laboratory diagnostic medicine. Includes advanced clinical chemistry, immunology and molecular diagnostic procedures.
Prerequisite: CLSC 4325 and BIMS 4406 or BIOL 4406 and CHEM 4401.

CLSC 4420 Hematology
4 Semester Credit Hours (4 Lecture Hours)
Studies of the formation, function and identifying characteristics of the cellular elements of human blood and other body fluids in health and diseased states and laboratory studies on blood coagulation. Lecture and laboratory emphasize the enumeration, morphology and staining characteristics of normal and abnormal cells and hemostasis.
Prerequisite: BIOL 2416 and CHEM 4401.
Co-requisite: SMTE 0092.

CLSC 4430 Clinical Immunology
4 Semester Credit Hours (4 Lecture Hours)
Theoretical aspects of the immune response and its relationship to the diagnosis of disease and clinical immunohematology. Lecture and laboratory stress the detection, identification and characterization of antibodies, blood grouping and typing, compatibility testing, blood component therapy, HLA testing and diagnosis of pathological conditions.
Prerequisite: BIMS 4406 or BIOL 4406.
Co-requisite: SMTE 0092.

CLSC 4598 Professional Practicum II
5 Semester Credit Hours (5 Lecture Hours)
Continuation of CLSC 4297 - Professional Practicum I. Supervised learning experience in selected departments of the clinical laboratories.
Prerequisite: CLSC 4297.

CLSC 4599 Professional Practicum III
5 Semester Credit Hours (5 Lecture Hours)
Continuation of CLSC 4598 - Professional Practicum II. Supervised learning experience in selected departments of the clinical laboratories.
Prerequisite: CLSC 4598.
COMM 1311  Foundation of Communication  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines a breadth of topics fundamental to the study of communication and works to improve students' communication skills in three primary contexts: interpersonal relationships, group/teamwork, and presentational speaking.  
TCCNS: SPCH 1311  

COMM 1315  Public Speaking  
3 Semester Credit Hours (3 Lecture Hours)  
Research, composition, organization, and delivery of speeches for various purposes and occasions, with emphasis on listener analysis and on informative and persuasive techniques.  
TCCNS: SPCH 1315  

COMM 1318  Interpersonal Communication  
3 Semester Credit Hours (3 Lecture Hours)  
Predominant issues related to verbal and nonverbal communication with a focus on interpersonal relationships.  
TCCNS: SPCH 1318  

COMM 1321  Business and Professional Communication  
3 Semester Credit Hours (3 Lecture Hours)  
Introduces students to basic skills, principles, and contexts of communication in business and professional settings by combining public speaking with aspects of communication ethics and organizational, small group, and interpersonal communication. Students will learn practical skills via presentations, research, resumes, interviews, meetings, and professional writing grounded in communication theory.  

COMM 1342  Voice and Diction  
3 Semester Credit Hours (3 Lecture Hours)  
Basic voice training, including techniques for vocal production, manipulation, and control. Practical application of the vocal apparatus will be emphasized, including techniques of enunciation, projection, articulation, and the use of dialects. (Credit may not be given for both this course and THEA 1342.)  
TCCNS: SPCH 1342  

COMM 2330  Introduction to Public Relations  
3 Semester Credit Hours (3 Lecture Hours)  
An exploration of the history and development of public relations including the theory and process of public relations, and the various publics and careers associated with the public relations industry.  
TCCNS: COMM 2330  

COMM 2333  Small Group Communication  
3 Semester Credit Hours (3 Lecture Hours)  
Application of small group theories and techniques as they relate to group process and interaction.  
TCCNS: SPCH 2333  

COMM 2335  Presentational Communication  
3 Semester Credit Hours (3 Lecture Hours)  
Advanced study of the principles and methods of formal presentations for various purposes and audiences to further develop students into effective communicators. Course assignments will include various special occasion speeches, dynamic instructional speeches, extemporaneous speaking, creation of effective visual aids, and a group community action presentation.

COMM 3310  Communication Theory  
3 Semester Credit Hours (3 Lecture Hours)  
The foundations, processes, and effects of human communication. A survey of contemporary theory and research, including language theory, nonverbal and small group communication, persuasion, and mass communication.  

COMM 3311  Nonverbal Communication  
3 Semester Credit Hours (3 Lecture Hours)  
The study of body movement, touch, paralanguage, space, environment, and other nonverbal factors in the communication process.  

COMM 3325  Relational Communication  
3 Semester Credit Hours (3 Lecture Hours)  
This course is an advanced interpersonal communication course that focuses on communication within relationships, such as family, romantic, friendship, and workplace relationships.  
Prerequisite: COMM 1318.  

COMM 3326  Research Methods  
3 Semester Credit Hours (3 Lecture Hours)  
The purpose of this course is to increase student’s knowledge of the research process used in the Communication Studies discipline. Specifically, the course will allow students the opportunity to learn the goals of communication research and scrutinize various techniques for creating academic research and assessing academic knowledge.  

COMM 3330  Persuasion  
3 Semester Credit Hours (3 Lecture Hours)  
Various theories and forms of rhetorical persuasion. Topics include practical reasoning skills, psychological theories of persuasion, and critical responses to persuasive messages.  

COMM 3331  Public Relations Writing and Design  
3 Semester Credit Hours (3 Lecture Hours)  
This course will introduce students to the basic principles and formatting requirements for public relations writing. Students will gain theoretical and practical experience in developing content for specific audiences.  

COMM 3335  UIL Debate and Speech  
3 Semester Credit Hours (3 Lecture Hours)  
Understanding the University Interscholastic League debate and speech events. Students explore approaches to analytical reasoning, research delivery, and the conceptual basis for debate and gain practical experience in understanding and judging UIL in the high school setting.  

COMM 3350  Leadership  
3 Semester Credit Hours (3 Lecture Hours)  
foci on the communication of influence that takes place to achieve goals or encourage change. Specific attention will be devoted to a variety of approaches, processes, and theories that will provide students general knowledge of leadership.  

COMM 4314  Gender Communication  
3 Semester Credit Hours (3 Lecture Hours)  
Examination of communication about women and men, as well as communication between them. Special course emphasis on explanations of gender, sexist language, media depiction of the sexes, and gender communication in the formation of social and work relationships.
COMM 4315 Communication and Sexuality
3 Semester Credit Hours (3 Lecture Hours)
This course will focus on communication and sexuality, specifically exploring sex and gender identity development and expression, intersections of race/ethnicity and sex/gender, and sexual, gender, and gender roles, and power abuses related to sexual activity, with specific focus on consent and sexual safety.

COMM 4331 Public Relations Campaigns
3 Semester Credit Hours (3 Lecture Hours)
An application of the public relations process (including primary and secondary research, goals and objective development, the selection of proper strategies and tactics for implementation, and evaluation of campaign effectiveness) through the production and presentation of a public relations campaign for a local organization.
Prerequisite: COMM 2330.

COMM 4335 Crisis Communication
3 Semester Credit Hours (3 Lecture Hours)
An application of crisis communication (including organizational research, risk and vulnerability assessment, strategic communication, and performance and damage evaluation) through the development and presentation of a crisis communication plan for a local organization.

COMM 4345 Intercultural Communication
3 Semester Credit Hours (3 Lecture Hours)
An investigation of the process by which persons and groups of different cultural backgrounds create understanding. Types of knowledge, skills, and sensitivity necessary for intercultural communication are developed.

COMM 4350 Organizational Communication
3 Semester Credit Hours (3 Lecture Hours)
Examination and exploration of realistic applications of communication theories within the framework of an organization. Particular attention will be given to techniques for diagnosing communication problems, as well as strategies for effecting change in communication.

COMM 4360 International Leadership
3 Semester Credit Hours (3 Lecture Hours)
Study of international leadership in the context of communication and in multi-cultural and diverse settings. Influences of global economy, politics, social values in international leadership.

COMM 4380 Senior Seminar in Communication Studies
3 Semester Credit Hours (3 Lecture Hours)
This course serves as the capstone for the Communication Studies degree. It offers students opportunities to synthesize information learned in other Communication courses and demonstrate abilities to think critically, conduct independent research linked to appropriate communication theories, create individual and collaborative projects that demonstrate effective use of communication strategies, and present written and oral work at an advanced level.
Prerequisite: (COMM 2335, 3310 and 3326).

COMM 4390 Topics in Communication Studies
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics and themes in communication studies. May be repeated when topics vary.

COMM 4394 Professional PR Portfolio
3 Semester Credit Hours (3 Lecture Hours)
Students prepare documents, explore strategies for enhancing their marketability, and assemble a professional portfolio of public relations work.
Prerequisite: COMM 2330, MEDA 2350, COMM 4331 and 4335.

COMM 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description. By application. Only 3 semester hours of Directed Individual Study credit may be counted toward the major.

COMM 4399 Communication Internship
3 Semester Credit Hours
Practical experience in the field through placement in a communication internship position. Students interested in applying for the internship course must have a minimum cumulative GPA of 3.0; have at least junior standing at the university; be a communication studies major or minor, or public relations minor; have completed at least 12 hours of coursework in the major or minor at TAMU-CC. Preferred applicants will have a minimum communication or public relations GPA of 3.25. All applicants must solicit a recommendation from a Department of Communication and Media faculty member. Course may be taken three times for credit; however only 3 semester hours of internship credit may be counted toward the major. A second internship may apply to the communication studies minor or public relations minor; a third internship may be used as a free elective. Authorization to repeat the internship course is contingent on the students' successful completion of the previous internship experience. This course is graded Credit/No Credit.
COSC 1435 Introduction to Problem Solving with Computers I  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course introduces the fundamental concepts of problem solving and algorithms. A brief introduction to computers and the programming life cycle is covered. The C++ programming language is used to develop basic computer programs demonstrating data types, fundamental control structures, functions, and arrays.  
Prerequisite: MATH 1314 or 2312.  
TCCNS: COSC 1435

COSC 1436 Introduction to Problem Solving with Computers II  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course is a continuation of COSC 1435. An introduction to abstract data types and object-oriented programming is covered. Topics include basic searching and sorting algorithms, dynamic allocation, linked lists, inheritance, polymorphism, and recursion.  
Prerequisite: COSC 1435.  
TCCNS: COSC 1437

COSC 2325 Game Design  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
This course will teach students the techniques for computer game design and how to work as part of a game development team from initial conception through release, including the game design process, game concepts, how and why we play games, character development, storytelling, user experience, game play, and core mechanics of games.

COSC 2334 Computer Architecture  
3 Semester Credit Hours (3 Lecture Hours)  
A concentrated study of internal computer concepts. Computer organization, machine and assembly language are emphasized.  
Prerequisite: COSC 1435 and MATH 2305.

COSC 2348 Introduction to Scripting  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to Windows and Unix/Linux shell scripting. The course covers basic scripting concepts including decision statements, control statements, functions and files manipulation. Advanced scripting tools such as grep, awk and sed are covered in this course.  
Prerequisite: (COSC 1435).

COSC 2360 Cyber Security  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to Cyber Security. A broad range of Cyber Security Issues will be covered, including Social Engineering Attacks, Secure Coding, Computer Security, Internet of Things (IoT) Security, Mobile Security, Data Security, Network Security, Physical Security and Forensics. This course will cover the concepts of Prevention, Detection, and Response to Cyber Security Threats.  
Prerequisite: (COSC 1435).

COSC 2390 Selected Topics I  
1,3 Semester Credit Hours (1,3 Lecture Hours)  
Variable content. May be repeated for credit depending on topic. Offered on sufficient demand. Does not count toward total hours required for BS in Computer Science.

COSC 2391 Selected Topics II  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
This is a selected topics course with no lab component. Variable content. May be repeated for credit depending on topic. Offered on sufficient demand. Does not count toward total hours required for BS in Computer Science.

COSC 2437 Data Structures  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course provides a thorough study of standard structures used in the storing and retrieving of data and the processes by which these structures are created and manipulated. Topics include: object oriented design, linked lists, classes, trees, graphs, hashing, stacks, queues, sorting, searching, and recursion. A grade of C or better is required in the course to receive credit towards the Computer Science BS program.  
Prerequisite: (COSC 1436) and (MATH 2305 or 2305 ).  
TCCNS: COSC 2436

COSC 2465 Linux Systems  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course focuses on providing students with essential knowledge and skills to implement, administer, and troubleshoot servers in a networked environment. Operating system concepts, such as installing a standalone system, file systems authentication, and user support services are explored. Topics will include security issues, user and group administration, active directory services, DHCP, DNS, SSH, backup and restoration strategies and techniques, integrated mass storage technologies and alternative client technologies.  
Prerequisite: COSC 1435.

COSC 2466 Network Systems  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course focuses on the standards and technologies used to establish inter-network structures that will support a TCP/IP data stream for higher-level services to operate over. This course introduces local area networks (LAN) and wide area networks (WAN). Topics include the TCP/IP and open system interconnection (OSI) models, cabling, switches, routers, protocols, subnetting, and networking hardware and software. Initial switch and router configuration will be examined and evaluated.  
Prerequisite: (COSC 1435 and 2465).

COSC 2470 COBOL Programming  
4 Semester Credit Hours (4 Lecture Hours)  
A concentrated study of the COBOL language as applied to fundamental business computing problems and other data management applications.  
Prerequisite: COSC 1435.

COSC 3100 Skills for Computing Professionals I  
1 Semester Credit Hour (1 Lecture Hour)  
This course focuses on beginning to develop professional skills that computer scientists will need to be successful in their careers and lives. Communication skills will include writing and giving oral presentations. Ethical issues will be explored. This is a class for computing professionals. As such, professional decorum will be required at all times.

COSC 3301 Cyber Security  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to cyber security. A broad range of cyber security issues will be covered, including social engineering attacks, secure coding, computer security, Internet of Things (IoT) security, mobile security, data security, network security, physical security and forensics. This course will cover the concepts of prevention, detection, and response to cyber security threats.
COSC 3324  Object-oriented Programming  
3 Semester Credit Hours (3 Lecture Hours)  
A study of concepts, terminology, and methodologies used in object-oriented systems, languages, and applications. Students will design and implement software systems using object-oriented analysis and design techniques.  
Prerequisite: COSC 2437.

COSC 3325  Game Programming  
3 Semester Credit Hours (3 Lecture Hours)  
This course will introduce the student to techniques and tools used for all aspects of programming games. Topics will include game graphics, game physics, game AI, and sound. The course will contain lectures and hands-on labs. Students will work independently and in teams.  
Prerequisite: COSC 2437.

COSC 3335  Programming for Unmanned Aircraft Systems  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces software development for Unmanned Systems (US). Students will be introduced to a variety of relevant topics including the different US platforms, design and implementation of algorithms for US, user interface for US, and state-of-the-art US applications, challenges & solutions.  
Prerequisite: (COSC 1435 or 1330) and (MEEN 3335).

COSC 3336  Introduction to Database Systems  
3 Semester Credit Hours (3 Lecture Hours)  
A study of contemporary database management system concepts, terminology, and methodology for use and implementation. Commercially available systems are discussed and used with emphasis upon the relational model.  
Prerequisite: COSC 2437.

COSC 3346  Operating Systems  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to operating systems concepts, principles, and design. Topics include: processes and threads, CPU scheduling, mutual exclusion and synchronization, deadlock, memory management, file systems, security and protection, networking, and distributed systems. Selected existing operating systems are discussed, compared, and contrasted.  
Prerequisite: (COSC 2437 and 2334).

COSC 3351  Internet Programming  
3 Semester Credit Hours (3 Lecture Hours)  
Study of prominent web technologies with a focus on creating interactive web applications. Both client-side and server-side programming will be covered. Students will design and implement a web based project using technologies covered in class.  
Prerequisite: COSC 3336 or 3336*.  
*May be taken concurrently.

COSC 3352  Mobile Programming  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces software development for mobile platforms. Students will learn skills for creating and deploying mobile applications. Includes software engineering topics as related to mobile programming, primarily in how software design differs on mobile platforms.  
Prerequisite: COSC 2437.

COSC 3353  Survey of Programming Languages  
3 Semester Credit Hours (3 Lecture Hours)  
A study of selected programming languages for students familiar with programming. Students will write programs in a variety of languages.  
Prerequisite: COSC 2437.

COSC 3360  Human-computer Interaction  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces concepts and techniques for Human Computer Interaction. Particular emphasis will be placed on vision, audio, and language solutions for use in human-computer interactive systems. In addition, the students will learn how to apply the methods to solve simple HCI problems.  
Prerequisite: COSC 1436.

COSC 3370  Software Engineering  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to software engineering principles for the development and maintenance of high quality large software systems. Topics include: software life cycle, delivering on time and within budget, and the development and application of processes and tools for managing the complexities inherent in creating these systems.  
Prerequisite: COSC 2437.

COSC 3371  Computer Information Systems Economics  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to concepts in information technology and software engineering with a focus on economics and managerial issues. Topics include cost benefit analysis, software and effort estimation, feasibility analysis, information systems proposals, software team coordination, and project management. May not be used as a CS elective for CS majors.

COSC 3372  Network Security  
3 Semester Credit Hours (3 Lecture Hours)  
This course provides an introduction to the fundamentals of computer and network security and security laws and ethics, topics include, identification of vulnerabilities, forms of attack, appropriate countermeasures, and the detection and defense of the same. Techniques for the securing of hardware, software and data, including physical security are covered.  
Prerequisite: COSC 2465.

COSC 3373  Software Project Management  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces students to the principles for software project management for small and medium-size projects. Many aspects of software project management, including management process, scope definition, time and cost estimation, quality control, human resources, communication, risks and project procurement management will be discussed. A number of applications and tools will be used to implement a class project.  
Prerequisite: (COSC 3370).

COSC 3385  Numerical Methods  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces concepts for solving problems numerically using computers. Students will learn about number systems, errors of finite representation, and iteration. A survey of basic numerical methods including: solutions to nonlinear equations, solutions to linear systems, approximation, interpolation, zeros of functions, numerical differentiation and integration, and Monte-Carlo methods.  
Prerequisite: MATH 2413 and (COSC 1330 or 1435).
COSC 3400  Skills for Computing Professionals  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
This course focuses on the professional skills that computer scientists will need to be successful in their careers. There are two key areas of study: communication skills needed by computer scientists and their ethical responsibilities. Communication skills will include: technical writing from a computer science perspective, presentation skills, client interviewing, and reading technical articles. Ethical issues will be explored from a computer science perspective.  
Prerequisite: ENGL 1302.  

COSC 3474  Cyber Defense I  
4 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
This course covers cryptographic tools, cryptographic algorithms, types of malicious software, forms of attacks and software security. Strengths and weaknesses of cryptographic systems are covered as well as the types of attacks on cryptographic systems. Malicious activity signatures, analysis as well as detection will be covered. This course will also cover secure coding principles and types of software issues.  
Prerequisite: COSC 3372.  

COSC 4100  Skills for Computing Professionals II  
1 Semester Credit Hour (2 Lab Hours)  
This course focuses on technical writing, workplace scenarios and professional skills that computer scientists will need to be successful in their careers and lives. This is a class for computing professionals. As such, professional decorum will be required at all times.  
Prerequisite: COSC 1100 and ENGL 3310.  

COSC 4310  Digital Forensics  
3 Semester Credit Hours (3 Lecture Hours)  
This course will introduce undergraduate students to the fundamentals of computer forensics and cyber-crime scene analysis. The various laws and regulations dealing with computer forensic analysis will be discussed. Students will be introduced to the emerging international standards for computer forensic analysis, as well as a formal methodology for conducting computer forensic investigations. Several Forensics tools such as Encase and FTK will be used to conduct digital forensics investigations.  
Prerequisite: COSC 2437.  

COSC 4324  Image Processing  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces concepts and techniques for image processing. The objective of this course is to introduce the fundamental techniques and algorithms used for processing and extracting useful information from digital images. The students will learn how to apply the image processing methods to solve real-world problems.  
Prerequisite: COSC 2437.  

COSC 4325  Advanced Game Programming  
3 Semester Credit Hours (3 Lecture Hours)  
This course will introduce advanced concepts for game programming to the student. Topics will include game physics, game AI, advanced shaders, 3D techniques, multiplayer techniques, and networking. The course will contain lectures and hands-on labs.  
Prerequisite: COSC 3325.  

COSC 4328  Computer Graphics  
3 Semester Credit Hours (3 Lecture Hours)  
Basic principles and techniques for computer graphics on modern graphics hardware. Students will gain experience in interactive computer graphics using the OpenGL API. Topics include: 2D viewing, 3D viewing, perspective, lighting, and geometry.  
Prerequisite: COSC 2437 and MATH 2413.  

COSC 4330  Introduction to Artificial Intelligence  
3 Semester Credit Hours (3 Lecture Hours)  
Foundations, directions, and applications of artificial intelligence including search algorithms, knowledge acquisition, representation, and processing. Students will gain practical experience by implementing many of the basic algorithms.  
Prerequisite: COSC 2437.  

COSC 4342  Computer Networks  
3 Semester Credit Hours (3 Lecture Hours)  
Computer-based communication systems. Topics include: advanced computer network architectures, protocols, and programming.  
Prerequisite: (COSC 2437 and MATH 2413).  

COSC 4343  Algorithms  
3 Semester Credit Hours (3 Lecture Hours)  
Advanced programming techniques for algorithmic and heuristic solutions of problems. Topics include: analysis and design of algorithms, testing of algorithms, optimum and exhaustive solutions, and recursion.  
Prerequisite: (COSC 2437 and MATH 2413).  

COSC 4345  Introduction to Machine Learning  
3 Semester Credit Hours (3 Lecture Hours)  
This course gives a broad introduction to machine learning with more emphasis on intelligent system design. Topics to be covered include linear and logistic regression, neural networks, clustering, classification, decision tree, evolutionary computation, feature selection, and reinforcement learning. The courses will explore various applications of machine learning to computer science, process modeling, pattern and speech recognition, data mining, and bioinformatics.  

COSC 4348  Systems Programming  
3 Semester Credit Hours (3 Lecture Hours)  
The design and implementation of system software such as device drivers, application support libraries, and interprocess communication. Students will study and use systems programming tools.  
Prerequisite: COSC 3346 and (COSC 3353 or 3324).  

COSC 4353  Compiler Construction  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces the basic concepts and mechanisms traditionally employed in language translators, with emphasis on compilers. Topics include: strategies for syntactic and semantic analysis, techniques of code optimization and approaches toward code generation.  
Prerequisite: COSC 3353.  

COSC 4354  Senior Capstone Project  
3 Semester Credit Hours (3 Lecture Hours)  
Teamwork and formal methods of systems analysis and design are emphasized. Students will complete a large team project. Fall, Spring.  
Prerequisite: (COSC 3370, 3336 and ENGL 3310).  

COSC 4360  Theory of Programming Languages  
3 Semester Credit Hours (3 Lecture Hours)  
The study of programming language design including syntax, semantics, behavior, and implementation issues in imperative, functional, logic, and object-oriented languages. Other topics include type theory, concurrency, data dependency, and nondeterminism.  
Prerequisite: COSC 2437.
COSC 4365  Windows Security  
3 Semester Credit Hours (3 Lecture Hours)  
This course focuses on advanced system administration topics. An in-depth understanding of various concepts such as operating systems, servers, file systems authentication, and user support services are explored. Topics include security issues, user and group administration, server and work-station integration, central repositories for updates, Active directory, DMZ, web servers, email servers, electronic system update and maintenance, backup and restoration strategies and techniques, integrated mass storage technologies and alternative client technologies.  
Prerequisite: (COSC 2348) and (COSC 2465).

COSC 4367  Firewall and Intrusion Detection Systems  
3 Semester Credit Hours (3 Lecture Hours)  
This is an applied course which focuses on the standards and technologies used to establish inter-network structures that will support a TCP/IP data stream for higher-level services to operate over. This course introduces firewalls, Intrusion Prevention Systems (IPS), and Intrusion Detection Systems (IDS) technology. Topics include Windows, Linux, Check Point and Cisco firewalls, TCP/IP and open system interconnection (OSI) models, attack traffic analysis, and network based and host based hardware and software. Device configuration will be examined and evaluated with appropriate exercises.  
Prerequisite: (COSC 4365) and COSC 3372.

COSC 4368  Penetration Testing  
3 Semester Credit Hours (3 Lecture Hours)  
This course focuses to increase the students understanding of how to recognize a potential cyber attacker and identify vulnerabilities through the use of vulnerability analysis tools. Students will audit, monitor, and revise system security to ensure appropriate levels of protection are achieved. Incident response and handling, security log analysis, attacker identification, system recovery and postmortem procedures will be addressed.  
Prerequisite: (COSC 3474) and (COSC 4365).

COSC 4369  Incident Response  
3 Semester Credit Hours (3 Lecture Hours)  
This course focuses on the standards and technologies used to establish organization structures that will support information technology incident response, business continuity and disaster recovery efforts. This course introduces incident response, business continuity and disaster recovery planning concepts as well as tools and techniques. Topics include the development and implementation of incident response, business continuity and disaster recovery plans, attack traffic analysis, and network-based and host-based hardware and software. Concepts will be examined and evaluated with appropriate exercises.  
Prerequisite: (COSC 2437) and (COSC 3365) and (COSC 3466) and (COSC 4365).

COSC 4370  Models of Computation  
3 Semester Credit Hours (3 Lecture Hours)  
A study of formal languages, grammars, and associated abstract machine models. Topics include regular and context-free languages and grammars, finite state automata, Turing machines, and the Chomsky hierarchy.  
Prerequisite: MATH 2305.

COSC 4396  Directed Independent Study  
3 Semester Credit Hours  
See College description. Offered on sufficient demand.
CRIJ 3310 The Judicial Process
3 Semester Credit Hours (3 Lecture Hours)
Examination of the civil and criminal legal systems and the roles played by political, social, and economic factors in the administration of justice. Consideration of the roles and interests of litigants, defendants, police, attorneys, and the judiciary in the process.

CRIJ 3313 The Juvenile Justice System
3 Semester Credit Hours (3 Lecture Hours)
The administration of the juvenile justice process. Historical and philosophical origins of the juvenile justice system. A systematic analysis of problems and procedures at each stage of the process.

CRIJ 3315 Crime Prevention
3 Semester Credit Hours (3 Lecture Hours)

CRIJ 3320 Issues in Corrections
3 Semester Credit Hours (3 Lecture Hours)
Analysis of contemporary developments, controversies and management concerns in the field of corrections. Includes examination of theoretical foundations of correctional policy.

CRIJ 3325 Community-Based Corrections
3 Semester Credit Hours (3 Lecture Hours)
Examination of the correctional strategies and facilities available in community settings including diversion programs, probation, parole, half-way houses, boot camps, and restitution centers.

CRIJ 3340 Comparative Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
Comparison of the police in selected countries with the U.S. criminal justice system. Particular emphasis on social, political, and economic factors in the development and change in law enforcement.

CRIJ 3341 Terrorism
3 Semester Credit Hours (3 Lecture Hours)
An examination of political violence from criminological, legal, and political perspectives. Application to contemporary events is emphasized. The sociology, psychology, and organization of terrorist groups are also explored as well as counter-terrorism strategies, methods, and dilemmas.

CRIJ 3360 Organized Crime
3 Semester Credit Hours (3 Lecture Hours)
The course analyzes and discusses how criminal organizations carry out their illegal activities while laundering money through legal enterprises. It discusses why people belong to organized crime syndicates despite the risks of death and imprisonment. The linkages of poverty, lack of education, social and economic inequalities, and the glorification of capitalist ideology by the phenomenon of organized crime are examined.

CRIJ 3361 Drugs, the Drug War, and Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course is an analysis and discussion of drugs, the war on drugs, and how these two phenomena impact the criminal justice system in American society. There is a review of the common assumptions about drugs and its social implications. An examination of the sociocultural interconnections of the nature of drugs, drug use, drug trafficking, and drug policy from a justice perspective is presented.

CRIJ 3365 Sex Crimes
3 Semester Credit Hours (3 Lecture Hours)
This course analyzes the nature, etiology, and theories related to sex offenses and sex offenders. It explores the history and current practices employed by the criminal justice systems to deal with sex offending. The course also examines multiple types of sexual offenses, perpetrators and victims, as well as the legal consequences of sexual offenses and its sociocultural ramifications to grasp the complexity of these crimes.

CRIJ 3370 Crime in the Media
3 Semester Credit Hours (3 Lecture Hours)
This course will cover the portrayal of crime, criminals, the criminal justice system, and criminal justice practitioners in the media. Specifically, the course will address the goals of the media and how those affect their coverage of crime and the CJ system.

CRIJ 3375 Applied Statistics in Criminal Justice
3 Semester Credit Hours (3 Lecture Hours)
This course will teach students the step-by-step process for using statistical techniques that are most applicable in the field of criminal justice. It will teach them when, where, and why each statistical analysis is necessary and/or useful, and it will help students learn those skills by applying them to an actual project.

CRIJ 3380 Victimology
3 Semester Credit Hours (3 Lecture Hours)
The scientific study of crime victims and focuses on the physical, emotional, and financial harm victims suffer due to crime. The purpose of this course is to examine victim-offender relationships, the interactions between victims and the criminal justice system, and the connections between victims and other institutions (such as the media, advocacy groups, and government). In exploring these connections, students will address the theory, research, legislation, and policy implications related to victimization.

Prerequisite: CRIJ 1301.

CRIJ 4085 Major Field Test
0 Semester Credit Hours
The Major Field Test (MFT) in Criminal Justice is a national examination given in the Fall and Spring semesters only. It is a graduation requirement for all Criminal Justice majors. Students enroll in this course during the semester that they plan to take the MFT. This should be the semester of graduation or the Spring semester for those planning a summer graduation. There is no cost to the student for either this course of for the MFT. Admission is limited to students who have completed 90 or more semester credit hours. Graded: CR/NC

CRIJ 4310 Constitutional Law
3 Semester Credit Hours (3 Lecture Hours)
A case study of American constitutional law based on the leading decisions of the U.S. Supreme Court. Examination of the evolution of judicial review and the development of due process and the protection of individual rights.

CRIJ 4312 Law and Evidence
3 Semester Credit Hours (3 Lecture Hours)
A detailed examination of the use, admissibility, and presentation of evidence. Issues and problems dealing with the rules of evidence and the theories on which those rules are based.
CRIJ 4313  Criminal Procedure  
3 Semester Credit Hours (3 Lecture Hours)  
A detailed examination of the legal constraints on investigation and prosecution of criminal offenses. Analysis of the Texas Code of Criminal Procedure and of Search and Seizure Law under the Fourth Amendment, as well as other due process issues arising under the Fifth and Sixth Amendments.

CRIJ 4320  Offender Rehabilitation  
3 Semester Credit Hours (3 Lecture Hours)  
Theories of rehabilitation, treatment, and correction of criminal offenders. Includes analysis of the historical development of the rehabilitative ideal and contemporary controversies surrounding it, and a survey of therapeutic models and methods.

CRIJ 4321  American Prisons and Prisoners  
3 Semester Credit Hours (3 Lecture Hours)  
Analysis of the history, philosophy, and function of prisons. Examination of control and treatment of offenders in institutional settings. Focus is upon current developments, controversies and management problems.

CRIJ 4322  CRIME AND PUNISHMENT IN LITERATURE  
3 Semester Credit Hours (3 Lecture Hours)  
A study of selected literary classics that treat of crime and punishment. The works of literary artists from various cultures which describe experience with crime and the criminal justice system will be placed in historical and theoretical perspective.

CRIJ 4324  Women and Criminal Justice  
3 Semester Credit Hours (3 Lecture Hours)  
An historical and ideological analysis of the role of women in the criminal justice system as offenders, reformers, and professionals.

CRIJ 4325  Diversity in Criminal Justice  
3 Semester Credit Hours (3 Lecture Hours)  
This course is an investigation into the impact of social diversity (race, ethnicity, gender, sexual orientation, disability, and more) on crime and the criminal justice system. Students will examine the impact of these factors on both offenders and criminal justice system employees, and will discuss and critically examine historical trends, contemporary events, and criminal justice system policies and laws.

CRIJ 4330  Understanding Criminal Behavior  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines various aspects of human behavior from a criminal justice perspective and is designed to give students a basic understanding of criminal behavior and psychological disorders which are encountered by criminal justice professionals.

CRIJ 4331  Juvenile Delinquency  
3 Semester Credit Hours (3 Lecture Hours)  
Examination of the nature and extent of juvenile crime today. Analysis of the history and theory of delinquency and society’s response to it. (Credit may not be given for both this course and SOCI 4331.) Cross listed with SOCI 4331.

CRIJ 4335  Criminology  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of the major sociological explanations for crime, criminal behavior, and the social responses to crime. (Credit may not be given for both this course and SOCI 4335.) Cross listed with SOCI 4335.

CRIJ 4340  Criminal Investigation  
3 Semester Credit Hours (3 Lecture Hours)  
Critical examination of investigation methods and comparison of these to research methods. Advanced examination of investigative procedures, theory, supervision, and evaluative research. Some practical applications.

CRIJ 4345  Research Methods in Criminal Justice  
3 Semester Credit Hours (3 Lecture Hours)  
This course is designed to help students gain a working understanding of the research process with direct application to criminal justice research. Attention will focus on various aspects of the research process including quantitative and qualitative methods. Students will complete literature reviews, create research proposals, conduct observations/interviews, and construct surveys in addition to various assignments and activities.  
Prerequisite: CRIJ 1301 or 1313.

CRIJ 4351  POLICE SUPERVISION AND MANAGEMENT  
3 Semester Credit Hours (3 Lecture Hours)  
Study of contemporary theories of management and supervision as they relate to law enforcement. Management concerns considered include planning, motivation, organizational communication, discipline, productivity, ethics, conflict, and job stress.

CRIJ 4360  Intimate Relationship Violence  
3 Semester Credit Hours (3 Lecture Hours)  
Violence involving acquaintance, spouse, child, and elder abuse is examined within a theoretical construct relating violence to social responses. Alternative causal theories, prevention, counseling, administration, innovative programs, and inter-agency coordination are addressed.

CRIJ 4365  White Collar Crime  
3 Semester Credit Hours (3 Lecture Hours)  
Critical examination of widespread forms of offending and offenders typically omitted from traditional criminology and criminal justice courses. Critical exploration of white collar, corporate, environmental and governmental crimes/criminals.

CRIJ 4390  Topics in Criminal Justice  
3 Semester Credit Hours (3 Lecture Hours)  
May be repeated for credit when topics vary.

CRIJ 4396  Directed Individual Study  
1-3 Semester Credit Hours  
See College description.

CRIJ 4398  Applied Experience  
3 Semester Credit Hours  
See College description.

Dance (DANC)  

DANC 1141  Ballet I  
1 Semester Credit Hour (3 Lab Hours)  
A beginning ballet dance course aligned with the Theatre, Dance, and Musical Theatre disciplines. The student will learn fundamentals of classical ballet; terminology, alignment, barre and floor technique, as well as genres of the contemporary styles.  
Co-requisite: SMTE 0098.

DANC 1147  Jazz Dance I  
1 Semester Credit Hour (3 Lab Hours)  
A beginning jazz dance course aligned with the Theatre, Dance, and Musical Theatre disciplines. Students will be introduced to genres of the jazz dance from primitive ritual through contemporary musical theatre compositions.  
Co-requisite: SMTE 0098.
DANC 1148 Modern Dance I
1 Semester Credit Hour (3 Lab Hours)
A beginning modern dance course aligned with the Theatre, Dance, and Musical Theatre disciplines. Students will be introduced to the fundamentals of Modern Dance using a variety of modern dance styles, including technique, progressive movement and dance performance. Co-requisite: SMTE 0098.

DANC 1304 Dance in Performance
3 Semester Credit Hours (3 Lecture Hours)
Students will be introduced to the fundamentals of choreography using a variety of dance styles and, using those skills, create dance intended for public performance. May be repeated for credit. Co-requisite: SMTE 0098.

DANC 2141 Ballet II
1 Semester Credit Hour (3 Lab Hours)
This course focuses on further development of classical ballet as an art form with an emphasis on intermediate to advanced level technique, musicality and performance. Co-requisite: SMTE 0098.

DANC 2147 Jazz Dance II
1 Semester Credit Hour (3 Lab Hours)
This course is for the student with previous jazz dance training. Jazz Dance II emphasizes technique and terminology. The course will focus on improving quality of movement and developing complex rhythms and patterns through the understanding and flexibility of the variety of jazz styles taught. Co-requisite: SMTE 0098.

DANC 2148 Modern Dance II
1 Semester Credit Hour (3 Lab Hours)
This course is geared toward the student with previous modern dance training. The student will continue to develop physical, conceptual and aesthetic skills and explore the principles of movement and language common with a variety of modern dance techniques. Co-requisite: SMTE 0098.

DANC 3141 Ballet III
1 Semester Credit Hour (1 Lab Hour)
This course focuses on further development of classical ballet, based on previous training in Ballet I and II, as an art form with an emphasis on intermediate/advanced level technique, musicality and performance. Prerequisite: (DANC 1141 and 2141). Co-requisite: SMTE 0098.

DANC 3147 Jazz Dance III
1 Semester Credit Hour (1 Lab Hour)
This course focuses on the student who has taken Jazz I and II and executes the movement at an intermediate/advanced level. The course will focus on improving artistic expression within the quality of movement and developing complex technique and style through the understanding on rhythms and patterns of a variety of jazz styles. Prerequisite: (DANC 1147 and 2147). Co-requisite: SMTE 0098.

DANC 3148 Modern Dance III
1 Semester Credit Hour (1 Lab Hour)
This course focuses on the student who has taken Modern Dance I and II. The student will continue to develop physical, conceptual and aesthetic skills and explore principles of movement and language common with the variety of modern dance techniques. Prerequisite: (DANC 1148 and 2148). Co-requisite: SMTE 0098.

DANC 3303 World Dance and Culture
3 Semester Credit Hours (3 Lecture Hours)
Offers a cross cultural and historical view of a variety of theatrical, vernacular and sacred dance forms and investigates ways that dance functions across societies. No background in dance is necessary to successfully complete this course. Co-requisite: SMTE 0098.

DANC 3306 Dance Choreography I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to techniques and principles of the craft and art of choreography. Solo and group choreography is expected. May be repeated for credit. Co-requisite: SMTE 0098.

DANC 3310 History of Dance
3 Semester Credit Hours (3 Lecture Hours)
In this course, the student will explore the history of dance from an interactive arts approach, examining and investigating dance from ancient civilization throughout the world to the emerging times of dance in the U.S. Co-requisite: SMTE 0098.

DANC 4141 Ballet IV
1 Semester Credit Hour (1 Lab Hour)
This course focuses on further development of classical ballet, based on previous training in Ballet I, II and III as an art form with an emphasis on advanced level technique, musicality and performance. Can be repeated for credit. Prerequisite: (DANC 1141, 2141 and 3141). Co-requisite: SMTE 0098.

DANC 4147 Jazz Dance IV
1 Semester Credit Hour (1 Lab Hour)
This course focuses on the student who has taken Jazz Dance I, II and III and executes the movement at an advanced level. The course will focus on improving artistic expression within the quality of movement from Jazz Dance III and developing complex technique and jazz styles. Can be repeated for credit. Prerequisite: (DANC 1147, 2147 and 3147). Co-requisite: SMTE 0098.

DANC 4148 Modern Dance IV
1 Semester Credit Hour (1 Lab Hour)
This course focuses on the student who has taken Modern Dance I, II and III. The student will continue to develop physical, conceptual and aesthetic skills and explore the principles of movement and language common with a variety of modern and contemporary modern dance techniques. Can be repeated for credit. Prerequisite: (DANC 1148, 2148 and 3148). Co-requisite: SMTE 0098.

DANC 4306 Dance Choreography II
3 Semester Credit Hours (3 Lecture Hours)
Demonstrate choreographic tools in the dance making process as it relates to group work; explore and create movement studies in groups as it pertains to art. May be repeated for credit. Prerequisite: DANC 3306. Co-requisite: SMTE 0098.
ECED 4310 Dance Instruction
3 Semester Credit Hours (3 Lecture Hours)
In this course, the student will research and explore the various modern philosophies of instruction and learn to apply those that are congruous with instructing dance as art in a variety of settings and to different age levels. Observation and instruction, combined with research satisfies the practical application portion of the course, while critiques from professionals in the field will serve as encouragement and confidence building for the future instructor in dance. May be repeated for credit.
Co-requisite: SMTE 0098.

DANC 4390 Topics in Dance
1-3 Semester Credit Hours
This course will explore aspects of various dance techniques (ballet, jazz, contemporary, and hip hop infused) at the intermediate/advanced level, as well as repertory and yoga for dancers. Time allowing, we will delve into basic elements of choreographic composition.
Co-requisite: SMTE 0098.

DANC 4396 Directed Individual Study (DIS)
1-3 Semester Credit Hours (1-3 Lecture Hours)
See college description. Course is available by application.

DANC 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See college description. Course is available by application.

Early Childhood Education (ECED)

ECED 3324 Child Development
3 Semester Credit Hours (3 Lecture Hours)
Provides the student with an overview of the physical, social, emotional, and psychological development of children from infancy through early childhood.

ECED 3380 Developmentally Appropriate Practice in Early Childhood Education
3 Semester Credit Hours (3 Lecture Hours)
An intensive study of developmentally appropriate practice in early childhood education. Students will learn the components of lesson plans and create several lesson plans. Emphasis will be placed on selecting, defining, developing strategies and techniques, and assessing practices which support developmentally appropriate practices.
Prerequisite: ECED 2310 or 3324.

ECED 4310 Socialization of the Young Child
3 Semester Credit Hours (3 Lecture Hours)
An intensive study of the social development, the agents of socialization, and the socialization process in early childhood.
Prerequisite: ECED 2310 or 3324.

ECED 4320 The Young Child, Family and Community Resources
3 Semester Credit Hours (3 Lecture Hours)
A study of current family structures, their relationship to the young child, society, and the community. Emphasis will be placed on an inclusive model which addresses the needs of the global community as it relates to the young child.
Prerequisite: ECED 2310 or 3324.

ECED 4330 Health, Nutrition and Locomotor Concepts for the Young Child
3 Semester Credit Hours (3 Lecture Hours)
The relationship between health, nutrition, and locomotor development in the young child is investigated.

ECED 4340 Communication and Aesthetics
3 Semester Credit Hours (3 Lecture Hours)
A study of language development; early literacy, language arts, and aesthetics. Students will develop an integrated thematic unit plan. Strategies and curriculum materials that are developmentally appropriate for young children will be emphasized to support the Texas Essential Knowledge and Skills (TEKS).
Prerequisite: ECED 3311 and 3324.

ECED 4345 EC-6 Assessment and Evaluation
3 Semester Credit Hours (3 Lecture Hours)
A study of assessment for children EC-6 utilizing both formal and informal instruments will be addressed. A knowledge of choosing, administering, and reporting developmental assessment will be explored with an emphasis on assessment tools that can be used by teachers of young children. Principles of designing and using assessment and evaluation techniques that are culturally fair, intellectually sound, reliable, and content-valid for young children. Differentiation among criterion-referenced, norm-referenced, individual, informal, authentic, and group assessments will be emphasized. Students will review strategies for using assessment data to design instruction, and match assessment techniques to individual children and learning situations.

ECED 4350 EC-6 Social Studies Curriculum
3 Semester Credit Hours (3 Lecture Hours)
This course will expose students to skills and concepts taught in the Social Studies curriculum in the elementary school. Developmentally appropriate strategies, concepts, and curricular materials used in teaching the Social Studies will be emphasized.
Prerequisite: ECED 3324, EDCI 3311 and ECED 3380*.
* May be taken concurrently.

Economics (ECON)

ECON 1301 Introduction to Economics
3 Semester Credit Hours (3 Lecture Hours)
Non-technical introduction to the structure and functioning of the aggregate economy and selected specific markets. Basic concepts regarding how markets function, regulation, monetary and fiscal policy in a macroeconomic context and some special topics of contemporary relevance are studied. Students are introduced to the basic concepts used in the social and behavioral sciences for measuring and interpreting economic and business conditions. This course cannot be taken to fulfill the Business Core or any Business Major requirements. It is recommended that students who might be interested in majoring in business or economics, take either ECON 2301 or ECON 2302 instead.
TCCNS: ECON 1301

ECON 2301 Macroeconomics Principles
3 Semester Credit Hours (3 Lecture Hours)
An overview of how the economy of the United States is organized and functions in a market price system. Market processes are used to show how resources and incomes are allocated by households and businesses. Determination of national income, employment, price level, interest rates, and growth are the focus of simple analysis techniques. Monetary and fiscal policies are examined including their international dimensions. Satisfies the social and behavioral sciences component of the University core curriculum. A student taking remedial courses in Basic English (ENGL 0399) and/or Mathematics (MATH 0300) is not recommended to take this course concurrently.
TCCNS: ECON 2301
ECON 2302  Microeconomics Principles
3 Semester Credit Hours (3 Lecture Hours)
Demand and supply, consumer behavior, elasticity, production costs, perfect and imperfect market structures and models of the modern market price system are analyzed. Emphasis is on use of marginal analysis to determine prices, output, income and economic welfare in a market price system. Satisfies the social and behavioral sciences component of the university core curriculum.
Prerequisite: (ECON 2301 and 2302).

ECON 3310  Intermediate Macroeconomics
3 Semester Credit Hours (3 Lecture Hours)
Theory of the determination of aggregate income, employment and prices is examined. Focus is on the microeconomic foundations of aggregate demand: consumption, investment, foreign trade, and government. Macroeconomic models from the basic through the complete model are examined for the U.S. and global economies.
Prerequisite: (ECON 2301 and 2302).

ECON 3311  Intermediate Microeconomics
3 Semester Credit Hours (3 Lecture Hours)
Examines supply and demand analysis, consumption theory, production theory, structure and performance of firms, efficiency of markets, and determination of general welfare in a market price system.
Prerequisite: (ECON 2301 and 2302).

ECON 3312  Money and Banking
3 Semester Credit Hours (3 Lecture Hours)
Description of the operations of banking and other financial institutions, examination of the basic tenets of monetary theory, analysis of monetary policy and its contribution to economic policy.
Prerequisite: (ECON 2301 and 2302).

ECON 3315  International Economic Issues
3 Semester Credit Hours (3 Lecture Hours)
Evaluates and analyzes various contemporary issues in international economics, using elementary economic theory and recent economic and financial data. The course includes issues such as economic integration, regionalization and globalization, international trade issues, the structure and role of international economic organizations, the foreign exchange market, and economic issues in developing countries.
Prerequisite: (ECON 2301).

ECON 3316  Environmental Economics
3 Semester Credit Hours (3 Lecture Hours)
Uses economic analysis to examine the underlying causes of environmental and natural resource problems, as well as alternative policy issues. The choice of environmental protection goals and the means of achieving them are analyzed and applied to the cases of air pollution (local and global), water pollution, and toxic pollution. The environmental policies of various countries are compared and studied from an economic perspective.
Prerequisite: (ECON 2301 or 2302).

ECON 3320  Public Finance
3 Semester Credit Hours
This course examines the role that government plays in the economy. The course discusses the conditions for economic efficiency to be achieved and circumstances where a market fails. It also presents the concepts of public goods and the aggregation of individual preferences into collective priorities as expressed by the general public through the political process. Topics include taxation, welfare economics, environmental and health externalities, cost-benefit analysis, and government budget.
Prerequisite: (ECON 2301 or 2302).

ECON 3322  Managerial Economics
3 Semester Credit Hours (3 Lecture Hours)
Emphasis is on the use of economic principles to make sound business decisions. Students will use economic analysis, knowledge of markets and organizations to address real-world problems. The course emphasizes the role of the business economist as a member of the management team trying to find ways to improve the use of resources available to an organization.
Prerequisite: (ECON 2302).

ECON 3335  Labor Economics
3 Semester Credit Hours (3 Lecture Hours)
The study of labor theory and labor market processes to explain how household labor decisions are made and how household incomes are determined. The effects of labor market imperfections, and the effects of business decisions and labor unions on labor market outcomes are also evaluated. Provides an overview of the U.S. labor movement, including its impact on federal legislation; labor theory; and contemporary labor issues. The effects of federal legislation are examined, including those on the competitiveness of U.S. labor in a global economy.
Prerequisite: (ECON 2301 and 2302).

ECON 3340  Healthcare Economics
3 Semester Credit Hours (3 Lecture Hours)
The supply and demand for health services. Markets for health professionals and healthcare provider firms. Discusses the roles of insurance, managed care and HMO's, professional licensure, for-profit and not-for-profit provider firms, and information problems in health care markets; regulation, government financing of health care and health care reform issues in the U.S.
Prerequisite: (ECON 2301 and 2302).

ECON 4085  Economics Exit Exam
0 Semester Credit Hours
The Economics Exit Exam (EEE) is an exam given in the Fall and Spring semesters only. It is a graduation requirement for all students with a BBA degree in Economics. Students enroll in this course during the semester that they plan to take the EEE. Admission is limited to students who have completed 90 or more semester credit hours.

ECON 4310  Introduction to Econometrics
3 Semester Credit Hours (3 Lecture Hours)
A study of the analysis of quantitative data, with special emphasis on the application of statistical methods to economic problems. The course covers the theory and practice of ordinary least squares regression, application to economics and finance, and selected special topics. Topics include heteroskedasticity, multicollinearity and autocorrelation, qualitative independent and dependent variables, and simple time-series analysis.
Prerequisite: (ECON 2301, 2302 and ORMS 3310 or MATH 1342).

ECON 4325  Economics of European Integration
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the economics of Western Europe, and by implication, the economic functions of the institutions of the European Union (EU). Students are introduced to economic policy issues which are currently of concern in the European Union, and the analysis of economic problems which are of particular relevance to European Union member states. These include (but are not limited to) the theory of customs unions, optimal currency area theory, the single market, competition policy, and the external trade and development policies of the EU.
Prerequisite: (ECON 2301 and 2302).
ECON 4340 Topics in Health Economics and Healthcare Policy  
3 Semester Credit Hours (3 Lecture Hours)  
Examines some aspects of U.S. healthcare decision making and delivery system from an applied and behavioral economics perspective. Topics selected will show students how to apply the principles of economics to analyze healthcare outcomes and institutional effectiveness, as well as government decision making in healthcare. The scope of this course may include analysis of current trends and topics in the U.S. healthcare industry; the utilization and application quantitative skills required to understand and evaluate performance of healthcare organizations, health outcomes, and current healthcare issues.  
Prerequisite: (ECON 3340).

ECON 4388 History of Economic Thought  
3 Semester Credit Hours (3 Lecture Hours)  
A consideration of the philosophical basis, historical context, and development of economic thinking. Focuses on pre-20th-century economists—the Mercantilists, the Physiocrats, Adam Smith, David Ricardo, Karl Marx, and early neoclassical economists. Attention is also given to later economists and schools of thought as continuations and modifications of earlier ideas in economics.  
Prerequisite: (ECON 3310 and 3311).

ECON 4390 Current Topics in Economics  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Selected topics for special study related to economics, the functioning of the economy or economic issues. May be repeated for credit when topics vary.  
Prerequisite: (ECON 2301).

ECON 4396 Directed Individual Study  
1-3 Semester Credit Hours  
Individual supervised study and a final report.

ECON 4398 Internship in Economics  
3 Semester Credit Hours  
Supervised full-time or part-time, off-campus training in a service, manufacturing, or public sector position. Oral and written reports required.

Educational Curriculum & Instr (EDCI)

EDCI 3350 Investigating Student Learning in Middle Level Mathematics (3)  
3 Semester Credit Hours (3 Lecture Hours)  
This course is designed to help students identify and explore some of the key issues in assessing middle level mathematics. Students will develop assessment practice on mathematics learning.

EDCI 4302 STEM Science EC-6  
3 Semester Credit Hours (3 Lecture Hours)  
This course provides the conceptual framework for exploring EC-6 science with deeper understanding, connections, and communication. It is designed to provide preservice teachers with a global understanding of teaching science in the EC-6 school setting. The major goal is to prepare teachers who can educate students to become scientifically literate. This aim requires preservice teachers to learn about the nature of science, to engage in science investigations, and to construct understanding of natural phenomena, forming an elaborate cognitive framework of scientific concepts. Students’ prior knowledge from previous courses will be essential to their performance in this course, namely technology in the classroom, lesson planning, curriculum organization, and student assessment.

EDCI 4350 Assessment in Middle Level Mathematics  
3 Semester Credit Hours (3 Lecture Hours)  
This course is designed to help students identify and explore some of the key issues in assessing middle level mathematics. Students will develop assessment practices and a greater awareness of the implications of assessment practice on mathematics learning.

Electrical Engineering (EEEN)

EEEN 3310 Electromagnetic Theory  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to the theory of static and dynamic electromagnetic fields with a focus on engineering applications. Principles will be illustrated with applications in various areas. Topics include computational electromagnetics, transmission lines, antennas, electromagnetic interference, and signal propagation in high speed circuits.  
Prerequisite: PHYS 2426, MATH 2415, 3315 and EEEN 3315.

EEEN 3315 Electrical Circuits II  
3 Semester Credit Hours (3 Lecture Hours)  
AC circuit analysis principles: AC generation, periodic functions, complex numbers, phasors, impedance and admittance, network theorems, power, frequency response, filters, transformers, and balanced three-phase systems; and use of analysis software.  
Prerequisite: (ENGR 2305) or (ENGR 2460).

EEEN 3320 Introduction to Communication Theory and Systems  
3 Semester Credit Hours (3 Lecture Hours)  
Frequency domain and time domain response of linear systems; analog modulation methods including amplitude modulation, frequency modulation and phase modulation; signal and noise modeling using probabilistic descriptions; narrowband random processes and the performance of analog modulation techniques in the presence of noise; design of communication links.  
Prerequisite: (ENGR 2305 and 2105 or ENGR 2460) and MATH 3345.

EEEN 3330 Control Systems I  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to control systems; open and feedback; Laplace transform and frequency response; control valves; electric motors; P, PI, and PID modes of control; analog and digital controllers Process characteristics; analysis of control systems; gain and phase margin; stability.  
Prerequisite: (ENGR 2305 or 2460).
EEEN 3345  Electronic Devices and Circuits
3 Semester Credit Hours (3 Lecture Hours)
The applications of electronic devices, including linear and non-linear Op-
Amp circuits, oscillators, wave-shaping circuits, active filters, rectifiers,
voltage regulators, and power supplies; industrial electronics. Offered Fall and
Spring.
Prerequisite: EEEN 3315.

EEEN 3350  Electronic Systems Design
3 Semester Credit Hours (3 Lecture Hours)
Principles of engineering design of electronic circuits and systems; time
and frequency responses; network analysis; systems specifications;
evaluation, testing, and verification; use of electronic design automation
tools. Offered Fall and Spring.
Prerequisite: (ENGR 2305 or 2460) and (ENGR 2306 and EEEN 3315).

EEEN 3418  Microprocessors and Microcontrollers
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to microprocessor/microcontroller architecture, assembly
language programming, and interfacing. Topics include computer
organization, addressing modes, instruction set, interrupts, timing,
memory, and interfacing.
Prerequisite: COSC 1320 and (ENGR 2306 and 2106).
Co-requisite: SMTE 0099.

EEEN 4310  Signal Processing
3 Semester Credit Hours (3 Lecture Hours)
Discrete time signals & systems, z-transform, discrete Fourier transform,
flow graph and matrix representation of digital filters, digital filter design
techniques and computation of the fast Fourier transform (FFT). MATLAB
software package is heavily utilized in this course.
Prerequisite: (EEEN 3320) and (EEEN 3330).

EEEN 4330  Introduction to Plasma Engineering and Applications
3 Semester Credit Hours (3 Lecture Hours)
Physical, electrical, chemical properties of plasmas; differences in
properties of thermal and non-thermal plasmas, direct and alternating
current plasma sources, inductive and capacitive coupled plasma
sources, diagnostics and applications of plasmas.
Prerequisite: (ENGR 3322 and 2460 or ENGR 2305 or PHYS 2426).

EEEN 4331  Power Transmission and Distribution
3 Semester Credit Hours (3 Lecture Hours)
This course covers principles of power transmission and distribution.
Topics include unbalanced distribution; point to point measurements,
operation control of systems; power systems; transmission lines; fault
analysis; line modeling and unit analysis. Offered Fall or Spring.
Prerequisite: EEEN 3315.

EEEN 4332  Power Protection Systems
3 Semester Credit Hours (3 Lecture Hours)
Course topics include safety, reliability and availability in power systems;
breaker operation; relay operation and relay circuit design; fault tolerance;
cost analysis; control systems and system surveillance. Offered in Fall.
Prerequisite: EEEN 3315.

EEEN 4333  Machine Vision and Image Processing
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to automated vision systems and components,
camera models, testing and measurement, and fundamentals of image
processing. Topics include image analysis and processing in binary, gray
scale and color images in spatial- and frequency-domain. Texture and
shape analysis, hyperspectral imaging, other transforms, and filters are
discussed and applied.
Prerequisite: (COSC 1320, 1435, ENGR 2460 or 2305) and MATH 2414
and (EEEN 4310).

EEEN 4334  Control Systems II
3 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
Model identification and parameter estimation (least-square identification
of an auto-regressive model; nonparametric identification in the time
domain; and nonparametric identification in the frequency domain);
Robust Control (Nyquist-plots, small-gain, and passivity); Optimal control
(LQR/LQG for state-space systems and time-optimal controller for
the positioning of a mass using force actuation); Nonlinear control
(Lyapunov’s stability method; feedback linearization controller for a fully
actuated 2nd order mechanical system; backstepping for triangular
nonlinear systems; actuator limitations); writing and presenting reports
and analysis.
Prerequisite: (EEEN 3330 or ENTC 4446).

EEEN 4345  Sensors and Systems
3 Semester Credit Hours (3 Lecture Hours)
3.0) This course introduces sensors and sensing systems, and the
acquisition, processing, and interpretation of signals obtained with
selected sensors and systems. The course will also cover sensing
modalities, signal transmission and reception. Measurement and
uncertainty in sensors and systems will be discussed as applied to
signal noise and interference. Filtering and estimation will be introduced.
Sensing systems for vision, monitoring, and control applications will
be surveyed. Sensor interfacing, signal conditioning and transforms
will be applied. Other topics include multidimensional signal and image
processing, object tracking, multisensor data fusion, applications in
environmental monitoring, remote sensing and surveillance. Offered in
alternating Fall semesters.
Prerequisite: (MATH 2414 and ENGR 2460).

EEEN 4396  Directed Independent Study
1-3 Semester Credit Hours
(1-3) Requires a formal proposal of study to be completed in advance of
registration, approval of supervising faculty and department chairperson.

Engineering (ENGR)

ENGR 1211  Introduction to Engineering
2 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Introduction to the engineering profession, ethics, and disciplines;
development of skills in teamwork, problem solving and design; other
topics include computer applications and programming; visualization,
orthographic drawings and CAD tools; introduction to electrical circuits,
semiconductor devices, digital logic, communications and their
application in systems; Newton’s laws, unit conversions, statistics, Excel;
basic graphics skills. Offering: Fall and Spring.
Prerequisite: MATH 1314.
TCCNS: ENGR 1201

ENGR 1312  Engineering Graphics I
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Topics include, depending on the major: emphasis on computer
applications and programming and solids modeling using CAD tools or
other software; fundamentals of engineering science; advanced graphic
skills. Pre-req: MATH 1314 - College Algebra or equivalent academic
preparation. Offered Fall and Spring.
Prerequisite: MATH 1314.
TCCNS: ENGR 1304
ENGR 2105  Electrical Circuits Laboratory
1 Semester Credit Hour (3 Lab Hours)
Laboratory experiments supporting theoretical principles presented in ENGR 2305 involving DC and AC circuit theory, network theorems, time, and frequency domain circuit analysis. Introduction to principles and operation of basic laboratory equipment; laboratory report preparation.
Prerequisite: ENGR 2305.
*May be taken concurrently.
Co-requisite: ENGR 2305, SMTE 0099.

ENGR 2106  Digital Systems Laboratory
1 Semester Credit Hour (1 Lab Hour)
Basic laboratory experiments supporting theoretical principles presented in ENGR 2306 involving design, construction, and analysis of combinational and sequential digital circuits and systems, including logic gates, adders, multiplexers, encoders, decoders, arithmetic logic units, latches, flip-flops, registers, and counters; preparation of laboratory reports.
Prerequisite: MATH 1314.
Co-requisite: ENGR 2306, SMTE 0099.

ENGR 2305  Electrical Circuits
3 Semester Credit Hours (3 Lecture Hours)
Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources). Topology of electrical networks; Kirchhoff’s laws; node and mesh analysis; DC circuit analysis; operational amplifiers; transient and sinusoidal steady-state analysis; AC circuit analysis; first- and second-order circuits; Bode plots; and use of computer simulation software to solve circuit problems.
Prerequisite: (PHYS 2425 and MATH 2414).
Co-requisite: ENGR 2105.

ENGR 2306  Digital Systems
3 Semester Credit Hours (3 Lecture Hours)
Introduction to theory and design of digital logic, circuits, and systems. Number systems, operations and codes; logic gates; Boolean Algebra and logic simplification; Karnaugh maps; combinational logic; functions of combinational Logic; flip-flops and related devices; counters; shift registers; sequential logic; memory and storage.
Prerequisite: MATH 1314 and 2305.
* May be taken concurrently.
Co-requisite: ENGR 2106.

ENGR 2325  Statics
3 Semester Credit Hours (3 Lecture Hours)
Theory of engineering mechanics involving forces, moments, and couples on stationary structures; equilibrium in two and three dimensions; free body diagrams; truss analysis; friction; centroids; centers of gravity and moments of inertia.
Prerequisite: PHYS 2425 and MATH 2414.
* May be taken concurrently.
TCCNS: ENGR 2301

ENGR 2326  Dynamics
3 Semester Credit Hours (3 Lecture Hours)
Theory of engineering mechanics involving the motion of particles, rigid bodies and systems of particles; Newton’s Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems.
Prerequisite: ENGR 2325.
TCCNS: ENGR 2302

ENGR 2325  Fluid Mechanics
3 Semester Credit Hours (3 Lecture Hours)
Fluid properties, fluid statics, dynamics, and kinematics, conservation of energy and momentum incompressible, laminar and turbulent flow. Similarity and dimensional analysis, and viscous flow. Prerequisite or
Prerequisite: (PHYS 2425 and MATH 2414).
Co-requisite: MATH 1315.

ENGR 3315  Thermodynamics
3 Semester Credit Hours (3 Lecture Hours)
Theory and application of energy methods in engineering; conservation of mass and energy; energy transfer by heat, work and mass; thermodynamic properties; analysis of open and closed systems; the second law of thermodynamics and entropy; gas, vapor and refrigeration cycles.
Prerequisite: (PHYS 2425 and MATH 2414).

ENGR 3320  Strength of Materials
3 Semester Credit Hours (3 Lecture Hours)
Concepts in strength of materials, stress, strain; deformation under load, direct, shear, and combined stresses; stress concentrations, bending stresses and torsional shear stresses, deflection in beams and shafts; columns, and pressure vessels.
Prerequisite: ENGR 2325 and 3322 or ENGR 2322.

ENGR 3322  Materials Science
3 Semester Credit Hours (3 Lecture Hours)
Structure and properties of metallic and nonmetallic materials; microstructure, mechanical testing, phase diagrams, heat treatment, testing, ceramics, polymers, composites, construction materials, failure analysis, nondestructive evaluation, corrosion and thermal properties of materials.
Prerequisite: (CHEM 1411) and (PHYS 2425).
Co-requisite: SMTE 0099.

ENGR 3350  Manufacturing Processes
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to metal and non-metallic manufacturing processes; casting, forging, rolling, extrusion, sheet metal forming, cutting tools turning and milling operations, abrasive machining, welding and joining, powder compaction, molding, forming of plastics, surface treatment, human factors and safety.
Prerequisite: ENGR 1312 and 3322.
Co-requisite: SMTE 0099.
ENGR 4240  Project Management  
2 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
Foundations of engineering economy, cash flow and equivalence, and project justification. Introduction to project management, planning, scheduling, and control, use of project management software, GANTT charts, PERT charts, and critical path. Students prepare proposals, including specifications, timelines, schedule, and budget, for projects to be implemented in ENGR 4370 - Capstone Projects. This course should be taken the semester preceding ENGR 4370 - Capstone Projects.  
Prerequisite: (MEEN 3330) and (MEEN 3345) or (EEEN 3330) or (EEEN 3310) and (EEEN 3350).  
Co-requisite: SMTE 0099.

ENGR 4350  Machine Vision and Image Processing Applications  
3 Semester Credit Hours (3 Lecture Hours)  
Introduces students to automated vision systems and components, camera models, testing and measurement, and fundamentals of image processing. Topics include image analysis and processing in binary, gray scale and color images in spatial- and frequency-domain. Texture and shape analysis, hyperspectral imaging, other transforms, and filters are discussed and applied.  
Prerequisite: (COSC 1330 or 1435) and ENGR 2460 and MATH 2414.

ENGR 4370  Capstone Projects  
3 Semester Credit Hours (1 Lecture Hour, 5 Lab Hours)  
This course allows students to employ the knowledge attained in other courses to implement (including building, testing, and documenting) an approved project, within budget and on schedule. Course requirements include a written report and oral presentations.  
Prerequisite: (ENGR 4240) and (MEEN 4360 *) and (MEEN 4365 *) or (EEEN 4333 *) and CEEN 4304 or IEEEN 4310 *.  
* May be taken concurrently.  
Co-requisite: SMTE 0099.

ENGR 4390  Special Topics in Engineering  
1,3 Semester Credit Hours (1,3 Lecture Hours)  
Subject material variable. May be repeated for different topics.

ENGR 4420  Engineering Lab Measurements  
4 Semester Credit Hours (2 Lecture Hours, 4 Lab Hours)  
Principles of physical measurements; standards, calibration, error estimation; static and dynamic performance of measuring systems; laboratory experience, experiment planning, report writing. The purpose of this course is for students to gain proficiency in designing, assembling, and operating an experiment; and analyzing and presenting experimental results. This encompasses skills such as an understanding control and data acquisition electronics, operation and limitation of modern sensors, calibration and error analysis, assessing the impact of theory and the impact of secondary experimental variables, and writing and presenting reports and analysis.  
Prerequisite: ENGR 2460.  
Co-requisite: SMTE 0099.

### Engineering Technology (ENTC)

**ENTC 2414  Circuit Analysis I**  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Fundamental aspects of DC circuit analysis: charge, voltage, resistance, current, and power; Ohm's Law; methods of analysis; series and parallel circuits; Kirchhoff's voltage and current laws; Thévenin and Norton Theorems; electrical measurement instruments; and use of analysis software. Offered: Fall/Spring.  
Prerequisite: MATH 2413.  
Co-requisite: PHYS 2426, SMTE 0099.  
TCCNS: ENGT 1401

**ENTC 2490  Special Topics**  
1-4 Semester Credit Hours (1-4 Lecture Hours, 3 Lab Hours)  
Subject material variable. May be repeated for different topics.

**ENTC 3302  Manufacturing Processes**  
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)  
Introduction to metal and non-metallic manufacturing processes; casting, forging, rolling, extrusion, sheet metal forming, cutting tools turning and milling operations, abrasive machining, welding and joining, powder compaction, molding, forming of plastics, surface treatment, human factors and safety. Offered: Fall/Spring.  
Prerequisite: (ENGR 1312) and (ENTC 3308) and (ENTC 2326) or (ENGR 2326).  
Co-requisite: SMTE 0099.

**ENTC 3306  Fluid Mechanics**  
3 Semester Credit Hours (3 Lecture Hours)  
Fluid properties, fluid statics, dynamics, and kinematics, conservation of energy and momentum incompressible laminar and turbulent flow. Similitude and dimensional analysis, and viscous flow. Offered: Fall (Spring as needed).  
Prerequisite: (ENTC 2326 or ENGR 2326).

**ENTC 3308  Strength of Materials**  
3 Semester Credit Hours (3 Lecture Hours)  
Concepts in strength of materials, stress, strain; deformation under load; direct, shear, and combined stresses; shear and moment diagrams; Mohr's circle; stress concentrations, bending stresses and torsional shear stresses, deflection in beams and shafts; columns, connections, and pressure vessels. Offered: Fall (Spring as needed).  
Prerequisite: (ENTC 2325 or ENGR 2325) and (ENTC 3410).

**ENTC 3320  Thermodynamics**  
3 Semester Credit Hours (3 Lecture Hours)  
Theory and application of energy methods in engineering; conservation of mass and energy; energy transfer by heat, work and mass; thermodynamic properties; analysis of open and closed systems; the second law of thermodynamics and entropy; gas, vapor and refrigeration cycles. Offered: Fall/Spring.  
Prerequisite: PHYS 2425 and MATH 2414.
ENTC 3323 Robotics and Automation
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Automation in a manufacturing and assembly setting, material handling systems, remote guided vehicles, automated storage and retrieval systems, computer numerical machine tools, robotics. Offered: Spring.
Prerequisite: ENTC 3415.
Co-requisite: SMTE 0099.

ENTC 3350 Human Factors Engineering
3 Semester Credit Hours (3 Lecture Hours)
Application of human factors engineering principles utilized in mechanical system and product design. Overview of human characteristics and research and design techniques.
Prerequisite: (ENTC 3302 or 3302*).
* May be taken concurrently.

ENTC 3455 Solid Modeling and Finite Elements
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Use of computer aided design and solid modeling tools in engineering design and manufacturing including: solid modeling, stress, flow, and heat transfer analysis using finite element methods, and rapid prototyping. Offered: Spring.
Prerequisite: ENTC 3308.

ENTC 4210 Solid Mechanics Laboratory
2 Semester Credit Hours (4 Lab Hours)
Prerequisite: (ENTC 4330*).
* May be taken concurrently.
Co-requisite: SMTE 0099.

ENTC 4320 Heat Transfer
3 Semester Credit Hours (3 Lecture Hours)
Fundamental study of convection, conduction and radiation as applied to heat transfer, heat exchangers, boilers, other heat transfer equipment. Offered: Spring.
Prerequisite: ENTC 3306 and 3320.

ENTC 4322 Programmable Logic Controllers
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to PLCs and their use in industrial automation. Topics include programming, counters, timers, interrupts, and process control applications. Offered: As needed.
Prerequisite: ENTC 3416.
Co-requisite: SMTE 0099.

ENTC 4330 Solid Mechanics
3 Semester Credit Hours (3 Lecture Hours)
Stress analysis of deformable bodies and mechanical elements; stress transformation; combined loading; failure modes; material failure theories; fracture and fatigue; deflections and instabilities; thick cylinders; curved beams; design of structural/mechanical members; design processes for shafts, bearings, springs, fasteners, and mechanical joints.
Prerequisite: ENTC 3308.

ENTC 4331 Unit Processes
3 Semester Credit Hours (3 Lecture Hours)
Principles and methods for staged separation processes including distillation, absorption and stripping, extraction, and adsorption systems. Offered in Fall and Spring
Prerequisite: ENTC 4320.

ENTC 4332 Process Modeling and Control
3 Semester Credit Hours (3 Lecture Hours)
Prerequisite: ENTC 3306.

ENTC 4333 Chemical Reaction Engineering
3 Semester Credit Hours (3 Lecture Hours)
Fundamental principles of chemical reaction engineering and application to design and analysis of basic chemical reactors containing both homogeneous and heterogeneous reactions. Offered Fall and Spring.
Prerequisite: ENTC 4331 and 4332.

ENTC 4335 Energy Conversion
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Installation, design characteristics, operational performance, and maintenance of motors, turbines, pumps and compressors. Introduction to global energy concerns; fossil and nuclear fuels; energy consumption analysis; energy management and conservation techniques; renewable and alternative energy sources. Modern energy conversion devices such as fuel cells, photovoltaic cells, and micro-power turbines.
Prerequisite: ENTC 3320.

ENTC 4350 Capstone Projects
3 Semester Credit Hours (1 Lecture Hour, 5 Lab Hours)
This course allows students to employ the knowledge attained in other courses to implement (including building, testing, and documenting) the project approved in ENTC 4415 - Project Justification and Management, within budget and on schedule. Course requirements include a written report and oral presentations. Normally taken in the student's last semester.
Prerequisite: ENTC 4415.
Co-requisite: SMTE 0099.

ENTC 4360 Mechanical System Design
3 Semester Credit Hours (3 Lecture Hours)
Analysis, management and cost, team work, optimal design, and computer simulation of mechanical systems and components; Applications in fluid flow and heat transfer, machine elements, and stress analysis. Selected course topics are assigned as projects.
Prerequisite: ENTC 4330.

ENTC 4415 Project Justification and Management
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Foundations of engineering economy, cash flow and equivalence, and project justification. Introduction to project management, planning, scheduling, and control, use of project management software, GANTT charts, PERT charts, critical path. Students prepare proposals, including specifications, timelines, schedule, and budget, for projects to be implemented in ENTC 4350 - Capstone Projects.
Co-requisite: SMTE 0099.

ENTC 4446 Control Systems I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to control systems; open and feedback; Laplace transform and frequency response; control valves; electric motors; P, PI, and PID modes of control; analog and digital controllers Process characteristics; analysis of control systems; gain and phase margin; stability.
Prerequisite: ENTC 2414.
English (ENGL)

ENGL 0001 Grammar I
0 Semester Credit Hours (3 Lecture Hours)
Grammatical structures that enable students to better comprehend and use academic English are the focus of the course. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situations relevant to the American college context.

ENGL 0002 Listening and Speaking I
0 Semester Credit Hours (3 Lecture Hours)
This course provides short and focused activities to help students improve their English listening and speaking skills. It includes practice in both mastering the larger message and key words, phrases and specific sounds to assist students in developing better speaking and comprehension skills. Students will practice giving academic presentations as well as practice speaking in small groups and individually.

ENGL 0003 Reading I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will develop the reading skills essential for academic learning and inquiry in the context of authentic academic reading tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive reading tasks of increasing complexity. Contemporary academic and literary texts will be used to develop students’ critical reading, academic vocabulary, and complex writing skills. Students will practice giving academic presentations as well as practice speaking in small groups and individually.

ENGL 0004 Writing I
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the writing skills essential for academic success including sentence, paragraph, and basic essay writing. This course is aimed at students planning to study, or are already studying, at university level in English.

ENGL 0005 Recitation I
0 Semester Credit Hours (3 Lecture Hours)
This course provides students with a structured, scheduled academic environment providing the opportunity to complete assignments and work closely with their language instructor. Instructors utilize materials from student courses to facilitate activities and discussions that will increase comprehension of academic material and further students’ abilities to work independently in academic settings. Each week, the course will focus on the language skills and vocabulary needed for the students’ courses. Additionally, there will be a focus on study skills and time management needed for success in academic settings. Students will leave the course better equipped for university level academic course work and a thorough understanding of time management and appropriate study habits for the university.

ENGL 0011 Grammar II
0 Semester Credit Hours (3 Lecture Hours)
This course will focus on high-intermediate grammatical structures that enable students to better comprehend and use academic English. Students will learn to appreciate the relevance of acquiring and applying grammatical knowledge to express themselves confidently and appropriately in different academic situations, as well as social situation relevant to the American college context.

ENGL 0012 Listening and Speaking II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will learn and apply the listening, note-taking, and presentation skills essential for academic learning, inquiry, and communication in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminars will be sued to develop students’ critical thinking skills.

ENGL 0013 Reading II
0 Semester Credit Hours (3 Lecture Hours)
In this course, students will study texts across several different academic disciplines in order to deepen their understanding of the rhetorical styles and conventions used and applied within the English language. Students will practice identifying audience, purpose, theme, main ideas, and details within several different genres of writing. Students will also develop a variety of strategies to improve their reading comprehension and efficiency, including annotation, vocabulary-building, and discussions regarding written materials.

ENGL 0014 Writing II
0 Semester Credit Hours
In this course, students will develop a foundation in the writing skills critical to academic success. Students will apply knowledge of audience, purpose, voice, arrangement, and style in varied writing tasks by writing across several different genres. Genres practiced in this course may include, but are not limited to: emails, newsletters, personal narratives, fiction, academic essays, and magazine/news articles. Students will learn grammar and vocabulary conventions as they apply to different genres and apply these skills in writing tasks of increasing complexity throughout the semester.

ENGL 0022 Listening and Speaking III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will learn and apply listening, note-taking, and presentation skills essential for academic learning, inquiry, and discourse in the context of authentic academic listening and speaking tasks. Students will work to build fluency, comprehension, and vocabulary skills through extensive and intensive listening tasks of increasing complexity. Contemporary academic lectures and seminar will be used to develop students’ critical thinking skills.

ENGL 0023 Reading and Writing III
0 Semester Credit Hours (3 Lecture Hours)
In this course students will improve upon and apply the reading skills essential for academic learning, inquiry, and discourse in the context of authentic academic reading tasks. Students will build vocabulary through extensive and intensive reading tasks of increasing complexity. Contemporary academic tests about writing will be used to develop students’ critical reading, academic vocabulary, and complex writing skills. There will be a number of in-class written tasks and prompts that will stimulate free writing practice and introduce students to various styles of writing. Students will also use these written tasks to develop editing skills through the writing process. The final project will be a collection of these written tasks in the form of a portfolio.
ENGL 0036 US Culture
0 Semester Credit Hours (3 Lecture Hours)
This course will offer English Language Learners a means for analyzing and evaluating the complex social and moral issues that are specific to the social and moral landscape of the United States. As students examine their own cultures and compare them with others, culture shock and cultural conflict may be lessened and appreciation for cultural differences may be strengthened. Students will engage in interactive tasks, including researching and case analysis of topics and social, academic and professional issues, especially those suggested by the extensive reading component of this course. Through the process of reading, discussion, analysis and writing students in this class will enrich their understanding of today's global society while at the same time they are sharpening their academic English skills.

ENGL 0037 Critical Thinking
0 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to develop the critical thinking skills needed to interpret and assess arguments and information. This course will highlight the language skills essential for critically analyzing and discussing the quality of the information and opinions presented in authentic texts and listening selections. The course will concentrate on detecting errors of reasoning in short and long passages, evaluating evidence in written and verbal arguments, detecting logical inconsistencies, removing vagueness and ambiguity through word choice and phrasing, and identifying the point or purpose of someone’s remarks. Through examining these topics, students will be able to thoughtfully respond to others’ opinions in a clear, logical, and informed way. Students will leave the course better prepared to collect, synthesize, and evaluate information and feel more confident in presenting their perspectives in an academic setting.

ENGL 0099 Integrated Reading and Writing Non-Course Based Development
0 Semester Credit Hours
ENGL 0099 is designed to develop student’s critical reading and academic writing skills on an individualized basis through tutoring. The course fulfills TSI requirements for reading and writing. TSI compliance staff will approve each student for this course. Approval is based on test score and/or by academic standing.

ENGL 0399 Integrated Reading and Writing
3 Semester Credit Hours (3 Lecture Hours)
A portfolio-based course with required tutoring (lab) time focused on the writing and reading processes, including strategies for invention, revision, and editing, and techniques of active reading, such as analysis, inference, summary, and evaluating texts. Students will enter ENGL 0399 through Texas Success Initiative (TSI) mandated remediation. (Not counted toward graduation)

ENGL 1301 Composition I
3 Semester Credit Hours (3 Lecture Hours)
Principles, techniques, and processes of written composition, textual analysis, and critical thinking.
TCCNS: ENGL 1301

ENGL 1302 Writing and Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to writing studies, rhetoric, and academic research (information literacy). Students will read, apply, and reflect on the current research and scholarship in writing studies, especially threshold concepts, kinds of knowledge about writing, and rhetoric. Students will learn how to transfer, deepen, and extend their ability to use writing in various contexts.
Prerequisite: ENGL 1301.
TCCNS: ENGL 1302

ENGL 2303 Introduction to Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course will review current scholarship on writing studies, including threshold concepts, activity theory, and genre studies. It will consider various perspectives on the uses of writing to provide students with an intellectual and practical understanding of writing. This course provides a starting point for the more specific studies of writing that occur in other writing studies courses.

ENGL 2316 Literature and Culture
3 Semester Credit Hours (3 Lecture Hours)
Introduction to literatures that raise aesthetic, cultural, social, and/or political issues that affect and reflect the human condition across regions, cultures, and nations. Sample topics: Crossing Borders, The City in Literature, Islands and Islanders, Science and Fiction.
TCCNS: ENGL 2331

ENGL 2332 Literature of the Western World: From the Classics to the Renaissance
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Ancient World to the Renaissance.
TCCNS: ENGL 2332

ENGL 2333 Literature of the Western World: From the Enlightenment to the Present
3 Semester Credit Hours (3 Lecture Hours)
Study of important literary texts from the Enlightenment to the present.
TCCNS: ENGL 2333

ENGL 2370 Introduction to Literary Studies
3 Semester Credit Hours
An introduction to literary analysis and scholarship for the intermediate writer. Emphasis placed on genres of literature, literary research, and expository and analytical composition. Familiarizes students with the various disciplines and related conversations within English Studies. Should be taken by sophomore-level English majors in the Literary Studies emphasis, and by Literary Studies and Creative Writing minors.
Prerequisite: ENGL 1302.

ENGL 2371 Exploring Social Media
3 Semester Credit Hours (3 Lecture Hours)
In this course we will examine and discuss current issues related to social media within a rhetorical framework. We will use different social media platforms to share and discuss in order to provide hands-on experience in these environments. Social media will be explored at the micro level as students will review their online social media presence to better understand how readers view them online. From the macro level we will identify current topics that affect the design and use of social media platforms and applications.
ENGL 3167  English as a Second/Foreign Language Tutoring
1 Semester Credit Hour
Students pursuing the Advanced TESOL Certificate will supplement ENGL 3367 (TESOL Seminar: Methods) with practical experience tutoring English learners. Students will write reflectively about those experiences. As needed, students will undergo site-specific training.
Co-requisite: ENGL 3367.

ENGL 3301  Technical and Professional Writing
3 Semester Credit Hours
A course designed to help students gain practical experience in finding and interpreting information and writing reports and documents for specialized audiences in the technical and professional world. ENGL 3301 will be held in a computer-assisted classroom.

ENGL 3302  Techniques of Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to the theoretical knowledge and practical experience used in creative writing. Focuses on poetry, creative nonfiction, and short fiction. For all majors.

ENGL 3310  Technical and Professional Writing for Computer Science
3 Semester Credit Hours (3 Lecture Hours)
Designed specifically for computer science majors, this course focuses on developing students' ability to (1) use writing to communicate effectively with a range of audiences about technology; (2) identify, analyze, and appropriately integrate relevant information in their writing; (3) make informed judgments about their uses of writing based on ACM's and IEEE's code of ethics; and (4) develop their ability to function effectively individually and as members of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.

ENGL 3321  Film and Literature
3 Semester Credit Hours (3 Lecture Hours)
Studies the connections between the formal elements of literature and of film, with emphasis on theme, narrative style, and genre. By viewing films based on literary sources, students will analyze how literature is adapted into film as well as identify strategies to view and read critically. For all majors.
Prerequisite: ENGL 1302 and 2332 or ENGL 2333, 2334 or 2335.

ENGL 3323  Young Adult Fiction
3 Semester Credit Hours (3 Lecture Hours)
Literary study of young adult literature through analysis, discussion, and interpretation. The course emphasizes literary issues connected with society, culture, history, and genre.

ENGL 3325  Interdisciplinary Approaches to Literature
3 Semester Credit Hours (3 Lecture Hours)
In recent decades, it has become common to study literature in light of other disciplinary perspectives and to study other disciplines as they are depicted in literature. From these interdisciplinary approaches has emerged a distinct mode of analysis that examines texts within their broader social and cultural milieu. In this course students will earn to use cross-disciplinary methods to interpret literature and culture. Topics will vary, but may include Religion, Medicine, and American Literature, Disability Narratives in the Eighteenth Century, Trauma and the City in Twentieth-Century Literature.

ENGL 3330  Current Events and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course examines literature in the context of current issues and events. Students will place literature in conversation with social, political, and cultural trends as a means of engaging with and understanding these trends and the debates associated with them. Using reading, writing, and discussion as modes of critical inquiry, students will discover the critical role that literature plays in representing, responding to, and shaping current events.

ENGL 3339  Introduction to Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Introductory survey course covering phonetics, morphology, syntax, semantics, sociolinguistics, neurolinguistics, and language acquisition.

ENGL 3340  Grammar
3 Semester Credit Hours (3 Lecture Hours)
Presents a general descriptive overview of English grammar and provides a structural framework for analyzing English sentences.

ENGL 3341  British Literature before 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of poetry, drama, and prose before 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).
* May be taken concurrently.

ENGL 3345  British Literature since 1800
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of British poetry, drama, and prose since 1800 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 2303).
* May be taken concurrently.

ENGL 3348  Drama
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of dramatic literature, using a wide range of texts. Variable content.

ENGL 3349  Poetry
3 Semester Credit Hours (3 Lecture Hours)
A genre-oriented study of poetry using a wide range of texts. Variable content.

ENGL 3354  American Literatures before 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from the country's pre-European beginnings to 1900 with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 3303).
* May be taken concurrently.

ENGL 3355  American Literatures since 1900
3 Semester Credit Hours (3 Lecture Hours)
Study of significant works of American poetry, drama, and prose from 1900 to the present with emphasis on historical context and the exploration of literary and cultural values through written texts.
Prerequisite: (ENGL 2370) or (ENGL 3303) or (ENGL 3303).
* May be taken concurrently.
ENGL 3360 CURRENT APPROACHES TO COMPOSITION AND LITERATURE
3 Semester Credit Hours (3 Lecture Hours)
Prepares prospective teachers to create developmentally appropriate learning environments and tasks that enable student success in writing and the study of literature in Language Arts and English courses. Prepares students to meet the increased writing and reading expectations in all subject areas, including their own writing.

ENGL 3361 STRATEGIES AND GENRES OF ADVANCED WRITING
3 Semester Credit Hours (3 Lecture Hours)
Students will practice-writing in situated contexts (such as their majors, careers, and/or other professional interests) and across genres to develop more advanced and reflective writing strategies. By studying theories of writing; engaging in writing as a craft; and drafting, revising, and editing texts; students will refine and become more reflective in their writing processes.

ENGL 3362 Creative Writing Workshop: Survey and Practice of Genres
3 Semester Credit Hours (3 Lecture Hours)
Develops students’ skills as critics and writers of fiction, poetry, and creative nonfiction in a workshop setting. For all majors.

ENGL 3363 Foundations of Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
This course will study the historical and theoretical development of rhetoric through the works of principal thinkers. Students will analyze rhetorical concepts in their relation to civic, cultural, political, and pedagogical developments and the construction of knowledge and will use rhetorical concepts to produce logical, ethical, and moral arguments.

ENGL 3364 Strategies of Writing Creative Nonfiction
3 Semester Credit Hours (3 Lecture Hours)
Explores the uses of creative nonfiction through reading and writing about published works of experienced writers and scholars in the field and practicing a variety of creative nonfiction techniques and genres (e.g. literary journalism, memoir, and the personal narrative).

ENGL 3365 Second Language Acquisition
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to second language acquisition. The course is designed to be accessible to students from a wide variety of backgrounds and no basic knowledge of the linguistic structure of English will be assumed. This course will address issues related to how second language is learned by both children and adults.

ENGL 3366 Language in Society
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of language as a function of several societal variables. Introduces basic concepts of language such as linguistic varieties, dialect, speech communities, and linguistic attitudes.

ENGL 3367 TESOL Seminar
3 Semester Credit Hours (3 Lecture Hours)
This course presents an introduction to and a critique of current and traditional methodologies of teaching English to speakers of other languages, with emphasis on aural comprehension; speaking, reading, and writing skills; testing and assessment; and linguistic-cultural differences. This course is open to all majors, but is required for students seeking the Certificate in TESOL.

Prerequisite: ENGL 3365.

ENGL 3369 Topics in Linguistics
3 Semester Credit Hours (3 Lecture Hours)
Exploration of topics such as second language acquisition, language assessment, history of English, and contrastive analysis. May be repeated when topics vary.

ENGL 3378 Document Design and Publishing
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the integration of text and visual rhetoric, such as graphics, for all kinds of professional publications including technical documents, media, public relations pieces, and advertisements.

ENGL 3379 Writing for the Web
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes practical concepts related to writing and communication on the internet and the World Wide Web. Attention is given to finding and analyzing information; analyzing and designing WWW sites and other digital, hypertextual environments; and analyzing and composing hypertext-hypermedia materials for digital, networked environments. For all majors.

ENGL 3380 Visual Rhetoric
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the analysis, design, and production of visual representations and multi-modal texts that integrate visual elements.

ENGL 4123 Nonprofit Writing Project
1 Semester Credit Hour
Students will gain practical experience with a nonprofit agency by developing a significant project that meets an agency identified need. Students should take this course in the last semester of their nonprofit certificate program in conjunction with one of the following: ENGL 3378, ENGL 3379, ENGL 4322, or ENGL 4321. The students’ professor in the regular course will be the instructor of record for a the projects course.

ENGL 4300 Technologies and Cultures of the Book
3 Semester Credit Hours (3 Lecture Hours)
Working with a range of print media, students will learn to analyze the interplay between the text’s content and its formal features. Students will build the skills to think and write analytically about the materiality of texts.

ENGL 4305 Major Authors
3 Semester Credit Hours (3 Lecture Hours)
This course studies the significant works of a major literary author. Texts are viewed through a variety of critical perspectives and placed in the context of the writer’s life and of the society, culture, and history of the times. May be repeated once for credit when authors vary.

ENGL 4320 Professional Writing Workshop
3 Semester Credit Hours (3 Lecture Hours)
This course is tailored for individual students’ writing and publishing projects in their disciplines.

ENGL 4321 Grants and Proposals
3 Semester Credit Hours (3 Lecture Hours)
This course will teach students the grant proposal writing process, including identifying sources of funding, conducting research to support funding applications, and tailoring each proposal to a specific funding agency. Students will receive experience writing actual proposals on behalf of local organizations and agencies.
ENGL 4322 Writing in the Nonprofit Agencies
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the specific kinds of writing of professionals in the nonprofit world, including internal communication in an agency, writing for the public, document creation, fund raising, board relations, and other relevant topics.

ENGL 4324 Editing & Style
3 Semester Credit Hours (3 Lecture Hours)
Practice in methods, tools, and principles of editing for nonfiction and technical publications. Emphasis on a rhetorical understanding of levels of editing, managing the editorial process, and grammar and style.

ENGL 4325 Writing Across Cultures and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Through writing, students will study how groups perceive, understand, and communicate with and about each other. The course may focus on a specific type of writing (cross cultural expository writing, travel writing, cross cultural writing in industry), or on the linguistic and rhetorical practices of a cross-cultural community (latino/a rhetoric, African-American rhetorics, etc).

ENGL 4335 Creative Writing Studio: Development of Craft
3 Semester Credit Hours (3 Lecture Hours)
Develops students' skills as critics and writers of fiction, poetry, and creative nonfiction in a studio setting. Guides students to focus on a major project in one genre with sustained practice of techniques and revision. Open to students of all levels, from the novice to the advanced. For all majors.

ENGL 4340 The Novel
3 Semester Credit Hours (3 Lecture Hours)

ENGL 4345 Rhetorics, Literacies, and Writing
3 Semester Credit Hours (3 Lecture Hours)
This course examines the history and major theories of rhetoric, literacy, and composition, and explores how they influence contemporary cultural productions.

ENGL 4350 Studies in Poetics: Theory, Form, and Practice
3 Semester Credit Hours (3 Lecture Hours)
Develops students' theoretical knowledge of poetics and practical experience of writing in traditional forms, from the Anglo-American tradition to the culturally diverse movements and innovation of form. Focusing on works written by poets about poetry and poetics primarily from the 19th to the 21st centuries. For all majors.

ENGL 4351 Senior Capstone: Literature and Writing
3 Semester Credit Hours (3 Lecture Hours)
A study of literature in English for graduating seniors in the Literary Studies Emphasis. Emphasis is placed on genre, research, and analytical expository writing.
Prerequisite: ENGL 2370, 3303 or 2303.

ENGL 4352 Capstone in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
This course is the culminating experience for the Writing Studies emphasis in English. Students review, reflect on, integrate, and apply their learning from previous courses and experiences. Students create digital portfolios for career and publishing opportunities, emphasizing selection, revision, reflection, and presentation. In addition, students identify, evaluate, and annotate texts and resources to include in a curated digital collection/publication that will be available for students in future Writing Studies courses.

ENGL 4360 Gender, Sexuality and Literature
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to literature that explores issues of gender and sexuality. It focuses on relevant literary periods and conventions, as well as on the historical, social, and cultural contexts of artistic productions. Sample topics: women's literature, queer literature, literature and masculinity.

ENGL 4361 Race and Ethnicity in Literature
3 Semester Credit Hours (3 Lecture Hours)
Topics focus on a variety of cross-cultural issues in historical and/or contemporary texts by Caribbean, British Indian, Native American, African American, Chicano/a, and/or other underrepresented authors.

ENGL 4362 Texts and Contexts
3 Semester Credit Hours (3 Lecture Hours)
Study of literary and cultural texts that raise issues of community and social relations, diversity, multiculturalism, and/or globalization. Sample topics: Medicine and Religion in American Literature, Traveling Histories, the Global City, and Literary Regionalism in Transnational Context. May be repeated once for credit when topics vary.

ENGL 4370 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study primarily through the medium of performance, of various types and forms of literature for children. Strongly oriented toward teaching literature in the elementary school classroom. (Credit may not be given for both this course and COMM 4323 or THEA 4323.)

ENGL 4380 CRITICAL APPROACHES TO LITERATURE AND CULTURE
3 Semester Credit Hours (3 Lecture Hours)
A study of selected perspectives and critical approaches to literature and culture, including an examination of some of the theoretical assumptions upon which they are based, as well as their implications for the way we think about literature, human identity, and the power of language.
Prerequisite: ENGL 2370.

ENGL 4385 Studies in Creative Writing
3 Semester Credit Hours (3 Lecture Hours)
Students will focus on the craft of a specific genre or type of writing through reading experts' advice, reading and analyzing examples written by practitioners, and engaging in peer-response workshops with classmates. Attention will be paid to publication opportunities available for writers in that genre.

ENGL 4390 Topics in Literary Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4391 Topics in Writing Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary—see S.A.I.L. or advisor for further information.

ENGL 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

ENGL 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description.
ESCI 1401 Environmental Science I: Intro to Environmental Science
3 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Principles of the scientific method and critical thinking provide a foundation for subsequent consideration of environmental issues through a multidisciplinary approach. Laboratory exercises and local field experiences reinforce concepts introduced in the lectures. Fall, Spring.
Co-requisite: SMTE 0096.
TCCNS: ENVR 1401

ESCI 1490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject materials variable. May be repeated for credit when topics are significantly different. Faculty approval required. Offered on sufficient demand.

ESCI 3202 Professional Skills
2 Semester Credit Hours (2 Lecture Hours)
Presentation and discussion of selected topics relating to the professional skills of practicing environmental scientists including literature searches, reviews, paper presentation, professional and career opportunities, professional ethics. Fall, Spring.

ESCI 3351 Oceanography
3 Semester Credit Hours (3 Lecture Hours)
Methods and principles of oceanography. A survey of oceanography with emphasis placed on the physical processes affecting water and water masses of the world oceans. Fall (on sufficient demand), Spring.
Prerequisite: CHEM 1412, ESCI 1401 or GEOL 1403.

ESCI 3403 Introduction to Meteorology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
This course is an introduction to meteorology and the dynamics of planetary atmospheres. Emphasis on atmospheric accretion, composition, evolution, structure, and dynamics. Lab exercises cover basic measurement techniques, weather maps, and forecasting. Fall, Spring (on sufficient demand).
Co-requisite: SMTE 0096.

ESCI 3443 Environmental Biology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Historical, contemporary, and projected concerns of human activities on biological aspects of ecosystem functioning.
Prerequisite: BIOL 1407.
Co-requisite: SMTE 0096.

ESCI 4130 Oil Spill Prevention and Response Lab
1 Semester Credit Hour (2 Lab Hours)
Practical techniques for control, containment, countermeasures, removal, and disposal of oil spills in an environmentally safe manner. Field exercises will include use of boats, booms and skimmers. Fall, Spring, Summer (on sufficient demand).
Prerequisite: ESCI 4270.
Co-requisite: SMTE 0096.

ESCI 4170 Hazardous Waste Operations and Emergency Response Lab
1 Semester Credit Hour (2 Lab Hours)
Practical techniques for handling, reducing, and disposing of hazardous wastes in an environmentally safe manner. Lab exercises in use of personal protective gear and safe handling of hazardous substances. Fall, Spring, Summer (on sufficient demand).
Prerequisite: ESCI 4270.
Co-requisite: ESCI 4270, SMTE 0096.

ESCI 4201 Scientific Diving Techniques
2 Semester Credit Hours (2 Lecture Hours)
Theory, science, and art of underwater diving technology and its application to scientific objectives. Course helps fulfill some training requirements of the Texas A&M University-Corpus Christi Guidelines for scientific diving.

ESCI 4202 Issues in Environmental Science
2 Semester Credit Hours (2 Lecture Hours)
Exploration of major issues in environmental science posing past, present and future challenges. Selected readings, student presentations and papers.
Prerequisite: ESCI 1401.

ESCI 4230 Oil Spill Prevention and Response Theory
2 Semester Credit Hours (2 Lecture Hours)
Historical perspective of laws and regulations governing oil spill prevention and response. Current methods for control, containment, countermeasures, removal, and disposal of oil spills in an environmentally safe manner. Fall, Spring, Summer (on sufficient demand).
Co-requisite: ESCI 4130.

ESCI 4270 Hazardous Waste Operations and Emergency Response Theory
2 Semester Credit Hours (2 Lecture Hours)
Study of the laws and regulations of hazardous waste management from an historical perspective followed by current techniques for handling, reducing, and disposing of hazardous wastes in an environmentally safe manner. Fall, Spring, Summer (on sufficient demand).
Co-requisite: ESCI 4230.

ESCI 4301 Environmental Regulations
3 Semester Credit Hours (3 Lecture Hours)
A survey of state and federal environmental laws and regulations, and their impact on the environment. Case studies of environmental issues and legislated regulations.
Prerequisite: POLS 2305 and 2306.
ESCI 4320 Environmental Health
3 Semester Credit Hours (3 Lecture Hours)
Overview of the toxicology and epidemiology of pollutants in the air, water and soil. Associations of environmental exposure with adverse health effects such as cancer, cardiovascular disease, and reproductive outcomes; also chemical markers and symptoms of disease. Pollutants studied include lead, asbestos, radiation, radon, noise, metals, halogenated hydrocarbons, aromatic hydrocarbons, silica, indoor air quality, formaldehyde, and outdoor air pollutants. Offered on sufficient demand.

ESCI 4321 Introduction to Soil and Groundwater Restoration
3 Semester Credit Hours (3 Lecture Hours)
Introduction to methods for restoring contaminated soil and groundwater by examining the factors and processes influencing the efficacy of remediation systems. An emphasis will be placed on the scientific principles upon which soil and groundwater remediation is based. Cross listed with GEOL 4321.

ESCI 4322 Introduction to Industrial Hygiene
3 Semester Credit Hours (3 Lecture Hours)
Introduction to health protection practices in the industrial environment. Health basis for OSHA laws, regulations. Sampling and testing procedures.

ESCI 4324 Introduction to Industrial Toxicology
3 Semester Credit Hours (3 Lecture Hours)
Review of human physiology, general concepts of toxicology: dose-response relationship, interactions between the host and the agents, risk assessment, to provide an introductory understanding of toxicology related to the chemicals in the workplace.

ESCI 4332 Wetlands and Water Quality
3 Semester Credit Hours (3 Lecture Hours)
Introduction to wetland ecosystems (natural, constructed and restored) with an emphasis on the role of wetlands in water quality. Topics include wetland systems, their history and role in society, relationships between biology, geology, ecology, hydrology and chemistry in wetland environments.
**Prerequisite:** BIOL 3428 and CHEM 4443 or ESCI 3443.

ESCI 4335 Climate and Climate Variability
3 Semester Credit Hours (3 Lecture Hours)
Course intended to guide environmental science majors in developing a conceptual understanding of Earth's global climate and its variability. Review of past climates, present mean state of the climate system, climate variability from seasonal to multimodal time scales, and climate change. Special attention given to climates of the Gulf of Mexico, Caribbean Sea and surrounding land regions. Plausible climate-change scenarios, as well as mitigation and adaptation strategies are also discussed. Cross listed with ATSC 4335. Spring.
**Prerequisite:** (ESCI 3351 or 3403) and (PHYS 1401 or 2425).

ESCI 4340 Severe Weather
3 Semester Credit Hours (3 Lecture Hours)
Introduction to mesoscale weather systems including thunderstorms, squall lines and hurricanes, as well as the mechanisms of tornado and lighting. Methods of observing, analyzing, and predicting these severe weather systems with the interpretation of satellite and radar images will also be introduced in this class.
**Prerequisite:** ESCI 3403.

ESCI 4344 Air Pollution and the Clean Air Act
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the chemistry and physics of air pollution and regulations. Topics include photochemistry, acid rain, air pollution meteorology and dispersion, global change, and the Clean Air Act.

ESCI 4360 Physical Oceanography
3 Semester Credit Hours (3 Lecture Hours)
Physical description of the sea, physical properties of seawater and sea ice, methods and measurements, wind-driven ocean circulation, thermohaline ocean circulation, boundary processes, waves, tides and mixing. Seasonal and interannual variability such as El Niño/Southern Oscillation phenomena. Implications for marine biology, marine geology, human impacts, other topics. Fall.
**Prerequisite:** PHYS 1401 or 2425.

ESCI 4365 Occupational Safety and Accident Prevention
3 Semester Credit Hours (3 Lecture Hours)
This course provides students with fundamental knowledge of regulatory requirements on occupational safety and practical techniques on accident prevention in the work environment. Offered on sufficient demand.

ESCI 4408 Environmental Microbiology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Relationships between microorganisms and their biotic and abiotic environment. Current topics such as air quality (i.e., molds), water quality and bioremediation will be discussed. Laboratory will include techniques for sampling from soil, air and water. Offered on sufficient demand.
**Prerequisite:** BIOL 2421.
**Co-requisite:** SMTE 0096.

ESCI 4480 Environmental Site Assessment
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Interdisciplinary application of environmental regulations, risk assessment to specific examples. Knowledge of United States environmental regulations assumed; ESCI 4301 Environmental Regulations recommended.

ESCI 4490 Selected Topics
4 Semester Credit Hours (4 Lecture Hours, 4 Lab Hours)
Subject materials variable. May be repeated for credit when topics are significantly different. Faculty approval required. Offered on sufficient demand.

ESCI 4496 Directed Independent Study
1-4 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College. Fall, Spring, Summer.

ESCI 4498 Internship in Environmental Science
1-4 Semester Credit Hours (4 Lecture Hours)
Two to four semester hours of credit may be earned by working in an internship position in a governmental agency or industry.

Finance (FINA)

FINA 1307 Personal Finance
3 Semester Credit Hours (3 Lecture Hours)
Covers the foundations of financial planning, managing basic assets, managing credit, managing insurance needs, managing investments, and retirement and estate planning. This course is designed for nonbusiness as well as business majors to give them a basic understanding of the aspects of personal financial planning.
**TCCNS:** BUSI 1307
FINA 3310 Financial Management  
3 Semester Credit Hours (3 Lecture Hours)  
A survey of financial management issues emphasizing planning and decision making. Specific topics covered include discounted cash flow analysis, stock and bond valuation, financial intermediation, organizing, raising and managing capital, capital investment, risk analysis, and financial statement analysis.  
Prerequisite: (ACCT 2301, 2302, MATH 1325, BUSI 0011, ECON 2301 and 2302).

FINA 3312 Financial Markets and Institutions  
3 Semester Credit Hours (3 Lecture Hours)  
Course coverage includes an analysis of financial markets and institutions; regulation, money market operations, global impact of central banking principles and monetary policy, and determinants of interest rates with financial asset pricing.  
Prerequisite: (ECON 2301 and 2302).

FINA 3320 Intermediate Corporate Finance  
3 Semester Credit Hours (3 Lecture Hours)  
An in-depth study of financial planning and management with emphasis on corporate management and corporate financial management. The course serves as a framework for understanding a broad range of corporate financial decisions.  
Prerequisite: (FINA 3310).

FINA 3331 Investments  
3 Semester Credit Hours (3 Lecture Hours)  
Framework of financial markets, valuation of the firm, security analysis, investment equity versus debt, efficiency of market valuation, diversification efforts, investment goals, and portfolio selection.  
Prerequisite: (ACCT 2301 and MATH 1325).

FINA 3335 Financial Modeling  
3 Semester Credit Hours (3 Lecture Hours)  
This course will cover the use of spreadsheet analysis in financial applications and introduce students to spreadsheet tools and functions to conduct business and personal financial analysis, valuation of bonds and stocks, and financial forecasting.

FINA 3350 Cash Management  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of the principles and methods of cash and liquidity management with particular attention to funds transfer procedures and requirements. Specific topics include the role of cash management in corporate financial management, a review of relevant accounting concepts, the structure of the financial environment, the system of disbursements and collections, accounts receivable management, accounts payable management, information technology and electronic commerce, cash flow forecasting, short-term investing and borrowing, financial risk management, international treasury management, and management of relationships.  
Prerequisite: (FINA 3310).

FINA 3351 Insurance Principles  
3 Semester Credit Hours (3 Lecture Hours)  
Fundamentals of risk management as practiced in the commercial life, health, property, and casualty insurance industries.

FINA 3354 Real Estate Principles  
3 Semester Credit Hours (3 Lecture Hours)  
Fundamental real estate covering the basic principles of real estate, providing the background necessary for advanced study in specialized real estate courses.

FINA 3355 Employee Benefits and Retirement Planning  
3 Semester Credit Hours (3 Lecture Hours)  
This course examines the financial aspects of retirement planning as well as employee benefit planning including group insurance plans and the characteristics of the various types of employee benefit plans: life insurance, medical expense, disability, and retirement income.

FINA 4310 Advanced Financial Management  
3 Semester Credit Hours (3 Lecture Hours)  
Application of financial management tools, examination and interpretation of financial statements, and integration of financial policy and structure on overall management of the enterprise. Students will present cases on the material covered in this and earlier courses to demonstrate they are able to collect and analyze data and present recommendations.  
Prerequisite: (FINA 3320).

FINA 4315 International Finance  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the institutions and relationships of the international financial system as it relates to the balance of payments, foreign exchange risk, arbitrage and the Eurocurrency market. The emphasis is on methods of arbitrage, forecasting exchange rates, and hedging against foreign exchange risk.  
Prerequisite: (ECON 2301, 2302 and FINA 3310).

FINA 4321 Financial Institutions Management  
3 Semester Credit Hours (3 Lecture Hours)  
A study of major financial institutions and the markets in which they operate, with emphasis on financial decision making and risk management. Topics include financial intermediation theory; measurement and management of interest rate risk, credit risk, off-balance sheet risk, foreign exchange risk, country risk, and liquidity risk; capital adequacy; and product/market diversification.  
Prerequisite: (FINA 3310 and ECON 2302).

FINA 4330 Introduction to Derivative Securities  
3 Semester Credit Hours (3 Lecture Hours)  
Course coverage includes an analysis of financial derivative contracts. The class includes options, futures and forward contracts; in particular commodity trading and hedging strategies will be covered in detail. Swaps and Interest Rate Options will be included in the presentation if time permits.  
Prerequisite: (MATH 1324).

FINA 4332 Security Analysis and Portfolio Management  
3 Semester Credit Hours (3 Lecture Hours)  
Evaluation of investment securities of both private and public institutions through external analysis of financial statements and economic conditions, portfolio selection, expected return and risk selection, and conditions of market efficiency.  
Prerequisite: (FINA 3310, 3331 and ORMS 3310).

FINA 4334 Financial Statement Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
A detailed study of financial reporting with emphasis upon practical interpretations. Attention will be given to financial statement analysis using financial accounting information and its finance implications. Assignments may differ depending on major.  
Prerequisite: (ACCT 2301, 2302 and FINA 3310).

FINA 4390 Current Topics in Finance  
3 Semester Credit Hours (3 Lecture Hours)  
Selected topics for special study related to finance functions, processes or issues. May be repeated for credit when topics vary.
FINA 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and completion of a final report.

FINA 4398 Internship in Finance
3 Semester Credit Hours
Supervised full-time or part-time, off-campus training in business or government finance office. Oral and written reports required.

French (FREN)

FREN 1311 French I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to listening, speaking, reading, and writing skills within a French cultural framework. For students without previous knowledge of the language. (Language laboratory required. One hour per week minimum.) A lab fee is required for this course.

FREN 1312 French II
3 Semester Credit Hours (3 Lecture Hours)
Continued practice in listening, speaking, reading and writing skills within a French cultural framework. French 1311 or equivalent required. (Language laboratory required. One hour per week minimum.) A lab fee is required for this course.

FREN 2311 French III
3 Semester Credit Hours (3 Lecture Hours)
Reviews French grammar through oral and written practice with emphasis on language proficiency. Utilizes cultural readings in French to expand vocabulary and knowledge of the French culture.

FREN 2312 French IV
3 Semester Credit Hours (3 Lecture Hours)
Continued advanced development and review of all language skills within a French cultural framework with an emphasis in the linguistic perspective.

FREN 3306 French Lit 1800 to Present
3 Semester Credit Hours (3 Lecture Hours)
This course will deal with a short story, a novel, a film script and a play written by three of the big names from the nineteenth and twentieth centuries, two men and a woman. Each work deals in its way with the relationships between men and women, loneliness and alienation, faith and other modern considerations. (Teleconference course)

General Business (BUSI)

BUSI 0010 Orientation to Online Learning
0 Semester Credit Hours
This non-credit, no-cost, self-paced web-based course introduces new online MBA and new online Master of Accountancy students to successful online learning practices and the Blackboard Learn environment.

BUSI 0011 Cob Student Code of Ethics and Plagiarism
0 Semester Credit Hours
The emphasis of this non-credit, web-based course is educational. It covers the provisions in the COB Student Code of Ethics and covers information related to the issue of plagiarism. It prepares business majors to successfully complete an online test to meet a requirement for graduation.

BUSI 0088 Graduation Requirements Review
0 Semester Credit Hours
The purpose of this non-credit, web-based course is educational. This no cost course provides important information to prepare students for a successful progression toward graduation.

Prerequisite: MGMT 3312.
Co-requisite: MGMT 3312.

BUSI 1310 Introduction to the Business Environment
3 Semester Credit Hours (3 Lecture Hours)
An overview of the nature of business and its environment. Emphasizes the dynamic role of business in everyday life and its importance to society. Not open to Juniors or Seniors majoring in business.

TCCNS: BUSI 1301

BUSI 4310 International Business
3 Semester Credit Hours (3 Lecture Hours)
An understanding of international business including its importance in today’s world, the evolution of international institutions and the monetary system, the differences and similarities among nations and cultures, and the special characteristics of the business functions in a global setting.

Geographic Information Science (GISC)

GISC 1301 Physical Geography
3 Semester Credit Hours (3 Lecture Hours)
The goal of this course is to encourage you to think geographically, examining the interactions between physical systems and human activities. Introduction to topics covered include elements of Physical Geography (studies of atmosphere, ocean and land surface environments), Geographic Information Systems (computer systems that capture, analysis, and display of geographic information), and human environmental interactions. Cross listed with GEOG 1301.

TCCNS: GEOG 1301

GISC 1336 Digital Drafting and Design
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
An introduction to graphic and drafting principles and practices in surveying and mapping science. This course includes the development of the basic drafting skills needed to produce surveying plats and graphical presentations. The elements of descriptive geometry are addressed. A major component of the course is an introduction to the fundamentals of computer-aided drafting and design (CADD). Spring.

GISC 1470 Geospatial Systems I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to geographic information systems (GIS) and its theoretical foundations. Topics covered include vector and raster data models, acquisition and manipulation of data, cartography, current topics, data quality, and basic spatial analysis. Principles and uses of GIS software also covered. Fall and Spring.

GISC 2250 Field Camp I
2 Semester Credit Hours (6 Lab Hours)
A one-week field camp with intensive field data collection and computations. Traversing between control points. Digital contour data and leveling control. Detail spatial data by total station. Construction set out using total station and steel band. Taken during the sophomore or junior year. Spring.

Prerequisite: GISC 2470.
GISC 2438 Geospatial Software Systems I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to the design and development of GIS software to solve spatial problems. Topics covered include programming basics, design and implementation common tasks in GIS applications. Fall.
Prerequisite: (GISC 2470 and COSC 1435 or COSC 1330).

GISC 2470 Geospatial Plane Measurement I
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Historical introduction to field measurement and mapping; distance measurement using electronic distance meters; calibration and reduction. Leveling instruments; principles, construction, testing and adjustment; ancillary equipment. Optical and electronic theodolites. Traverse computations and adjustment. Coordinate systems. Map projections. Fall.
Prerequisite: MATH 1316 or 2413.

GISC 3300 Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications.
Prerequisite: MATH 2413 and 3342.

GISC 3325 Geodetic Science
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Prerequisite: GISC 2470.

GISC 3412 Geospatial Plane Measurement II
4 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Principles and reduction of observations and errors in spatial measurement. Techniques of horizontal and vertical angle measurement for precise positioning. Trigonometric heighting and vertical staff tacheometry. Setting out of structures. Design and computation of horizontal and vertical curves. Spring.
Prerequisite: (GISC 2470 and 1336).
May be taken concurrently.

GISC 3420 Geospatial Software Systems II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Advanced programming course focusing on the design and implementation of GIS scripts and GIS web applications. Topics covered include GIS web applications, web mashups, GIS scripts, GIS tool creation, and advanced user interface design and implementation. Spring.
Prerequisite: GISC 2438.

GISC 3421 Visualization for GIS
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Basic elements of thematic cartography, cartographic theory, and cartographic projections. Integration of cartographic principles with GIS visualization. Principles of map design with GIS data. Spring.
Prerequisite: GISC 2301.

GISC 4180 Geospatial Systems Internship
1 Semester Credit Hour (1 Lecture Hour)
Internship education requires work with approved Geospatial Systems related industry employer. Students provide weekly written reports and final presentation to program at the end of internship. Must have completed 60 semester hours before attempting. Fall, Spring, and Summer.

GISC 4305 Legal Aspects of Spatial Information
3 Semester Credit Hours (3 Lecture Hours)
Legal ownership of spatial data and information collected in the public sector. Public access to large digital databases. Copyright law as applied to spatial data. Legal issues related to property boundaries, statutory boundaries, voter district boundaries, and jurisdictional boundaries. Government fees and charges for access to spatial data. Social and economic value of spatial data. Spring.
Prerequisite: GISC 2470.

GISC 4315 Satellite Positioning
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Prerequisite: GISC 2470 and MATH 2413.

GISC 4318 Cadastral Systems
3 Semester Credit Hours (3 Lecture Hours)
Land ownership recording systems used in Texas and U.S. Investigation and research for artificial and natural boundaries. Title searches at the county courthouse, title plants, and other sources for cadastral research. Riparian and littoral boundaries. Boundary marking and preparation of cadastral plans. Metes and bounds descriptions. Writing field notes. Urban and rural cadastral issues. Use of coordinate systems in cadastral mapping. Fall.
Prerequisite: GISC 2470.

GISC 4320 Hydrography
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Introduction to offshore and inshore hydrographic mapping. Tidal datums and their computation. Review of hydrographic and nautical charts. Electronic position finding and bathymetric data collection. Echo sounding, side scan sonar. Seafloor mapping and underwater locating. Beach (combined land and hydrographic) mapping. Spring even years.
Prerequisite: GISC 2470 and MATH 2413.

GISC 4326 Geomatics Professional Practice
3 Semester Credit Hours (3 Lecture Hours)
An intensive one-week summer course presented by practicing geomatics professionals covering many of the aspects of operating a professional surveying practice in the State of Texas. Topics cover surveyor responsibility and liability, the surveyor in court, standards of practice, surveying mathematics, Texas coordinate system, celestial observations, and project control.
Prerequisite: GISC 2250.
GISC 4335  Geospatial Systems III  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
Advanced spatial analysis and modeling in GIS. Topics covered include exploratory analysis of spatial data, network analysis, spatial point patterns, area objects and spatial autocorrelation, and spatial interpolation. Also covers new approaches to spatial analysis. Fall.  
Prerequisite: GISC 2301, 3421 and MATH 3342.

GISC 4340  Geospatial Computations and Adjustment  
3 Semester Credit Hours (3 Lecture Hours)  
Prerequisite: GISC 2470, MATH 3342 and GISC 3300.

GISC 4350  Field Camp II  
3 Semester Credit Hours (6 Lab Hours)  
A one-week field camp undertaking projects in cadastral, engineering, hydrographic, and geodetic positioning. Reduction of digital field data to produce final plans and reports. Taken during the senior year. Spring.  
Prerequisite: GISC 3412, 4318 and 2250.

GISC 4351  Geospatial Systems Project  
3 Semester Credit Hours  
This course allows students to employ knowledge attained in other courses to create a project to spatially analyze information of interest to you and your field of study. Students will either undertake a GIS project to manage, analyze, and visualize spatial data, or a survey project in cadastral, topographic, engineering, hydrographic, or geodetic positioning survey. Spring.  
Prerequisite: GISC 4350 or 4335.

GISC 4371  History of Land Ownership  
3 Semester Credit Hours (3 Lecture Hours)  
This course prepares students by providing proper knowledge of how land transferred throughout history and techniques for researching land ownership in the present. Students receive an overview of legal aspects and other topics relative to land issues applicable for Land Surveyors, Civil Engineers, and GIS professionals, among others. Spring.  
Prerequisite: GISC 3412.

GISC 4431  Remote Sensing  
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)  
Provides the foundations to interpret, process, and apply remotely sensed data acquired by satellites and sub-orbital platforms (aircraft, UAVs) for mapping and analysis of our natural and built environment. Principles of electromagnetic energy-matter interaction, remote sensing systems and data characteristics, digital image processing, and information extraction methods will be covered. Included is treatment of: aerial photogrammetry; multispectral, thermal, and hyperspectral sensing; earth observation satellites; radar and lidar; emergent topics. Emphasis will be on their use for geospatial and environmental applications. Fall.  
Prerequisite: (PHYS 2425, MATH 3342 and GISC 3300) or (MEEN 3310 and PHYS 2425).

GISC 4590  Selected Topics  
1-5 Semester Credit Hours (1-5 Lecture Hours)  
May be repeated for credit depending on topic. Variable content.

GISC 4596  Directed Independent Study  
1-5 Semester Credit Hours  
See College description. Offered on request. May be repeated for credit.

GISC 4690  Co-operative Education  
1 Semester Credit Hour (1 Lecture Hour)  
Co-op education allows students to take time off their full-time studies to gain valuable experience-based learning with employers willing to put on students for a semester (14 weeks), six months, or over the summer. The Co-op program allows students to maintain their full-time status as a student (continue health insurance coverage with parents, not effect student loan repayment, access to college activities, etc.) while undertaking work in their field of interest. The Co-op program is a partnership between the employer, the student, and the university.

Geography (GEOG)  

GEOG 1300  World Geography  
3 Semester Credit Hours (3 Lecture Hours)  
This is a survey course of the major regions of the world. The significant physical and cultural aspects of each region will be covered.  
TCCNS: GEOG 1303

GEOG 3331  Geography of North America  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces the five themes in geography and uses these themes to analyze the relationships between the physical and cultural aspects of the United States. The textbook information will be supplemented with satellite images and visual materials to enhance the learning experience of the student.

Geology (GEOL)  

GEOL 1303  Essentials of Geology  
3 Semester Credit Hours (3 Lecture Hours)  
One-semester introductory Earth science course for students majoring in a non-science subject area. Covers basic geologic material and concepts, such as minerals, rocks, the rock cycle, and plate tectonics theory. Origin, composition, and evolution of our planet, as well as the importance of geology in everyday life, including geologic resources, global change, earthquakes, and volcanism are examined. This course is not recommended for students majoring in Geology or Environmental Sciences. Course counts toward the natural science component of the Core Curriculum Program.  
TCCNS: GEOL 1303

GEOL 1403  Physical Geology  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Introduction to the origin, classification, and composition of Earth materials. Study of internal and surface processes which shape and modify Earth. Laboratory studies of minerals and rocks, as well as topographic maps, geologic maps and geologic cross-sections.  
Co-requisite: SMTE 0094.  
TCCNS: GEOL 1403

GEOL 1404  Historical Geology  
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)  
Introduction to the origin and evolution of Earth and other planets. Changes in the form and distribution of Earth's continents and oceans, and succession of plants and animals through geologic time. Laboratory studies of fossils, geological maps, and the interpretation of ancient environments of rock formation.  
Prerequisite: GEOL 1403 or 1303.  
Co-requisite: SMTE 0094.  
TCCNS: GEOL 1404
GEOL 2102 Undergraduate Seminar in Geology-Careers in the Geosciences
1 Semester Credit Hour (1 Lecture Hour)
Introductory level seminar featuring diverse topics and speakers.
Focus on careers in the geosciences as well as on how to successfully plan a college career. In-house as well as external speakers. May not be repeated for credit but attendance in subsequent semesters is encouraged.

GEOL 2103 Undergraduate Seminar in Geology-Research in the Geosciences
1 Semester Credit Hour (1 Lecture Hour)
Introductory level seminar featuring diverse topics and speakers. Focus on current geologic research. In-house as well as external speakers. May not be repeated for credit but attendance in subsequent semesters is highly encouraged.

GEOL 2222 Karst Geology and Paleoclimatology
2 Semester Credit Hours (1 Lecture Hour)
This course describes the different types of caves and karst rocks, the water rock interactions in carbonate rock systems, and it explains cave formation via hydrological and geochemical processes. It also deals with how speleothem proxies such as oxygen and carbon stable isotope, trace elements, carbonate petrography are used to decipher past changes in climate.

GEOL 2490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours, 6 Lab Hours)
May be repeated for credit if topics are significantly different. Subject variable. Faculty approval required.

GEOL 3326 Introduction to Geological Field Methods
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to the basic techniques of geological fieldwork. Note taking in the field, proper use of geological field equipment, measurement and description of rock sections by several methods and degrees of detail, plus small area mapping of several types of terrain with topographic maps. Reports, sections, and maps will be produced from the field notes. Field trips required.
Prerequisite: GEOL 1403 and 1404 and (GEOL 3411 or 3411*).
* May be taken concurrently.
Co-requisite: SMTE 0094.

GEOL 3329 Geology of National Parks
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the regional geology of the United States using selected U.S. National Parks representing a wide variety of geologic settings as examples. Application of major geologic principles and basic geologic concepts such as plate tectonics, rock cycle, stratigraphy, and geologic time.
Prerequisite: GEOL 1303, 1403 or 1404.

GEOL 3411 Mineralogy
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of the physical and chemical properties of minerals. Introduction to the crystallography of minerals, optical mineralogy, and the use of the polarized light microscope. Laboratory study of mineral identification in hand specimens and thin sections.
Prerequisite: GEOL 1403 and CHEM 1411 and (CHEM 1412 or 1412*).
* May be taken concurrently.
Co-requisite: SMTE 0094.

GEOL 3414 Igneous and Metamorphic Petrology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Genesis and occurrence of igneous and metamorphic rocks. Mineralogical composition and thermodynamics of geologic systems. Determination of rock types in hand specimens and thin sections.
Prerequisite: GEOL 1403, CHEM 1411, 1412 and GEOL 3411.
Co-requisite: SMTE 0094.

GEOL 3441 Invertebrate Paleontology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Morphology, classification, and paleoecology of fossil invertebrates. Applications to marine geology including paleoceanography, stratigraphy, economic geology. Field trip to Texas invertebrate fossil beds.
Prerequisite: GEOL 1404.
Co-requisite: SMTE 0094.

GEOL 3442 Geomorphology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of landscapes and landforms at the surface of the Earth, and the processes and mechanisms by which they are developed.
Prerequisite: GEOL 1403.
Co-requisite: SMTE 0094.

GEOL 3443 Environmental Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of the relationships of humans to Earth's physical environment. Geologic aspects of waste disposal, resources, conservation, land reclamation, geologic hazards, and land-use planning.
Prerequisite: GEOL 1403.
Co-requisite: SMTE 0094.

GEOL 3450 Environmental Geoscience
0 Semester Credit Hours
Limited to geology majors attending field camp. Students required to meet with geology program coordinator prior to registration for this course.

GEOL 4311 Paleoclimatology
3 Semester Credit Hours (3 Lecture Hours)
Reconstruction of Earth’s climate system through time using natural archives and proxy evidence. Focus is mostly towards the Quaternary, though longer time spans will be considered, too. Mixed format with lectures, hand-on activities involving paleoclimate data sets, and seminar-style readings and discussions.
Prerequisite: GEOL 1404 and 3441.

GEOL 4316 Marine Geoscience
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the geology of the marine environment. Review of plate tectonic processes relevant to the evolution of continental margins and plate boundaries; geophysics and ocean morphology; geology of ocean crust; controls on the types, origin, and distribution of marine sediments; marine geochemistry; nearshore geological processes and the continental shelf; introduction to paleoceanography; global paleoceanographic evolution; critical events in ocean history. Special focus on the Gulf of Mexico.
Prerequisite: GEOL 1403, 1404, CHEM 1411 and 1412.
GEOL 4321 Introduction to Soil and Groundwater Restoration
3 Semester Credit Hours (3 Lecture Hours)
Introduction to methods for restoring contaminated soil and groundwater by examining the factors and processes influencing the efficacy of remediation systems. An emphasis will be placed on the scientific principles upon which soil and groundwater remediation is based.
Prerequisite: (GEOL 1403, CHEM 1411, 1412 and GEOL 3443).

GEOL 4326 Field Seminar in Geology
3 Semester Credit Hours (4 Lecture Hours, 1 Lab Hour)
Designed to prepare students for summer field camp. Basic techniques of geologic mapping in the field, data analysis and interpretation, and report writing.
Prerequisite: GEOL 4411 and 4421.
Co-requisite: SMTE 0094.

GEOL 4411 Sedimentation and Stratigraphy
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Composition and origin of sediments and sedimentary rocks. Description and classification of rocks in hand specimen. Principles of stratigraphy, including stratigraphic units and correlation. Facies models for major depositional systems. Field trips.
Prerequisite: (GEOL 1403) and (GEOL 1404) and (GEOL 3411*).
* May be taken concurrently.
Co-requisite: SMTE 0094.

GEOL 4415 Economic Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Study of geologic and tectonic parameters of mineral and metals formation. Ore geology and geochemistry. Mining, processing, fabrication, and marketing of natural resources. Field trip to mining operations.
Prerequisite: GEOL 1403 and 3411.
Co-requisite: SMTE 0094.

GEOL 4416 Introduction to Geochemistry
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introductory study of the Earth processes using principles of chemical equilibrium, thermodynamics, isotope geochemistry and organic geochemistry. Applications of low-temperature geochemistry to geologic problems.
Prerequisite: CHEM 1411, 1412, MATH 2413 and GEOL 3411.
Co-requisite: SMTE 0094.

GEOL 4421 Structural Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
PHYS 1401 Geometric and quantitative description of deformation of the Earth's crust, mechanics of brittle and crystal-plastic deformation processes of Earth materials, introduction to continuum mechanics of geologic systems, crustal deformation from micro-scale to global tectonics. Laboratory introduces principles of three-dimensional data representation and analysis, geologic map interpretation, cross-section techniques, and problems in stress and strain analysis.
Prerequisite: GEOL 3411 and MATH 2413 and (PHYS 1401 or 2425).
Co-requisite: SMTE 0094.

GEOL 4422 Geophysics
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to quantitative techniques to assess physical properties and processes of the Earth. Topics include earthquake seismology, refraction and reflection seismology, gravimetry, magnetism, electrical methods, and radioactivity of Earth materials. Application of geophysical methods to the study of the Earth, in oil and gas exploration, and in economic and environmental geology.
Prerequisite: (GEOL 4421, PHYS 1401 or 2425) and (PHYS 1402 or 2426) and (MATH 2413).

GEOL 4423 Seismic Methods
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the acquisition, processing, and interpretation of 2D and 3D seismic data. Lectures and field exercises are covered. Topics include conceptual and historical foundations of modern reflection seismology; an overview of seismic wave phenomena in acoustic, elastic, and porous media; acquisition principles for land and marine seismic surveys; methods used to create 2D and 3D seismic images from field data; concepts of dip moveout, prestack migration, and depth migration; concepts and limitations of 3D seismic interpretation for structure, stratigraphy, and rock property estimation; and the interpretation role of attributes, impedance estimation, and AVO.
Prerequisite: GEOL 4322.

GEOL 4424 Environmental and Engineering Geophysics
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Geophysical techniques for exploring the shallow subsurface for environmental and engineering purposes. Topics include seismic, resistivity, ground penetrating radar, electromagnetic, gravity, and magnetic methods. This course includes both lectures and labs (field exercises) components.
Prerequisite: (PHYS 1401 or 2425) and (PHYS 1402 or 2426) and (MATH 2413).

GEOL 4430 Internship in Geology
1-4 Semester Credit Hours
One to four semester hours of credit may be earned by working in an internship position in industry, with local government, a private firm, or an independent geologist.

GEOL 4436 Introduction to Petroleum Geology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Basic concepts of petroleum geology and techniques used in the exploration and production of hydrocarbon systems. Lectures and lab exercises will cover principles of stratigraphy, sedimentology, hydrocarbon generation, hydrocarbon-trapping mechanisms, reservoir characterization, seismic interpretation, well-log interpretation, and geologic risk analysis.
Prerequisite: GEOL 4411 or 4411*.
* May be taken concurrently.
Co-requisite: SMTE 0094.

GEOL 4444 Hydrogeology
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Introduction to the fundamentals of groundwater and surface water flow; well hydraulics and evaluation of groundwater as a resource; chemical properties of groundwater and contaminant transport; groundwater and the environment; and groundwater modeling. This course also examines some of the techniques associated with field hydrogeology and laboratory methods in hydrogeology.
Prerequisite: GEOL 1403 and MATH 2413 and (PHYS 1401 or 2425).
Co-requisite: SMTE 0094.

GEOL 4490 Selected Topics
4 Semester Credit Hours (1-4 Lecture Hours, 1-4 Lab Hours)
May be repeated for credit if topics are significantly different. Subject materials variable.

GEOL 4496 Directed Independent Study
1-4 Semester Credit Hours
DIRECTED INDEPENDENT STUDY Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the chairperson, and the Dean of the College.
GEOL 4649  Karst of the Yucatan Peninsula  
6 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)  
This course describes the different types of caves and karst rocks, the water rock interactions in carbonate rock systems, and it explains cave formation via hydrogeological and geochemical processes. It offers field work experience such as sample collection, determining field parameters, karst and cave surveys, measuring spring discharges in the Yucatan Peninsula of Mexico and laboratory experience on the Texas A&M University-Corpus Christi campus.  
Prerequisite: (GEOL 1403 and 4411) or GEOL 4444, 4416 or 4311.

GEOL 4650  Field Geology  
6 Semester Credit Hours (12 Lab Hours)  
Field course involving practical application of geologic principles to field problems. Locations visited and material covered depends on hosting institution. Generally should include: mapping and outcrop data collection; measurement of stratigraphic sections; mapping and preparation of geologic cross-sections; preparation of geologic reports.  
Prerequisite: GEOL 3326, 3414, 3441, 4411 and 4421.  
Co-requisite: SMTE 0094.

German (GERM)  
GERM 1311  German I  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction to listening, speaking, reading, and writing skills within a German cultural framework. For students without previous knowledge of the language. (Language laboratory required. One hour per week.) A lab fee is required for this course.

GERM 1312  German II  
3 Semester Credit Hours (3 Lecture Hours)  
Continued practice in listening, speaking, reading, and writing skills within a German cultural framework. German 1311 or equivalent required. (Language laboratory required. One hour per week.) A lab fee is required for this course.

GERM 2311  German III  
3 Semester Credit Hours (3 Lecture Hours)  
Reviews German grammar through oral and written practice with emphasis on language proficiency. Utilizes cultural readings in German to expand vocabulary and knowledge of the German culture.  
TCCNS: GERM 2311

GERM 2312  German IV  
3 Semester Credit Hours (3 Lecture Hours)  
Continued advanced development and review of all language skills within a German framework with an emphasis in the linguistic and cultural perspective.  
Prerequisite: GERM 2311.  
TCCNS: GERM 2312

Graphic Design (GRDS)  
GRDS 1301  Foundations of Graphic Design  
3 Semester Credit Hours  
This course explores fundamental components of design theory, concept, and composition. Students will explore presentation techniques, printing processes, technical tactile skills associated with the field, defining and exploring a targeted audience, and appropriate software introductions. Students will create printed works utilizing these skill sets.

GRDS 1302  Typography I  
3 Semester Credit Hours  
Through the use of lectures, demonstrations and studio work students are introduced to the art of typography. Cultural and aesthetic histories of familiar typefaces are reviewed. An emphasis is placed on the rules of type, best practices in type-setting, anatomy of letter forms, and appropriate uses of prescribed type faces. Hand rendering and digital media are used to give students a robust foundation in the study of typography.  
Prerequisite: (GRDS 1301).

GRDS 2301  Historical Perspectives of Graphic Design  
3 Semester Credit Hours  
This studio course examines the history of graphic design from the invention of writing to present day composition. Students will explore various movements in graphic design history and create design works that reflect these periods.

GRDS 2302  Design Studio I  
3 Semester Credit Hours  
This course introduces the fundamental principles of the graphic design industry. Students strengthen their vocabularies in design, theory, and visual communication. Exploring various two-dimensional projects, students will conduct research, form opinions, foster ideas, solve communication problems, learn to analyze and discuss graphic design work, and continue to develop their own creative process.  
Prerequisite: GRDS 1301 and 1302.

GRDS 2303  Concept & Making  
3 Semester Credit Hours  
This studio course offers an in-depth study of approaching concept and idea generation to produce relevant and innovative design solutions. Students will explore tactics and techniques for creating their own original assets to support their solutions. Photo and illustration creation, manipulation and output are studied in addition to the utilization of machines, technology and tools to fulfill creative curiosity.  
Prerequisite: GRDS 1301 and 1302.

GRDS 3301  Typography II  
3 Semester Credit Hours  
Through readings, writing assignments, lectures, and studio projects, students explore the relationship of type to cultural, political, and psychological dynamics of information exchange. The ideas of intellectual impact, complex hierarchy, active/passive readership, and emotional expression are all explored with the emphasis on user experience in typographic design.  
Prerequisite: GRDS 1301, 1302, 2301 and 2302.

GRDS 3302  Design Studio II  
3 Semester Credit Hours  
This course encourages students to further develop their design process by reflecting on their own personal and artistic identities, while identifying and communicating to a specific audience. Through a series of print and three-dimensional projects, students work to balance their own voice and develop strong conceptual thinking and formal experimentation methods.  
Prerequisite: GRDS 1301, 1302, 2301 and 2302.
GRDS 3303 Design Experience & Awareness
3 Semester Credit Hours
This studio course examines the role of design in society. Students will learn how to use empathy and a human-centered design approach to develop appropriate design solutions. Additionally, students will examine the role of environmental graphics to create works that reflect an enhanced impact in experience for the user. The topics in this course are explored through lectures, research and the creative development of a body of work.
Prerequisite: GRDS 1301, 1302, 2301 and 2302.

GRDS 3304 Publication & Editorial Design
3 Semester Credit Hours
This studio course explores the foundations of publication and editorial design to expand students' design vocabulary. Students will explore the role of a graphic designer/art director in developing effective and innovative communication for editorial design.

GRDS 3305 Packaging Design
3 Semester Credit Hours
This studio course will teach students how to develop creative strategies for problem solving in a client-based environment. Focusing on three-dimensional packaging, students will learn how design applies to various surfaces, products, and audiences.
Prerequisite: GRDS 1301, 1302, 2301 and 2302.

GRDS 3306 User Interface/User Experience
3 Semester Credit Hours
This hands-on course examines how content is organized and structured to create a digital experience for a user, and what role the designer plays in creating and shaping user experience. Students will learn the roadmap process for developing robust User Interface/User Experience designs, from research, ideation and site mapping, to the design of engaging layouts for screens and the creation of dynamic prototypes.

GRDS 3307 Copywriting
3 Semester Credit Hours
This studio course explores copywriting for design, advertising, and media. Students will create writing and messaging for a variety of media including print design, web design, and advertising design within a consumer-driven context.
Prerequisite: (GRDS 1301) and (GRDS 1302) and (GRDS 2301) and (GRDS 2302).

GRDS 3308 Building Websites
3 Semester Credit Hours
This studio course will cover designing and maintaining a scalable and functional website utilizing contemporary building platforms. The processes and techniques demonstrated will allow students to plan the project scope, to generate website content, and to adopt the tools and expansive functionality available while learning best practices for the platform.
Prerequisite: GRDS 2303.

GRDS 3309 Client Solutions
3 Semester Credit Hours
In this studio course, students will define client needs, explore the designer-client relationship and investigate research strategies and methods for developing effective print and digital deliverables to meet established business goals. The conceptual and visual standards pertinent to creating a brand are explored and applied across a variety of client-driven projects.
Prerequisite: GRDS 1301, 1302, 2301 and 2302.

GRDS 4304 Emerging Technologies
3 Semester Credit Hours (6 Lab Hours)
This studio explores the use of evolving current and emerging technology in the field to enhance storytelling and the user experience in a variety of interactive media.
Prerequisite: GRDS 1301, 1302, 2301, 2302, 3301 and 3302.

GRDS 4309 Design in Advertising
3 Semester Credit Hours
This studio course will teach students how to develop creative strategies for problem solving in a client-based environment. This studio focuses on advertising design as it applies to print, multimedia, outdoor, and direct mail design for a chosen audience.
Prerequisite: GRDS 1301, 1302, 2301, 2302, 3301 and 3302.

GRDS 4310 Portfolio and Professional Practices
3 Semester Credit Hours
In this capstone course, the student prepares for a professional career in the graphic design field by developing self-promotional materials, including a printed and digital portfolio, while focusing on professional practices and job-seeking strategies. Guest speakers will typically join the class for discussion, critique, lecture and hiring scenarios such as mock interviews. Students will display their work in an organized portfolio showcase gallery exhibition. Note: May be taken three times for credit.
Prerequisite: GRDS 1301, 1302, 2301, 2302, 3301 and 3302.

GRDS 4391 Topics in Graphic Design
1,3 Semester Credit Hours
Study of specialized topics and themes in Graphic Design. May be repeated when topics vary.

GRDS 4396 Directed Independent Study
1,3 Semester Credit Hours
See College description. Offered on application.

GRDS 4399 Internship
3 Semester Credit Hours
This course allows students to complete a semester long design-centric internship within their area of interest. Through the use of reflective journals, a project portfolio, and employer feedback, the student will report their experience to the supervising professor throughout the internship placement.

Health Care Administration (HCAD)

HCAD 3300 The Health Care System
3 Semester Credit Hours (3 Lecture Hours)
Addresses how the U.S. Health Services System is organized, how health services are delivered, and the mechanisms by which health services are financed in the United States. Provides an undergraduate level overview of the U.S. health services system and its key components, including health system resources, health system foundations, health system resources, health system processes, and health system outcomes. Should be taken during first semester of Health Sciences courses. Cross listed with HLSC 3300.
HCAD 3310 Epidemiology
3 Semester Credit Hours (3 Lecture Hours)
Applies epidemiologic methods and procedures to the study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations. Epidemiologic methods for the control of conditions such as infectious and chronic health hazards, and unintentional injuries are discussed. Other topics include quantitative aspects of epidemiology, for example, data sources, measures of morbidity and mortality, evaluation of association and causality, and study design. Cross listed with HLSC 3310.
Prerequisite: HCAD 3300* or HLSC 3300*.
* May be taken concurrently.

HCAD 3320 Health Care Marketing
3 Semester Credit Hours (3 Lecture Hours)
Provides an introductory study of the essentials of marketing within the dynamically evolving health care system. The marketing framework is provided as a basis for decisions related to marketing mix variables. Content includes buyer behavior, marketing research, market segmentation, and marketing strategy. Cross listed with HLSC 3320.
Prerequisite: HCAD 3300*.
* May be taken concurrently.

HCAD 3330 Financial Management in Health Care
3 Semester Credit Hours (3 Lecture Hours)
Provides an introduction to health care financial management including selected topics from financial accounting, management accounting, finance, internal audit and personal finance. Health care payment and classification systems are studied and practical applications are emphasized. Cross listed with HLSC 3330.
Prerequisite: HCAD 3300*.
* May be taken concurrently.

HCAD 3340 Health Program Planning and Evaluation
3 Semester Credit Hours (3 Lecture Hours)
Introduces the skills and techniques required to research and develop culturally competent health programs. Students create new data and utilize existing data to assess community needs, implement community health programs, and evaluate program effectiveness, exploring the concepts, processes and techniques used in health program planning, implementation, and evaluation. The course emphasizes the importance of teams and partnerships in successful community health programs. This is an intensive writing course. Cross listed with HLSC 3340.
Prerequisite: (MATH 1442 and 1342) or (MATH 2342) and (HCAD 3300*).
* May be taken concurrently.

HCAD 3350 Information Systems and Technology in Health Care
3 Semester Credit Hours (3 Lecture Hours)
Provides an overview of the role technology plays in management of health care information. Emphasis is placed on system analysis, techniques, and skills used in information management. Covers determining what information is needed by whom; designing information flows, procurement of computer/telecommunication resources, assuring information security, and continuing management of information systems supporting healthcare delivery. Satisfies university computer literacy requirement. Cross listed with HLSC 3350.
Prerequisite: HCAD 3300*.
* May be taken concurrently.

HCAD 3360 Health Education and Promotion
3 Semester Credit Hours (3 Lecture Hours)
Provides an introduction to the discipline and profession of health education and promotion. It examines the concepts of health and wellness, national and global health status, theories of behavior change, and the implementation and assessment of health promotion interventions. It provides an introduction to medical terminology for health educators. This is a writing intense course. Cross listed with HLSC 3360.
Prerequisite: HCAD 3300 or HLSC 3300.
Co-requisite: HCAD 3300.

HCAD 3370 Complementary and Alternative Medicine
3 Semester Credit Hours (3 Lecture Hours)
Provides an introduction to complementary and alternative medicine with an emphasis on related economic, political, legal, and social issues. The course identifies the processes, interventions, and funding agencies available for providing alternative care; reviews the various professions within alternative and complementary medicine; and addresses the holistic approach to health and well-being. Cross listed with HLSC 3370.

HCAD 4100 Assessment of Accumulated Knowledge
1 Semester Credit Hour (1 Lecture Hour)
Provides an assessment of student knowledge garnered from Health Science program course work. Allows creation of a business resume and mock interview experience. Prepares students for the capstone Practicum course. Cross listed with HLSC 4100.

HCAD 4300 Management and Organizational Behavior in Health Care
3 Semester Credit Hours (3 Lecture Hours)
Introduces students to principles of management and organization behavior in healthcare. Topics include management, planning, organizing, staffing, leading, controlling, decision making, communicating, and professionalism, as well as the connective processes of decision making, coordinating, and communicating in healthcare organizations. This is an intensive writing course. Cross listed with HLSC 4300.

HCAD 4310 Health Law, Policy and Ethics
3 Semester Credit Hours (3 Lecture Hours)
Introduces law and the legal system with special emphasis on health-related topics and policies, and key health law issues. Includes the study of the legal and regulatory environment of health care and the administration of health services with a review of the laws pertaining to healthcare institutions, physicians, and other healthcare workers who contribute to patient care. Tort and contract law are emphasized. The course addresses policy issues and ethics through topics like patient rights, reproduction, and end of life decisions. Cross listed with HLSC 4310.

HCAD 4320 Project Management in Health Care
3 Semester Credit Hours (3 Lecture Hours)
Introduces the fundamental project management concepts required to design, develop and deploy project plans successfully within the healthcare industry. The management of resources, schedules, risks, and scope of a project are examined for successful project implementation. Students are exposed to the role of healthcare project managers and the project management process as they provide structure and oversight to the constantly growing and changing healthcare industry. Cross listed with HLSC 4320.
HCAD 4330 Human Resource Management in Health Care
3 Semester Credit Hours (3 Lecture Hours)
Presents the foundational concepts of healthcare human resource management. Students are introduced to fundamental human resource management techniques needed within health organizations including leadership, workforce planning, recruitment, employee selection, compensation, employee development, workload management, human resource law, and ethics. Future healthcare management and leadership professionals must understand these concepts to comply with human resource department policies and support the strategic plan. Cross listed with HLSC 4330.

HCAD 4340 Quality Management and Evaluation in Health Care
3 Semester Credit Hours (3 Lecture Hours)
Introduces the principles of quality assessment and outcome management in healthcare organizations. This course is an introduction of integrated delivery systems and their operations. It includes an examination of patient care management and the patient experience. A framework for understanding healthcare quality efforts is also an integral part of the course. Cross listed with HLSC 4340.

HCAD 4350 Global Health/Health Disparities
3 Semester Credit Hours (3 Lecture Hours)
Provides students with an historical perspective on global health issues and leads to an understanding of current and future concerns. Emphasis is on the global burden of disease and determinants of health as well as health disparities. Provides students with an introduction to the study of health disparities in the United States, examining how health disparities are defined and measured and exploring issues such as how the structure of American society affects who gets sick and who gets care. Case studies expose students to a variety of real-life scenarios and explore a range of issues. This is an intensive writing course.

HCAD 4680 Practicum
6 Semester Credit Hours (1 Lecture Hour, 15 Lab Hours)
The Health Science Practicum is an institution-based project course requiring the student to complete on-site practicum hours. It provides a structured and guided learning environment to help students make the most of their practicum experience. Course components facilitate students’ professional development, focusing on the transition from the role of a student to the role of a healthcare professional. Cross listed with HLSC 4680.
Prerequisite: HCAD 4100.

Health Education (HLTH)

HLTH 3342 Sexuality in Health Education
3 Semester Credit Hours (3 Lecture Hours)
Many aspects of human sexuality; physiology and function of human reproductive system, factors involved in learning sex roles, biological and emotional motivations associated with the sexual aspects of life and their relationship to marriage and family planning.

HLTH 3353 Substance Abuse and Health
3 Semester Credit Hours (3 Lecture Hours)
A basic knowledge and understanding of the physiological, psychological, social, environmental and behavioral aspects of drug use and abuse in this country to prepare students to make mature and responsible decisions regarding drug use and to assist others in making similar decisions affecting drug-taking behavior.

HLTH 4310 Exercise and Health
3 Semester Credit Hours (3 Lecture Hours)
Interdisciplinary planning and implementation of exercise programs in school, community and worksite settings; applied exercise physiology, nonclinical exercise assessment; exercise-education strategies to promote adherence in health related exercise programs.

HLTH 4350 Creative Life Styles for Wellness
3 Semester Credit Hours (3 Lecture Hours)
A course supporting knowledge, attitudes, skills, and behaviors in the five wellness dimensions physical, social, emotional, intellectual, and environmental. Special emphasis will be placed on personal enrichment.

Health Sciences (HLSC)

HLSC 3300 The Health Care System
3 Semester Credit Hours (3 Lecture Hours)
Addresses how the U.S. Health Services System is organized, how health services are delivered, and the mechanisms by which health services are financed in the United States. Provides an undergraduate level overview of the U.S. health services system and its key components, including health system resources, health system foundations, health system resources, health system processes, and health system outcomes. Should be taken during first semester of Health Sciences courses. Cross listed with HCAD 3300.

HLSC 3310 Epidemiology
3 Semester Credit Hours (3 Lecture Hours)
Application of epidemiologic methods and procedures to the study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations. Epidemiologic methods for the control of conditions such as infectious and chronic health hazards, and unintentional injuries are discussed. Other topics include quantitative aspects of epidemiology, for example, data sources, measures of morbidity and mortality, evaluation of association and causality, and study design. Cross listed with HCAD 3310.

HLSC 3320 Health Care Marketing
3 Semester Credit Hours (3 Lecture Hours)
An introductory study of the essentials of marketing within the dynamically evolving health care system Cross listed with HCAD 3320.

HLSC 3330 Financial Management in Health Care
3 Semester Credit Hours (3 Lecture Hours)
Introduction to health care financial management including selected topics from financial accounting, management accounting, finance, internal audit and personal finance. Health care payment and classification systems will be studied and practical applications will be emphasized. Cross listed with HCAD 3330.

HLSC 3340 Health Program Planning and Evaluation
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the skills and techniques required to research and develop culturally competent health programs. Students will gain a basic understanding of how to utilize existing data to assess community needs, implement community health programs, and evaluate program effectiveness, exploring the concepts, processes and techniques used in health program planning, implementation, and evaluation. The course will emphasize the importance of teams and partnerships in successful community health programs. Cross listed with HCAD 3340.
Prerequisite: MATH 1442 and 1342 or MATH 2342.
HLSC 3350 Information Systems and Technology in Health Care
3 Semester Credit Hours (3 Lecture Hours)
Provides an overview of the role technology plays in management of health care information. Emphasis is placed on system analysis, techniques, and skills used in information management. Cross listed with HCAD 3350.

HLSC 3360 Health Education and Promotion
3 Semester Credit Hours (3 Lecture Hours)
This course provides an introduction to the discipline and profession of health education and promotion. It examines the concepts of health and wellness, the national and global health status, theories of behavior change, and the implementation and assessment of health promotion interventions. Cross listed with HCAD 3360.

HLSC 3370 Complementary and Alternative Medicine
3 Semester Credit Hours (3 Lecture Hours)
Introduction to complementary and alternative medicine with an emphasis on related economic, political, legal, and social issues. Cross listed with HCAD 3370.

HLSC 4100 Assessment of Accumulated Knowledge
1 Semester Credit Hour (1 Lecture Hour)
This course provides an assessment of student knowledge garnered from Health Science program course work. It also prepares students for the capstone Practicum course. Cross listed with HCAD 4100.

HLSC 4300 Management and Organization Behavior in Health Care
3 Semester Credit Hours (3 Lecture Hours)
Introduction to principles of management and organization behavior in healthcare with emphasis on human resource management topics and issues. Cross listed with HCAD 4300.

HLSC 4310 Health Law
3 Semester Credit Hours (3 Lecture Hours)
Introduction to law and the legal system with special emphasis on health related topics including quarantine and key health law issues. Cross listed with HCAD 4310.

HLSC 4320 Project Management in Healthcare
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the fundamental project management concepts required to design, develop and deploy project plans successfully within the healthcare industry. The management of resources, schedules, risks, and scope of a project are examined for successful project implementation. Students are exposed to the role of healthcare project managers and the project management process as they provide structure and oversight to the constantly growing and changing healthcare industry. Cross listed with HCAD 4320.

HLSC 4330 Human Resource Management in Healthcare
3 Semester Credit Hours (3 Lecture Hours)
This course presents the foundational concepts of healthcare human resource management. Students are introduced to fundamental human resource management techniques needed within health organizations including leadership, workforce planning, recruitment, employee selection, compensation, employee development, workload management, human resource law, and ethics. Future healthcare management and leadership professionals must understand these concepts to comply with human resource department policies and support the strategic plan. Cross listed with HCAD 4330.

HLSC 4340 Quality Management and Evaluation in Health Care
3 Semester Credit Hours (3 Lecture Hours)
Introduction to principles of quality assessment and outcome management in healthcare organizations. Cross listed with HCAD 4340.

HLSC 4390 Selected Topics in Health Science
1-3 Semester Credit Hours (1-3 Lecture Hours)
Selected topics for special study related to health science issues. May be repeated for credit when topics vary. Not required for the BSHS but may be used to fulfill elective requirement.

HLSC 4396 Directed Independent Study
1-3 Semester Credit Hours
Course not required for the BSHS but may be used to fulfill elective requirement.

HLSC 4680 Practicum
6 Semester Credit Hours (1 Lecture Hour, 15 Lab Hours)
The Health Science Practicum is an institution-based project course requiring the student to complete on-site practicum hours. It provides a structured and guided learning environment to help students make the most of their practicum experience. Course components facilitate students’ professional development, focusing on the transition from the role of a student to the role of a healthcare professional.

History (HIST)

HIST 1301 U.S. History to 1865
3 Semester Credit Hours (3 Lecture Hours)
A survey of the political, social, economic, military, cultural and intellectual history of the United States from 1492 to 1865.
TCCNS: HIST 1301

HIST 1302 U.S. History Since 1865
3 Semester Credit Hours (3 Lecture Hours)
A survey of the political, social, economic, military, cultural and intellectual history of the United States from 1865 to the present.
TCCNS: HIST 1302

HIST 2301 Texas History
3 Semester Credit Hours (3 Lecture Hours)
Spanish colonial period, Mexican statehood, independence, the development of the Republic, annexation and growth as a state.
TCCNS: HIST 2301

HIST 2311 Western Civilization I
3 Semester Credit Hours (3 Lecture Hours)
Survey of the cultures and civilizations of the Ancient Mediterranean world and the political, social, economic, military, cultural, and intellectual influences shaping the emergence and development of Europe to 1500.
TCCNS: HIST 2311

HIST 2312 Western Civilization II
3 Semester Credit Hours (3 Lecture Hours)
A survey of the political, social, economic, military, cultural, and intellectual development of Europe from 1500 to the present.
TCCNS: HIST 2312

HIST 2322 World History Since 1500
3 Semester Credit Hours (3 Lecture Hours)
examines major global issues over the past 500 years. Topics may include European expansion and colonialism, the integration of the Americans into world economic systems, changes in science and technology, decolonization, and modern environmental problems. This course will help students understand historical events within a global framework.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 3301</td>
<td>History of World Religions</td>
<td>3</td>
<td>Surveys the key beliefs, practices, rituals, figures, and historical developments of the world’s major religious traditions, including Hinduism, Buddhism, Confucianism, Judaism, Christianity, Islam, and New Age religions. Gives particular attention to their encounter with modernity and their complicated place in today’s global, diverse, post-modern world.</td>
</tr>
<tr>
<td>HIST 3303</td>
<td>Colonial Latin America</td>
<td>3</td>
<td>An overview of Latin American history from pre-Columbian times until Independence.</td>
</tr>
<tr>
<td>HIST 3304</td>
<td>Modern Latin America</td>
<td>3</td>
<td>A study of the major political, economic and cultural processes that marked the development of modern Latin America.</td>
</tr>
<tr>
<td>HIST 3307</td>
<td>The Ancient World</td>
<td>3</td>
<td>This course examines the ancient history of the human race. It begins with the evolution of Homo sapiens in Africa and continues through approximately the 4th century CE. Topics examined include the formation of cultures, societies, states, and empires around the world including those in Egypt, Southwest Asia, India, China, and the Mediterranean.</td>
</tr>
<tr>
<td>HIST 3315</td>
<td>Europe 1750?1815</td>
<td>3</td>
<td>Explores the processes which contributes to the establishment of a new political, economic, and social order in Europe. The course includes an in-depth focus upon the causes and consequences of the French Revolution as well as an examination of the European response to Napoleon.</td>
</tr>
<tr>
<td>HIST 3317</td>
<td>Europe 1815?1914</td>
<td>3</td>
<td>The evolution of European industrial society from the Congress of Vienna to the outbreak of World War I. Themes include changes in the nature of work and family life, urbanization, and the emergence and growth of liberalism, socialism, nationalism, and romanticism as competing ideologies.</td>
</tr>
<tr>
<td>HIST 3319</td>
<td>Europe 1914 to the Present</td>
<td>3</td>
<td>Political, social, economic and cultural developments since 1914: includes the impact of World War I, the Russian Revolution, Fascism, the origins of the Cold War, the tension between European unification and growing ethnic tensions and the dissolution of the Soviet empire.</td>
</tr>
<tr>
<td>HIST 3320</td>
<td>Colonial and Revolutionary U.S.</td>
<td>3</td>
<td>Traces regional economic, social, and political change in the Americas from 1607 to the end of the Revolution.</td>
</tr>
<tr>
<td>HIST 3321</td>
<td>The Early American Republic</td>
<td>3</td>
<td>This course examines American history from the end of the revolutionary war to 1850. Political, economic, and social issues including, but not limited to, the creation of the Constitution, the development of the first and second party systems, the market revolution, antebellum reform, the Old South, and westward expansion.</td>
</tr>
<tr>
<td>HIST 3323</td>
<td>Civil War and Reconstruction</td>
<td>3</td>
<td>Background and causes of the Civil War; military, political, diplomatic, and economic developments during the War; Reconstruction and post-war adjustments.</td>
</tr>
<tr>
<td>HIST 3324</td>
<td>U.S. Gilded Age and Progressive Era</td>
<td>3</td>
<td>An examination of the dramatic period when the United States definitively settled the remaining portions of the continent and decisively moved towards becoming an industrial, urban nation with world-wide economic and political influence.</td>
</tr>
<tr>
<td>HIST 3325</td>
<td>Emergence of Modern U.S.</td>
<td>3</td>
<td>Study of American life from World War I through World War II. Topics include America’s rise to a world power, the social, cultural, and political effects of corporate enterprise, urbanization, and immigration, women’s suffrage, the Twenties, and the New Deal.</td>
</tr>
<tr>
<td>HIST 3326</td>
<td>U.S. Since 2nd World War</td>
<td>3</td>
<td>A study of American life and development as a world power since World War II.</td>
</tr>
<tr>
<td>HIST 3335</td>
<td>The U.S. Urban Experience</td>
<td>3</td>
<td>A general survey of the social, cultural, and political history of the American city, with particular emphasis on Corpus Christi and the ways our city illustrates these larger trends.</td>
</tr>
<tr>
<td>HIST 3340</td>
<td>Modern Asia</td>
<td>3</td>
<td>This course will examine Asia from 1600 to the present. Topics include politics, the nation state, colonialism, empire, war, nationalism, the Cold War and revolution, all in a historical context.</td>
</tr>
<tr>
<td>HIST 3345</td>
<td>America by Nature</td>
<td>3</td>
<td>Examines the role of nature in the nation’s past, looking beyond more traditional historical topics to discover how the environment has shaped society and the ways in which humans, in turn, have shaped nature throughout American history. Community-engaged learning component.</td>
</tr>
<tr>
<td>HIST 3350</td>
<td>Dictators and Dirty Wars in Latin America</td>
<td>3</td>
<td>Explores the rise of dictatorships and military regimes in twentieth century Latin America. Focuses on human rights struggles and popular movements in Mexico, Central America and the Southern Cone.</td>
</tr>
<tr>
<td>HIST 3360</td>
<td>Introduction to Museum Studies</td>
<td>3</td>
<td>In this cross-disciplinary class, students of history, sciences, the arts, and more will be introduced to the different departments of a museum and gain experience in programming, exhibits, research, public engagement, and other various aspects of museum management through their participation in a real working museum (Corpus Christi Museum of Science and History).</td>
</tr>
<tr>
<td>HIST 3370</td>
<td>Introduction to Public History</td>
<td>3</td>
<td>A Project-centered class that examines public history practices and debates, including the changing field over time, the relationship between history and memory, and the interpretive and sometimes controversial nature of historical sites and exhibits. Students will also learn methods and practices of museums, archives, oral history, digital history, and more. Includes community-engaged learning, workshops, local field trips.</td>
</tr>
</tbody>
</table>
HIST 3373  Oral History and Podcasting  
3 Semester Credit Hours (3 Lecture Hours)  
A project-based course designed to teach students oral history, audio recording, and editing. Topics include oral history theory and methods, the role of testimony and memory in constructing historical narratives, interview techniques, archival practices, and the technical aspects of audio production, audio storytelling, and podcasting.

HIST 3385  The Art and Practice of History  
3 Semester Credit Hours (3 Lecture Hours)  
Introduces students to the most significant historiographical problems that face historians, focusing on recent and current controversies that have shaken the profession and been the subject of public and political debate. Provides examples of how historians think about and do history.  
Prerequisite: (HIST 1301, 1302 and 2311) or (HIST 2312).

HIST 4320  U.S. Cultural Experience  
3 Semester Credit Hours (3 Lecture Hours)  
Explores ways that the myriad groups who have made up American society from the colonial period to the "information age" understood and expressed themselves and related to each other. (The chronological scope of this course may vary.)

HIST 4327  U.S. Modern Popular Culture  
3 Semester Credit Hours (3 Lecture Hours)  
The historical development of modern popular culture—including television, movies, fiction, newspapers, music and consumption—and its effect on the structure and experience of U.S. society and work from the nineteenth century to the present.

HIST 4335  The Military and United States History  
3 Semester Credit Hours (3 Lecture Hours)  
The development of U.S. military strategy and policy from the Colonial Wars through Vietnam.

HIST 4336  Mexican American History  
3 Semester Credit Hours (3 Lecture Hours)  
Spanish and Mesoamerican backgrounds, conquest and mestizaje, settlement of Aztlan, interaction with Anglo-Americans, 20th century immigration, urbanization, identity, the Chicano Movement, and Mexican American organizational/political development.

HIST 4337  United States Women's History  
3 Semester Credit Hours (3 Lecture Hours)  
Themes include transformations in the notion of womanhood and of sexual differences, changes in the structure, function, and concept of "family" and "household," and historical factors that have shaped women's role in the work force and public life.

HIST 4340  European Women's History  
3 Semester Credit Hours (3 Lecture Hours)  
Study of the experiences of European women from the 18th to the 20th centuries. Also addresses the role that gender has played in the development of modern European societies. Some topics covered are women and the French Revolution, gender and class in industrial Europe, feminism and suffrage, and women and fashion.

HIST 4342  The Holocaust  
3 Semester Credit Hours (3 Lecture Hours)  
Examines the Holocaust by exploring the role of racism and anti-Semitism, the rise of Nazi policies, Jewish responses and resistance to them, deportation and genocide, the role of war, and the aftermath and memory of an event "beyond human imagination."

HIST 4345  European Thought and Culture, 1750-present  
3 Semester Credit Hours (3 Lecture Hours)  
Survey of the major European intellectual and cultural movements from the Enlightenment to the present. Broader than a traditional course in intellectual history, special attention will be given to the emergence and development of the concepts of "modernity" and the challenges of "postmodernity."

HIST 4346  The Search for Modern China: From 1600 to the Present  
3 Semester Credit Hours (3 Lecture Hours)  
This course surveys modern Chinese history from the late Ming dynasty to the present, with an emphasis on the late 19th and 20th centuries. Topics include empire, colonialism, nationalism, the nation state, modernization, revolution and the Cold War, all in a historical context.

HIST 4347  The History of Sexuality in the West  
3 Semester Credit Hours  
This course will examine how ideas about sexuality as well as sexual practices and identities have evolved over time and in different places; how the categories of homosexuality and heterosexuality were created and how they have been perceived. The course will focus on the 19th and 20th centuries in Europe and the United States, and address the themes of gender, body, race, class, image, representation, and the law.

HIST 4349  Transnational Histories of Asia and the Pacific  
3 Semester Credit Hours (3 Lecture Hours)  
Explores the transnational relations of Asia and the Pacific with the West from the 19th century to the present day. Themes include colonialism and imperialism, diaspora and migration, labor and economy, war and displacement. Topics include the Opium Wars, Immigration and Exclusion, Atomic Bombing of Hiroshima, Military War Brides, Third World Radicalism, Transnational Adoption Complex, and Environmentalism and Globalization.

HIST 4350  Narratives of World War II in the Pacific  
3 Semester Credit Hours (3 Lecture Hours)  
Examines how the relations between history, memory, and contemporary politics in post-WWII U.S. and Asia-Pacific have shaped the meaning of various contentious issues related to the Pacific War—such as war origins and responsibility, atrocities, racism, reparations, and nationalism—in textbooks, monuments, literature, art, films, political debates, exhibits, commemorative events, and scholarly works in different social and temporal contexts.

HIST 4352  Mexican American Women's History  
3 Semester Credit Hours (3 Lecture Hours)  
Examines the broad political, economic, social, and cultural trends in the lives of Mexican American women since 1848.

HIST 4374  Mexico: the National Period  
3 Semester Credit Hours (3 Lecture Hours)  
Traces economic, social, and political change in Mexico from independence to the present.

HIST 4375  Cold War Kids: Youth in Modern Latin America  
3 Semester Credit Hours (3 Lecture Hours)  
An examination of the experiences of Latin American youth in modern Latin America. Special emphasis on the role of young people in the revolutions and rebellions that marked the Cold War period.
HIST 4385 Historical Research and Writing
3 Semester Credit Hours (3 Lecture Hours)
The study and writing of history, with emphasis on historical analysis, research, and writing. Designed as the capstone course for history majors and prospective social science teachers. This course will feature a senior research paper, and should be taken during the student’s final year of undergraduate study.
Prerequisite: HIST 3385 or READ 3353.

HIST 4390 Topics in History
3 Semester Credit Hours (3 Lecture Hours)
Study of significant periods, countries, regions, or themes in history. May be repeated when topics vary.

HIST 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

HIST 4398 Applied Experience
3 Semester Credit Hours
See College description.

HIST 4399 Internship
3 Semester Credit Hours
Best practices and methods in digital archives, museums, and/or public history through field work at a local organization or museum. Offered on application. Repeatable up to 6 hours.

**Honors (HONR)**

HONR 1101 Honors Campus Leadership Seminar
1 Semester Credit Hour (1 Lecture Hour)
This course is intended to serve as an introduction to the Honors Program, its requirements and the Program’s commitment to service, as well as the Honors Student Association. In an effort to prepare students to be campus and community leaders, students learn the organizational structure of the campus and engage in various events to become familiar with the campus and our surrounding community, its traditions and its needs. Students take this course in addition to UNIV 1101 – First-Year Seminar

HONR 1102 Honors Community Leadership Seminar
1 Semester Credit Hour (2 Lecture Hours)
This course provides a framework and guidance for leadership and service. Students will make connections with campus and community leaders in order to begin charting their path toward service. Students take this course in addition to UNIV 1102 – First-Year Seminar.

HONR 2101 Honors Experience Seminar
1 Semester Credit Hour (2 Lecture Hours)
In the Honors Experience Seminar students begin the exploration process for their Project of Excellence. This includes honing information literacy skills, discovering ways to make connections with potential faculty mentors, and connecting the Project of Excellence to personal career and life goals. In addition, students will investigate possibilities for travel, service and research that will help them achieve academic, personal and professional goals. Students will also create a plan for earning their Honors elective credits.

HONR 3101 Project of Excellence Seminar I
1 Semester Credit Hour (2 Lecture Hours)
This seminar culminates in the completion of a Preliminary Proposal for the Project of Excellence with the guidance and approval of the course instructor and the student’s faculty mentor. As part of the Preliminary Proposal, the student will complete a timeline that sets a course for project completion in time for graduation. In addition, students will be introduced to TAMUCC’s Research Compliance process and will complete any training necessary for his/her project. Students must successfully complete HONR 3101 in order to register for HONR 4101.

HONR 3340 Academic and Field Research
3 Semester Credit Hours (3 Lecture Hours)
Examination of the assumptions and questions underlying research methods across disciplines, with special emphasis on how methodologies from different fields (such as science and humanities) can complement each other. The course will address issues such as 1) the distinct qualities of quantitative and qualitative research, 2) current uses of surveys, interviews, and market research, 3) the construction of new knowledge in various disciplines, from problem to publication, 4) the critical use and evaluation of electronic and print resources, archival materials, government documents, and scholarly list serves.

HONR 3390 Topics in the Humanities
1-4 Semester Credit Hours (1-4 Lecture Hours)
A course that deals with significant contemporary issues in the arts, humanities, and/or education. May be repeated when topics vary.

HONR 3490 Topics in the Sciences
1-4 Semester Credit Hours (1-3 Lecture Hours, 1 Lab Hour)
A course that deals with significant contemporary issues in the disciplines of the natural sciences, health sciences, social sciences, and/or business. May be repeated when topics vary.

HONR 3491 Science and Technology for Decision Makers
4 Semester Credit Hours (4 Lecture Hours)
A course in the natural sciences concerned with the interdisciplinary nature of science, the formal tools and techniques of critically evaluating scientific research, and the use of qualitative and quantitative data in the application of science and technology.

HONR 4101 Project of Excellence Seminar II
1 Semester Credit Hour (2 Lecture Hours)
This seminar culminates in the completion of full proposal for the Project of Excellence. The proposal is completed with the guidance and approval of both the course instructor and the faculty mentor. Students must successfully complete HONR 4101 in order to register for HONR 4102.

HONR 4102 Project of Excellence Seminar III
1 Semester Credit Hour
A seminar devoted to the completion of the Project of Excellence.

HONR 4390 Seminar in the Humanities
1-4 Semester Credit Hours (1-4 Lecture Hours)
Study of specialized topics and themes in arts, humanities, and education. May be repeated when topics vary.

HONR 4396 Honors Directed Independent Study
1-3 Semester Credit Hours
Individual supervised study / research. Requires a formal proposal of study to be completed in advance of registration to be approved by a supervising faculty member and the Honors Director and Program Coordinator. Only 3 semester hours of Honors independent study credit may be counted toward the Honors graduation requirement.
HONR 4397 Honors Internship
3 Semester Credit Hours
Practical experience related to the student’s major field. Activity must be connected to an academic research question and a body of knowledge that addresses some aspect of the activity to be undertaken. Internships require approval by the Honors Director and Program Coordinator. At the close of the internship, a written report and self-assessment must be submitted to a supervising faculty member and the Honors Program office. Internship is offered on a pass/fail basis and students must volunteer a minimum of 120 hours and meet the course objectives in order to receive course credit.

HONR 4398 Honors Applied Experience
3 Semester Credit Hours
Practical experience connected to the student’s field of study, usually with a service or leadership component. Applied experience requires approval by the Honors Director and Program Coordinator. Activity must be connected to an academic research question and a body of knowledge that addresses some aspect of the activity to be undertaken, and result in a written product submitted to a supervising faculty member and the Honors Program office. Applied Experience is offered on a pass/fail basis and students must volunteer a minimum of 120 hours and meet the course objectives in order to receive course credit.

HONR 4490 Seminar in the Sciences
1-4 Semester Credit Hours (1-3 Lecture Hours, 1 Lab Hour)
Study of specialized topics and themes in the sciences, health sciences, social sciences, and business. May be repeated when topics vary.

Industrial Engineering (IEEN)

IEEN 2302 Engineering Economics
3 Semester Credit Hours (3 Lecture Hours)
(3:0) Engineering management relies on the knowledge of engineering economics to be able to evaluate projects from a financial perspective. Optimizing financial performance of a project is a key responsibility of the engineer in the decision-making process. Examples of engineering projects would include but not limited to equipment replacement analysis, planning a new product line, and waste management. This course is designed to present engineering students the major concepts and techniques of engineering economic analysis that are needed in the decision-making process. The emphasis of this course is on the analytical analysis of money and its impact on decision making.
Prerequisite: MATH 2413.

IEEN 3320 Human Factors
3 Semester Credit Hours (3 Lecture Hours)
The principles of the life sciences, engineering, and mathematics are applied to the investigation of existing and proposed socio-technical systems. Methods for the reduction of fatigue and human error are taught. Various fields of human factors and the fundamental concepts of the discipline are introduced. This course provides the basics of human perceptual, cognitive, and motor abilities relevant to human factors. This course also offers class project opportunities gain experience using human factors knowledge in actual applied settings. Offered: Fall and Spring.
Prerequisite: ENGR 1312.
Co-requisite: MATH 3342.

IEEN 3324 Human Computer Interface
3 Semester Credit Hours (3 Lecture Hours)
The emphasis of this course is the design of the human-computer interface. The fundamental concepts of human-computer interaction and user centered design thinking are taught, through working in teams on an interaction design project, supported by lectures, readings, and discussions. The variety of evaluation methods and design principles of usable and appropriate computer interfaces are introduced based on psychological, social, and technical analysis. Topics will include usability and affordances, direct manipulation, systematic design methods, user conceptual models and interface metaphors, design languages and genres, human cognitive models, physical ergonomics, information and interactivity structures, and design tools and environments. Offered: Fall and Spring.
Prerequisite: ENGR 1312.
Co-requisite: IEEN 3320.

IEEN 3330 Robotics and Automation
3 Semester Credit Hours (3 Lecture Hours)
This course covers topics of concepts, principles, and relationships of automated assembly devices, computer aided drafting/design (CADD), computer-aided manufacturing (CAM), industrial robots, numerical control (NC), industrial lasers, programmable logic controllers (PLCs), automated guided vehicles (AGVs), flexible manufacturing systems (FMS), and computer- integrated manufacturing (CIM). Offered: Fall and Spring.
Prerequisite: ENGR 2460.

IEEN 4310 Process Engineering
3 Semester Credit Hours (3 Lecture Hours)
This course covers introduction to software design paradigms, system and software requirements, computer aided software engineering, and software design fundamentals using existing documentation for a proposed system. Relevant topics include in-depth survey of data flow-oriented, object-oriented, data-oriented, and real-time design. Team project involving the implementation of the proposed system using structured programming, information hiding, and strength and coupling measures is required. Each student will be required to make an oral presentation as part of the team project. Offered: Fall.
Prerequisite: IEEN 3330.
IEEN 4312 Experimental Design and Analysis  
3 Semester Credit Hours (3 Lecture Hours)  
Main coverage: Basic principles of experimental design; Randomization;  
Completely randomized design; Paired design; Randomized blocks;  
Latin Squares, Greco-Latin Squares and related designs; Factorial  
design; Blocking in factorial design; 2k factorial design; Extension of 2k  
factorials; Blocking and confounding in 2k factorials; Partial confounding;  
Fractional factorial designs; Blocking in fractional factorials; Nested and  
split-plot designs; Replicated and un-replicated designs; Regression,  
ANOVA, and follow-up analysis; Sample size determination; Response  
surface model. Offered: Fall and Spring  
Prerequisite: IEEN 3302 and 3320.

IEEN 4322 Cognitive Ergonomics  
3 Semester Credit Hours (3 Lecture Hours)  
This course is concerned with mental processes, such as perception,  
decision making, memory, reasoning, and response execution, as they  
affect interactions among humans and other elements of a work system.  
Relevant topics include skilled performance, attention, distraction, human  
error, work stress, risk perception, and Kansei engineering as these may  
related to human-system design, safety and productivity. Assessment  
methodologies include hierarchical task analysis, cognitive task analysis,  
mental workload, human error identification/accident investigation, and  
situation awareness assessment. Offered: Fall.  
Prerequisite: IEEN 3320.

IEEN 4324 Human Factors and Autonomous Systems  
3 Semester Credit Hours (3 Lecture Hours)  
This course introduces the survey of human factors and ergonomics  
with particular reference to human functions in human-machine systems  
and principles of human factors to demonstrate and apply a broad  
knowledge of various modern industrial engineering methods and tools  
associated with designing autonomous systems in manufacturing and  
other related fields. Applications of engineering design methods to  
represent, integrate and solve problems, including the ability to recognize  
problem context and integrate knowledge and skills appropriate sources  
are provided. Knowledge of basic human capabilities and the ways that  
these capabilities are taken into account in the design of human-machine  
systems and work environments. Offered: Fall.  
Prerequisite: IEEN 3320.

IEEN 4326 Airborne Design of Experiments  
3 Semester Credit Hours (3 Lecture Hours)  
Definitions, concepts, and history, Aviation Human Factors, management,  
and the organization, Human performance in aviation operations,  
Human information processing and operational decision-making,  
Human error and threat management, Threat and Error Management  
(TEM) in flight operations, air traffic control and cabin operations,  
Resource management training on the flight deck and in air traffic  
control, Automation in the workplace, The design of Standard Operating  
Procedures (SOPs) and checklists. Offered: Fall and Spring.  
Prerequisite: IEEN 3302.

IEEN 4330 Digital Systems Simulation  
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)  
Introduction (definitions and types of simulations), Mechanism of  
discrete event simulation, Random number/variate generation, Input data  
analysis (input distribution modeling), Simulation modeling using Arena  
package, Review of probability and statistics, Simulation output analysis,  
Monte Carlo simulation, Modeling continuous processes, Verification  
and validation of simulation models, Read/write simulation data from/to  
external files. Offered: Fall and Spring.  
Prerequisite: IEEN 3302.

IEEN 4332 Distribution Center Design and Operation  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction (issues, equipment, processes), layout, order-picking, automation, special topics: crossdocking, warehouse  
performance. Offered: Fall and Spring.  
Prerequisite: IEEN 3330.

IEEN 4334 Scheduling and Sequencing  
3 Semester Credit Hours (3 Lecture Hours)  
Introduction and overview, EOQ Models, MRP, job shop scheduling  
rules & Gantt chart, algorithms for one machine problems, implicit  
enumerations & dynamic program, branch and bound, heuristics  
approaches, project Scheduling, parallel Machine Scheduling, relaxation  
of Assumptions, batch processing, sequence dependence, project  
presentations. Offered: Fall and Spring.  
Prerequisite: IEEN 3302.

IEEN 4342 Construction Management  
3 Semester Credit Hours (3 Lecture Hours)  
The course focuses on management techniques to solve the  
unique problems associated with a construction project. Study of  
Construction Management functions including Project Management,  
Cost Management, Time Management, Quality Management, Contract  
Administration, and Safety Management will be covered. Emphasis is  
put on the application of each function throughout the project phases.  
Offering: Spring.  
Prerequisite: IEEN 2302 and 3320.

IEEN 4396 Directed Independent Study  
1-3 Semester Credit Hours  
Requires a formal proposal of study to be completed in advance  
of registration, approval of supervising faculty and department  
chairperson. Offered Fall, Spring, and Summer.

Instructional Des & Educ Tecn (IDET)  
IDET 3100 Educational Technology for Preservice Teachers in Schools  
1 Semester Credit Hour (1 Lecture Hour)  
This field-based integrated course is designed to provide educators  
with an overview of basic resource tools and instructional methods to  
be considered when designing and developing educational technology  
integrated curriculum plans. This field-based infused seminar will look at  
basic integrated applications in creating electronic portfolios for all  
students. Aspects of online collaborative tools and their pedagogical  
implications in EC-12 environments will also be incorporated.

IDET 3310 Technology Applications for Teachers  
3 Semester Credit Hours (3 Lecture Hours)  
This course enables preservice and inservice teachers to effectively use  
computer-based technology for instructional and professional purposes,  
and provides participants with the skills and knowledge required for  
teacher certification in Texas.
Kinesiology (KINE)

KINE 1106 Weight Training
1 Semester Credit Hour (1 Lab Hour)
The study and practice of physiological principles related to training programs for the development of muscular strength and endurance.

KINE 1108 Strength Conditioning for Women
1 Semester Credit Hour (1 Lab Hour)
The study and practice of physiological principles relating to training programs for the development of muscular strength and endurance for women.

KINE 1110 Individual/Dual/Lifetime Sports
1 Semester Credit Hour (1 Lab Hour)
Instruction, participation, and practice in a variety of individual, dual, and lifetime sports.

KINE 1112 Personal Self Defense
1 Semester Credit Hour (1 Lab Hour)
Instruction and practice of contemporary techniques of self protection.

KINE 1116 Ranger Leadership Laboratory
1 Semester Credit Hour (1 Lab Hour)
Practical leadership and teamwork training in rappelling, rope bridges, weapons firing, map reading and land navigation, water safety, patrolling, and other ranger skills. Includes a weekend field trip where the techniques learned will be applied in competitive events. Cross listed with MSCI 1172.

KINE 1131 Yoga
1 Semester Credit Hour (1 Lecture Hour)
Instruction and practice of Yoga postures, breathing, meditation and relaxation.

KINE 1133 Tai Chi
1 Semester Credit Hour (1 Lab Hour)

KINE 1135 Army Physical Fitness Training
1 Semester Credit Hour (3 Lab Hours)
Instruction and practice of the skills, techniques and fitness activities that are germane to typical Army training.

KINE 1136 Pilates
1 Semester Credit Hour (3 Lab Hours)
Instruction and practice in the skills, techniques, and principles of Pilates with emphasis on the Classical Pilates matwork.

KINE 2215 First Aid and Safety
2 Semester Credit Hours (2 Lecture Hours)
Basic CPR and first aid instruction leading to American Red Cross certification.

KINE 2225 Sports Conditioning
2 Semester Credit Hours (2 Lecture Hours)
This course addresses the principles and practice of sports conditioning from a coaching perspective. Topics will include athletic needs evaluation, exercise programming, and program implementation. Issues regarding resistance exercise, speed, endurance, explosiveness training, and agility will be addressed.

KINE 2313 Foundations of Kinesiology
3 Semester Credit Hours (3 Lecture Hours)
An overview of the field of physical education which includes the history, philosophy, principles, current concepts of physical education and career options. For kinesiology majors this course must be taken prior to any senior level (4000) kinesiology courses.

TCCNS: PHED 1301

KINE 2317 Re-inventing Games
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to introduce a framework for the development of games, sports, and activities through an inclusive and developmentally appropriate process of change, challenge, and choice. A wide array of sports, sports-related games and activities are introduced, deconstructed for their current exclusivity and then reconstructed through a framework which seeks to change the existing exclusivity of the rules, to challenge participating students of all cognitive and physical abilities, and then build in a choice component into the activity. This course is recommended prior to enrolling in KINE 3339 and KINE 3341.

KINE 2325 Physiological Aspects of Kinesiology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the fundamental principles of human physiology and their application to kinesiology.

KINE 2326 Essentials of Professional Fitness Training
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide theoretical knowledge and practical skills in preparation for a national certification exam in personal training. Topics include guidelines for instructing safe, effective, and purposeful exercise, essentials of the client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming.

KINE 2375 Nutrition for Human Performance
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the physiological, anatomical, and psychological aspects of nutrition in relation to human performance and optimal health. Special emphasis is placed on sport and fitness enhancement and achievement of peak training levels, through proper nutrient ingestion.

KINE 3112 Physiology of Exercise Lab
1 Semester Credit Hour (1 Lecture Hour)
The required laboratory course with KINE 3312. Demonstration and hands-on learning will introduce students to the scientific basis, techniques, and methods used in exercise physiology. Lab activities will complement lecture materials from KINE 3312. KINE 3112 must be taken concurrently with KINE 3312.
KINE 3301 Outdoor Adventure Programs  
3 Semester Credit Hours (3 Lecture Hours)  
An introduction to a variety of outdoor adventure activities and basic outdoor skills. In addition to skill acquisition and assessment, this course covers such topics as: history and philosophy of outdoor adventure programs, risk and legal liability and trip planning.

KINE 3312 Physiology of Exercise  
3 Semester Credit Hours (3 Lecture Hours)  
This course is an application of anatomy and physiology that allows for the understanding of the effects of various forms of exercise and the environment on the body systems and performance. Lab activities will complement lecture materials.  
Prerequisite: (KINE 2325 or BIOL 2401) and (KINE 1320 or 2313) and (KINE 3112).  
* May be taken concurrently.

KINE 3318 Prevention and Care of Athletic Injuries  
3 Semester Credit Hours (3 Lecture Hours)  
Provides the general knowledge and general application of theory, principles, and skills used in the prevention, care, and rehabilitation of athletic injuries.

KINE 3320 Introduction to Therapeutic Interventions  
3 Semester Credit Hours (3 Lecture Hours)  
Provides the student with the general knowledge of current theory and application of various therapeutic interventions used in the treatment of musculoskeletal injuries, including thermal therapy, cryotherapy, manual therapy, and therapeutic exercises.  
Prerequisite: KINE 3318.

KINE 3337 Sport and Exercise Psychology  
3 Semester Credit Hours (3 Lecture Hours)  
This course provides general knowledge of the psychological factors that are associated with participation and performance in sport, exercise, and other types of physical activity with emphasis on motivational techniques, personality dynamics, and mental health serving as focal points.

KINE 3338 Motor Development/Motor Learning  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the fundamental principles related to human motor development and the scientific principles related to motor learning.

KINE 3339 Elementary Physical Education Programs  
3 Semester Credit Hours (3 Lecture Hours)  
The application of the fundamental principles related to human motor development, physical fitness, locomotor skills, non-locomotor skills, manipulative skills, and rhythmical activities with children at the elementary school level. Recommended  
Prerequisite: KINE 2317 and 3338.

KINE 3341 Secondary Physical Education Programs  
3 Semester Credit Hours (3 Lecture Hours)  
The application of the fundamental principles related to human motor development, physical fitness, sports related activities and dance with children at the secondary school level. Recommended  
Prerequisite: KINE 3338 and 3339.

KINE 4127 Biomechanics Lab  
1 Semester Credit Hour (1 Lab Hour)  
The required laboratory course with KINE 4327. The demonstration and application of mechanical factors and principles affecting human motion. Qualitative and quantitative analysis of human motion with emphasis on sport and fitness activities. KINE 4127 must be taken concurrently with KINE 4327.  
Prerequisite: KINE 4327*.  
* May be taken concurrently.

KINE 4311 Measurement and Evaluation  
3 Semester Credit Hours (3 Lecture Hours)  
Use and function of the various tests used in kinesiology together with the purpose, scope and techniques of test construction. Development of statistical techniques necessary for manipulation and interpretation of physical performance data.  
Prerequisite: KINE 1320 or 2313.

KINE 4325 Kinetic Anatomy  
3 Semester Credit Hours (3 Lecture Hours)  
An analysis of the skeletal, muscular, and neurological structure and functional aspects of human movement with emphasis on sport and fitness activities.  
Prerequisite: KINE 2325 or BIOL 2401 and KINE 1320 or 2313.

KINE 4327 Biomechanics  
3 Semester Credit Hours (3 Lecture Hours)  
An analysis of the mechanical factors and principles influencing human motion with emphasis on sport and fitness activities. Recommended  
Prerequisite: (KINE 2325 or BIOL 2401) and (KINE 1320 or 2313) and KINE 4127*.  
* May be taken concurrently.

KINE 4329 Essentials of Strength and Conditioning  
3 Semester Credit Hours (3 Lecture Hours)  
This course is designed to provide a comprehensive overview of strength and conditioning. Emphasis is placed on the exercise sciences (including anatomy, exercise physiology, and biomechanics) and nutrition, exercise technique, program design, organization and administration, and testing and evaluation. Additionally, this course is designed to prepare students for either the nationally accredited Certified Strength and Conditioning Specialist (CSCS) or the NSCA Certified Personal Trainer (CPT) exams.  
Prerequisite: (BIOL 2401, 2402, KINE 4312 and 4327).

KINE 4339 Special Populations in Kinesiology  
3 Semester Credit Hours (3 Lecture Hours)  
A course designed to direct kinesiology educators toward meeting the program needs of the exceptional individual in physical education or kinesiology professional setting. Practical teaching application with exceptional individuals is stressed.  
Prerequisite: KINE 2313.

KINE 4340 Exercise Testing and Prescription  
3 Semester Credit Hours (3 Lecture Hours)  
This course provides classroom and hands on experience addressing all facets of exercise testing and prescription ranging from health appraisal, physical fitness testing, principles of exercise prescription, clinical exercise physiology, and special populations.

KINE 4390 Seminar in Exercise and Sport  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
Contemporary issues in Exercise and Sport; topics vary with the individual. May be repeated for credit when topic varies.
Management (MGMT)

MGMT 3310 Principles of Management
3 Semester Credit Hours (3 Lecture Hours)
Explores fundamental management principles and theories of organizations. Emphasis is placed on the basic functions of management: planning, organizing, directing, and controlling. Topics include the external environment, ethics, international management, decision making, organizational structure, human resource management and diversity, motivation, group dynamics, and control mechanisms.
Prerequisite: BUSI 0011.

MGMT 3315 Business Communications
3 Semester Credit Hours (3 Lecture Hours)
Introduces the fundamentals of effective communication in business and administration. Emphasis is placed on the application of modern techniques to business writing, professional presentations, group communications, verbal communications, nonverbal communications, and listening.
Prerequisite: BUSI 0011.

MGMT 3318 Organizational Behavior
3 Semester Credit Hours (3 Lecture Hours)
Introduces factors that influence interactions between individuals and groups in work environments. Topics include individual differences and diversity, motivation, leadership, power and influence, conflict, organizational culture, stress, and teams.
Prerequisite: MGMT 3310.

MGMT 3320 Human Resource Management
3 Semester Credit Hours (3 Lecture Hours)
Explores the comprehensive set of managerial activities carried out in organizations to develop and maintain a qualified workforce. Topics include the legal environment, recruitment, selection, training, employee appraisals, compensation systems, and employer relations.
Prerequisite: MGMT 3310.

MGMT 3330 Organization Change
3 Semester Credit Hours (3 Lecture Hours)
A study of management processes and their application across different cultural, economic and legal environments. The course focuses on differences among values, beliefs, perceptions, attitudes and behaviors across national and cultural boundaries that affect the employee work and performance.
Prerequisite: MGMT 3310.

MGMT 4305 Organization Staffing
3 Semester Credit Hours (3 Lecture Hours)
Examines the concepts, methods, and problems encountered in the development, validation, and utilization of employee recruitment, selection, training, and career development. Legal defensibility, and organizational effectiveness of staffing and development will be discussed.
Prerequisite: MGMT 3320.

MGMT 4315 Multinational Management
3 Semester Credit Hours (3 Lecture Hours)
A study of management processes and their application across different cultural, economic and legal environments. The course focuses on differences among values, beliefs, perceptions, attitudes and behaviors across national and cultural boundaries that affect the employee work and performance.
Prerequisite: MGMT 3310.

MGMT 4320 Leadership Development
3 Semester Credit Hours (3 Lecture Hours)
A study of traditional and contemporary leadership models, styles, and practices. Focuses on self-assessment and the characteristics of leaders important to effective leadership outcomes.
Prerequisite: MGMT 3310.
Management Information Systems (MISY)

MISY 2305 Computer Applications in Business
3 Semester Credit Hours (3 Lecture Hours)
Survey of modern business computer hardware, software, and applications. Opportunities to create programs and use existing application software to solve various management information technology-oriented problems. Emphasizes the end-user's perspective, and interactions with management information technology.
TCCNS: BCIS 1305

MISY 3310 Management Information Systems Concepts
3 Semester Credit Hours (3 Lecture Hours)
Provides an understanding of the importance of computer-based information in the success of the firm. Illustrates ways in which companies utilize computer systems to strategically compete within certain industries. Emphasis is on the role of information systems within each of the functional areas of business. Major concepts include data management, decision support, and management information systems.
Prerequisite: BUSI 0011 and MISY 2305.

MISY 3320 Business Data Communication and Networking I
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of contemporary business data communication components, their configurations, and their impact on management information systems design. Topics include designing, managing, securing, and implementing business data communication networks, and their integration into management information systems. Exercises and assignments use various data communication facilities.

MISY 3330 Database Management
3 Semester Credit Hours (3 Lecture Hours)
Concepts and methodology of data base planning, design, development, and management of the computerized data base of a management information system. The emphasis is on logical data base design and a study of hierarchical, network, and relational implementations. Normalization exercises are completed relative to the logical design of relational data bases. Exercises and assignments use a relational DBMS package.

MISY 3340 Systems Analysis and Design
3 Semester Credit Hours (3 Lecture Hours)
Develops ability to analyze an existing information system within an organization, to identify information requirements, and to specify the functions of a new information system. Includes cost/benefit analysis of proposed information systems. Exercises and assignments use a Computer Aided Software Engineering (CASE) tool.

MISY 3350 Business Applications Development
3 Semester Credit Hours (3 Lecture Hours)
This course provides an understanding of the Visual Basic programming environment in the context of business application design and development. This course will place emphasis on performance characteristics and user interface design considerations.

MISY 4310 Business Data Communications and Networking II
3 Semester Credit Hours (3 Lecture Hours)
Design, implementation, and operation of client-server network systems for organizational Intranets and Internet presence. Exercises and assignments use selected data communications facilities.
Prerequisite: MISY 3320.

MISY 4325 Business Decision Support Systems and Expert Systems
3 Semester Credit Hours (3 Lecture Hours)
A survey of decision support systems and expert systems used in business. Topics include artificial intelligence (AI), knowledge engineering, knowledge acquisition, expert system shells, modeling, simulation, and selection of appropriate computer package support. Exercises and assignments use various computer packages such as neural network systems and expert system shells.
MISY 4330 Website Development for Business
3 Semester Credit Hours (3 Lecture Hours)
This course provides an understanding of the principles and techniques for client-side web development using HTML and CSS. Text editors and the website development software will be used to create and maintain websites. This course includes designing to meet web standards, including accessibility, usability, and workflow for web design.

MISY 4340 Electronic Commerce Management
3 Semester Credit Hours (3 Lecture Hours)
A broad overview of electronic commerce topics as they relate to various users. General coverage includes electronic commerce history, opportunities, limitations, and risks. Technical discussions include the internet, intranets, extranets, firewalls, security, protocols, servers, and browsers.

MISY 4341 Management of Healthcare Information Systems
3 Semester Credit Hours (3 Lecture Hours)
This course provides an overview of the knowledge and skills required to manage information for organizations related to healthcare. The course specifically focuses on the practice of acquiring, analyzing and protecting digital and traditional medical information vital to providing quality patient care. Some of the topics that are covered include: evolution of health care information systems (HCIS), components and basic HCIS functions, technology infrastructure for healthcare organizations, basic concepts such as electronic health records (HER), health information exchange (HIE), computerized physician order entry (CPOE), clinical decision support systems (CDSS), hospital incident command systems (HICS) and standards such as HIPPA, HL7, and digital imaging and communications in medicine (DICOM). Other topics include strategic information systems planning for healthcare organizations, systems analysis and project management, information security and privacy issues, and the roles of HCIS professionals in health organizations. 
Prerequisite: (MISY 3310).

MISY 4345 Information Security and Privacy in Healthcare
3 Semester Credit Hours (3 Lecture Hours)
This course provides an overview of the knowledge and skills related to managing information privacy and security for organizations related to healthcare. It focuses on best practices for healthcare information security and privacy with detailed coverage of essential topics such as information governance, roles and occupations, risk assessment and management, incident response, patient rights, healthcare responsibilities, cyberattacks and cybersecurity. Topics also include relevant laws and regulations and other aspects of information security and privacy, with emphasis on real-life scenarios in clinical practices and business operations in healthcare.
Prerequisite: (MISY 3310).

MISY 4350 Business Intelligence and Analytics
3 Semester Credit Hours (3 Lecture Hours)
Overview of important concepts of business intelligence, and the use of analytics, technologies, applications and processes used by organizations to gain data-driven insights. These insights and predictions can be used to aid decision-making and performance management across functional areas, including marketing, operations, and finance. Students will learn to extract and manipulate data, and create reports, scorecards and dashboards, including mobile apps.

MISY 4365 Data Warehousing and Data Mining for Business Intelligence
3 Semester Credit Hours (3 Lecture Hours)
In the information age, organizations can and do collect massive amounts of data. Yet organizations are often "data rich" but "information and knowledge poor". This course is designed to prepare business professionals who, by using analytical methods and data mining and data visualization tools will be able to harness the potential of data by extracting business intelligence that can be used to improve decisions and operations at various points in the value chain.
Prerequisite: MISY 2305, 3330 and ORMS 3310.

MISY 4366 Data Analytics for Healthcare Management
3 Semester Credit Hours (3 Lecture Hours)
The goal of this course is to prepare business professionals to extract business intelligence to improve decisions and operations in organizations, especially in the healthcare industry, at various points in the value chain. Data mining methods covered include multiple linear regression, k-nearest neighbor, classification and regression trees, logistic regression, discriminant analysis, artificial neural networks, association rules, cluster analysis and text mining. Areas in healthcare include healthcare market basket analysis, churn analysis for hospitals and insurance companies, health insurance fraud detection, readmission assessment, personalization of treatment regimen, patient risk management and performance-based payment analysis. Students should have a background in database and statistics. The focus will be less on statistical mathematics and more on the application of data mining methods using software tools.
Prerequisite: (MISY 2305, 3330, ORMS 3310 and MISY 4341).

MISY 4375 IT Project Management
3 Semester Credit Hours (3 Lecture Hours)
This course covers issues related to managing projects in organizations. The course focuses on the management of projects and working as a team. Students are expected to draw on materials from other management information system courses, especially the System Analysis and Design, and Database Management courses.
Prerequisite: MISY 3330.

MISY 4390 Current Topics in Management Information Systems
1-3 Semester Credit Hours (1-3 Lecture Hours)
Selected topics for special study related to management information systems.

MISY 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and a final report.

MISY 4398 Internship in Management Information Systems
1-3 Semester Credit Hours
Supervised practical experience in business computer systems.

Marketing (MKTG)

MKTG 3310 Principles of Marketing
3 Semester Credit Hours (3 Lecture Hours)
The initial course in Marketing. Description and analysis of the flow of goods, services and ideas to consumers and industrial users. Factors outside the firm are also considered as they affect marketing decisions.
Prerequisite: BUSI 0011.

MKTG 3311 Professional Selling: Concepts and Practices
3 Semester Credit Hours (3 Lecture Hours)
An introduction to professional selling as a marketing tool. Emphasis is placed on the theory and application of the professional selling process.
MKTG 3315 Advertising and Promotional Strategy
3 Semester Credit Hours (3 Lecture Hours)
The student will learn about the development and implementation of a coordinated and integrated advertising and promotions strategy. Emphasis is placed on the interrelationships among advertising, sales management, and sales promotion activities.
Prerequisite: MKTG 3310.

MKTG 3320 Basic Advertising
3 Semester Credit Hours (3 Lecture Hours)
Advertising concepts and a critical analysis of commercial advertising practices. Students apply advertising concepts in projects such as case studies, campaign evaluations, and simulation exercises.

MKTG 3325 Entrepreneurial Marketing
3 Semester Credit Hours (3 Lecture Hours)
Entrepreneurial marketing provides entrepreneurs and small business owners with the knowledge needed to successfully perform marketing activities (primarily promotion) on a very low budget. Students will learn the utilization of techniques and the analysis of market characteristics that impact the small entrepreneurial organization, its products and services. Additionally, students will learn how to develop specific yet flexible marketing plans and activities, and the effective management of practices, finances, and obligations associated with the marketing of smaller entrepreneurial firms. Factors inside and outside the firm are researched and analyzed as they affect successful small business marketing decisions.

MKTG 3330 Consumer Behavior
3 Semester Credit Hours (3 Lecture Hours)
An examination of the psychological and social influences that affect consumer decision making. Emphasizes the development of marketing programs designed with behavioral considerations in mind.
Prerequisite: MKTG 3310.

MKTG 3333 Digital Marketing
3 Semester Credit Hours (3 Lecture Hours)
This course introduces students to the theories, strategies, tools, and techniques of effective online marketing. The course emphasizes the essential concepts, methods, technologies, and decision making criteria for business-to-business and business-to-consumer Internet marketing. The broad concepts of ethics, social responsibilities, sustainability, and globalization are integrated through the course. Topics include online marketing research, business intelligence, Web site design, and Internet marketing strategy.

MKTG 3340 Retail Management
3 Semester Credit Hours (3 Lecture Hours)
A managerial approach to retailing. Topics such as trade area evaluation, buying, layout, pricing, cost and expense analysis are considered.
Prerequisite: MKTG 3310.

MKTG 3345 Sales Management
3 Semester Credit Hours (3 Lecture Hours)
An exploration of the problems and practices of sales and sales management. Organizational structure and development of programs to assure a competent and effective sales force are stressed.
Prerequisite: MKTG 3310.

MKTG 4310 Distribution Systems in Marketing
3 Semester Credit Hours (3 Lecture Hours)
An analysis of the development of integrated distribution systems. Topics include retail and wholesale institutions, channel conflict and cooperation, channel control, franchising and emerging developments in distribution channels.
Prerequisite: MKTG 3310.

MKTG 4320 Marketing Research and Analytics
3 Semester Credit Hours (3 Lecture Hours)
The study of research in marketing with emphasis on the collection and interpretation of data and its application to the solution of marketing problems.
Prerequisite: ORMS 3310 and MKTG 3310.

MKTG 4340 International Marketing
3 Semester Credit Hours (3 Lecture Hours)
A study of the economic, social and cultural environment of international marketing. The course focuses on marketing decision making in this environment.
Prerequisite: MKTG 3310.

MKTG 4350 Marketing Strategy
3 Semester Credit Hours (3 Lecture Hours)
The study and application of the strategic marketing planning process to realistic business situations. Topics include: strategies for growth and competitive advantage; market segmentation, targeting and positioning; marketing mix strategies and tactics; customer satisfaction and relationship building; and evaluation and control of marketing strategies. Attention to ethical considerations in marketing and a triple bottom line (TBL) evaluation of marketing outcomes.
Prerequisite: MKTG 3310.

MKTG 4360 Social Media Marketing
3 Semester Credit Hours (3 Lecture Hours)
A comprehensive study of Social Marketing strategy and implementation. The course explores the tools, techniques, and strategic logic used in the development and implementation of social media marketing strategy. The course also describes and defines the logic models used for specific plans and programs that affect and are affected by the technology and competitive environments.
Prerequisite: MKTG 3310.

MKTG 4390 Special Topics in Marketing
1-3 Semester Credit Hours (3 Lecture Hours)
Selected topics for special study related to marketing functions, processes, or issues. May be repeated for credit when topics vary.

MKTG 4396 Directed Individual Study
1-3 Semester Credit Hours
Individual supervised study and a final report.

MKTG 4398 Internship in Marketing
3 Semester Credit Hours
Supervised full-time or part-time, off-campus training in business or government organization. Oral and written reports required.

Mathematics (MATH)

MATH 0099 Math Non-Course Based Development
0 Semester Credit Hours
Preparation workshop to help students achieve College Readiness in mathematics under the Texas Success Initiative. Topics include five general areas: fundamental mathematics, algebra, geometry, statistics, and problem solving.

MATH 0200 Brief Developmental Mathematics
1-2 Semester Credit Hours (1-2 Lecture Hours)
Topics as in MATH 0300. For students who have completed most topics in MATH 0300. Requires permission of MATH department. (Not counted toward graduation) Fall, Spring, Maymester, Summer.
Co-requisite: MATH 1314, MATH 1442.
MATH 0214  Brief Developmental Mathematics-Algebra
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1314. Support will focus on essential skills required for success in College Algebra (Math 1314). Supporting topics include review of intermediate algebra, polynomial equations, graphing techniques, and applications. Course provides the necessary academic support for TSI liable students concurrently enrolled in MATH 1314 as the co-requisite with MATH 0214. Students who register for MATH 0214 must co-register in MATH 1314. MATH 0214 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1314.

MATH 0224  Brief Developmental Mathematics-Business Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is the co-requisite course supporting for MATH 1324. Support will focus on essential skills required for success in Business Math (Math 1324). Supporting topics include the use of calculators and technology. Topics focus on basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and financial management, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1324 as the co-requisite with MATH 0224. Students who register for MATH 0224 must co-register in MATH 1324. MATH 0224 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1324.

MATH 0232  Brief Developmental Mathematics-Contemporary Mathematics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1332. Support will focus on essential skills required for success in Contemporary Mathematics (Math 1332). Supporting topics include a basic review of mathematical skills, elementary algebra, mathematical and logical reasoning, probability, and descriptive statistics, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1332 as the co-requisite with MATH 0232. Students who register for MATH 0232 must co-register in MATH 1332. MATH 0232 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1332.

MATH 0242  Brief Developmental Mathematics-Statistics
2 Semester Credit Hours (2 Lecture Hours)
This course is co-requisite course supporting for MATH 1442. Support will focus on essential skills required for success in Statistics for Life (Math 1442). Supporting topics include the use of calculators and technology. Topics focus on descriptive and inferential statistics, probabilities including notation, while providing the necessary academic support for TSI liable students concurrently enrolled in MATH 1442 as the co-requisite with MATH 0242. Students who register for MATH 0242 must co-register in MATH 1442. MATH 0242 is not counted toward graduation. Fall, Spring, Summer.
Co-requisite: MATH 1442.

MATH 0300  Developmental Mathematics
3 Semester Credit Hours (3 Lecture Hours)
Topics include number concepts, computation, elementary algebra, geometry, and mathematical reasoning. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0310  Developmental Mathematics-Algebra
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
3 sem. hrs. (2:2) Topics include number concepts, computation, elementary algebra, and geometry. Also, linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems. May be repeated for credit as needed to complete mastery of all topics. (Not counted toward graduation.) Fall, Spring, Summer.

MATH 0398  Introduction to Algebra
3 Semester Credit Hours (3 Lecture Hours)
Number concepts, computation, elementary algebra, geometry, and mathematical reasoning.

MATH 0399  Intermediate Algebra
3 Semester Credit Hours (3 Lecture Hours)
Topics include linear equations and inequalities, rational expressions, exponents and radicals, quadratics and word problems.
Prerequisite: MATH 0398.

MATH 1314  College Algebra
3 Semester Credit Hours (3 Lecture Hours)
Quadratic equations, inequalities, graphs, logarithms and exponentials, theory of polynomial equations, systems of equations.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT1 Math', MATH 0320 or minimum score of 350 in 'TSI Math'.
Co-requisite: MATH 0214.
TCCNS: MATH 1314

MATH 1325  Calculus for Business & Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Calculus concepts, limits, continuity, differentiation, and integration techniques to solve problems in business, economics, and social sciences.
Prerequisite: MATH 1314, minimum score of 530 in 'SAT MATH SECTION', minimum score of 21 in 'ACT1 Math' or minimum score of 21 in 'ACT Math'.
TCCNS: MATH 1324

MATH 1324  Calculus for Business & Social Sciences
3 Semester Credit Hours (3 Lecture Hours)
Students will develop and combine the concepts in and relationships between Mathematics and Business from the fundamentals of calculus and optimization in all Business fields. Students are expected to learn the materials algebraically with technology. Students will combine the concepts of limits, continuation, differentiation and integration techniques to solve problems in business, economics, and social sciences.
Prerequisite: MATH 1324, minimum score of 550 in 'SAT Math', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 1325

TCCNS: MATH 1314

TCCNS: MATH 1324

TCCNS: MATH 1325

TCCNS: MATH 1324

TCCNS: MATH 1325
MATH 1332 Contemporary Mathematics
3 Semester Credit Hours (3 Lecture Hours)
This course serves as a terminal course and supplies a brief overview of several topics in mathematics. Topics may include introductory treatments of sets, logic, number systems, number theory, relations, functions, probability and statistics. Appropriate applications are included. This course emphasizes using critical thinking to make decisions based on information.
Co-requisite: MATH 0232.
TCCNS: MATH 1332

MATH 1390 Introduction to Mathematical Topics
1-3 Semester Credit Hours (1-3 Lab Hours)
A course to introduce students to mathematical topics in a formal setting. The course may support problem solving, or systematic investigations of topics outside the current mathematical catalog. May not be substituted for regularly scheduled offerings.

MATH 1442 Statistics for Life
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
An introduction to statistical concepts and methods used in all disciplines to enhance decision making based on data analysis, including: basic experimental design models, measurement and data collection through sampling; display and summary of information, and assessment of relationship through descriptive techniques; probability concepts leading to estimation and hypothesis testing of means, variance and proportions, regression analysis, one-factor ANOVA and chi-square test of independence; and applications through case studies. The laboratory component of the course offers applications of the theory presented during the classroom sessions.
Prerequisite: MATH 0300, minimum score of 530 in 'SAT MATH SECTION', minimum score of 19 in 'ACT Math', MATH 0310, 0320, minimum score of 350 in 'TSI Math' or minimum score of 19 in 'ACT Math'.
Co-requisite: MATH 0242.
TCCNS: MATH 1442

MATH 2305 Discrete Mathematics I
3 Semester Credit Hours (3 Lecture Hours)
An introduction to topics in Discrete Mathematics with an emphasis on applications in Mathematics and Computer Science. Topics include formal logic, graphs, trees and related algorithms, and combinatorics and discrete probability.
Prerequisite: MATH 2413, minimum score of 620 in 'SAT Math', minimum score of 620 in 'SAT1 Mathematics', minimum score of 640 in 'SAT MATH SECTION', minimum score of 27 in 'ACT Math' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2305

MATH 2312 Precalculus
3 Semester Credit Hours (3 Lecture Hours)
A more rapid treatment of the material in MATH 1314 and MATH 1316, this course is designed for students who wish a review of the above material, or who are very well prepared. Functions, graphs, trigonometry, and analytic geometry.
Prerequisite: MATH 1314, minimum score of 550 in 'SAT MATH SECTION', minimum score of 21 in 'ACT Math' or minimum score of 21 in 'ACT1 Math'.
TCCNS: MATH 2312

MATH 2413 Calculus I
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Limits, continuity, derivatives, applications of the derivative, and an introduction to integrals. Contains a laboratory component.
Prerequisite: MATH 1316, 2312, minimum score of 640 in 'SAT MATH SECTION' or minimum score of 27 in 'ACT1 Math'.
TCCNS: MATH 2413

MATH 2414 Calculus II
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Prerequisite: MATH 2413.
TCCNS: MATH 2414

MATH 2415 Calculus III
4 Semester Credit Hours (3 Lecture Hours, 2 Lab Hours)
Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component. Vectors and space curves, partial derivatives, multiple integrals, special coordinate systems, line and surface integrals, Green's, Stokes', and the Divergence Theorems. Contains a laboratory component.
Prerequisite: MATH 2414.
TCCNS: MATH 2415

MATH 3300 Geospatial Mathematical Techniques
3 Semester Credit Hours (3 Lecture Hours)
Characteristics of geographic/spatial information; overview of relevant sections of numbers, algebra and geometry, plane and spherical trigonometry, matrices, determinants and vectors, curves and surfaces, integral and differential calculus, partial derivatives, with an emphasis on geospatial applications. Concepts of geospatial coordinate systems and geospatial coordinate transformations; overview of spatial statistics and best-fit solutions with geospatial applications. Students may not receive credit for both MATH 3300 and GISC 3300.
Prerequisite: MATH 2413 and 2414.

MATH 3301 Introduction to Complex Analysis
3 Semester Credit Hours (3 Lecture Hours)
This course introduces functions of a complex variable and their applications. Contents include differentiation and integration; zeros, poles and residues; conformal mappings.
Prerequisite: (MATH 2415) or (MATH 2414 and 3314).

MATH 3310 Mathematical Analysis for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming and probability and statistics into mechanical engineering. May not count towards the MATH major. Students may not receive credit for both MATH 3310 and MEEN 3310.
Prerequisite: MATH 3315.

MATH 3311 Linear Algebra
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of linear algebra and matrix theory. Topics include vectors, matrix operations, linear transformations, fundamental properties of vector spaces, systems of linear equations, eigenvalues and eigenvectors. Applications.
Prerequisite: MATH 2413.
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<td>Linear Optimization and Decisions</td>
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<tr>
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<tr>
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<td>Linear Optimization and Decisions</td>
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**MATH 3315 Differential Equations**
This course introduces the foundations of Euclidean geometry by synthetic methods with an introduction to non-Euclidean geometries. An introduction to transformational geometry.
Prerequisite: MATH 2413.

**MATH 3313 Foundations of Number Theory**
This course provides a transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to topics from elementary number theory.
Prerequisite: MATH 2305 and 2414.

**MATH 3314 Foundations of Real Numbers**
This course provides a transition to advanced mathematics. Fundamentals of logic and proof are reviewed and applied to development of the real number line.
Prerequisite: MATH 2414 and 2305.

**MATH 3306 Modern Algebra**
Fundamentals of set operations, maps and relations, groups, rings, and field theory. Topics include permutation groups, cosets, homomorphisms and isomorphisms, direct product of groups and rings, integral domains of quotients, fundamental properties of integers, the ring of integers modulo n, and rings of polynomials. Applications.
Prerequisite: MATH 3311 and 3313.

**MATH 3385 Linear Optimization and Decisions**
This course introduces the linear programming and optimization problems arising in many applications. Contents include linear programming models with solutions, the simplex method, duality theory and its use for management decision making, dual simplex method and sensitivity analysis.
Prerequisite: MATH 3311 and 2413.

**MATH 4312 Differential Geometry**
Differential forms on R1, R2, R3, and Rn; Integration and differentiation of differential forms; Stokes' Theorem; manifolds; Gaussian curvature and the Gauss-Bonnet Theorem.
Prerequisite: MATH 2415.

**MATH 4315 Partial Differential Equations**
An introduction to partial differential equations emphasizing the wave, diffusion and potential (Laplace) equations. Focus on understanding the physical meaning and mathematical properties of solutions of partial differential equations. Methods include fundamental solutions and transform methods for problems on the line, and separation of variables using orthogonal series for problems in regions with boundary. Additional topics include higher dimensional problems and special topics like harmonic functions, the maximum principle, Green's functions etc.
Prerequisite: MATH 3315 and 2415.
MATH 4321 Applied Regression Analysis
3 Semester Credit Hours (3 Lecture Hours)
Introduction to the formulation of linear models and the estimation of the parameters of such models, with primary emphasis on least squares. Application of multiple regression and curve fitting and the design of experiments for fitting regression models.
Prerequisite: MATH 1342, 2342 or 1470.

MATH 4328 Discrete Mathematics II
3 Semester Credit Hours (3 Lecture Hours)
A continued study of topics from Discrete Mathematics I with additional topics from discrete mathematics that have strong application to the field of computer science. Additional topics include: recurrence relations, formal languages, and finite-state machines.
Prerequisite: MATH 2305 and COSC 2437.

MATH 4342 Introduction to Mathematical Statistics
3 Semester Credit Hours (3 Lecture Hours)
This is a first course in mathematical statistics, topics include: moment-generating functions, functions of random variables, sampling distributions, methods of estimation including Bayesian estimation, characteristics of estimators, interval estimation, hypothesis testing, Neyman-Pearson Lemma, likelihood ratio test, tests involving means and variances, regression and correlation, multiple linear regression, introduction to ANOVA, non-parametric tests.
Prerequisite: MATH 2415.

MATH 4385 Applied Modeling
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for mathematics majors. The construction of mathematical models from areas such as economics, refining, biology and mariniculture, etc. Where possible, local phenomena will be modeled with the assistance of outside consultants.
Prerequisite: MATH 3315 and 3342 or MATH 3345.

MATH 4390 Selected Topics
3 Semester Credit Hours (3 Lecture Hours)
Offered on sufficient demand.

MATH 4696 Directed Independent Study
1-6 Semester Credit Hours
See college description.

Mechanical Engineering (MEEN)

MEEN 3330 Solid Mechanics Laboratory
2 Semester Credit Hours (4 Lab Hours)
Prerequisite: MEEN 3330 or 3330*.
*May be taken concurrently.
Co-prerequisite: SMTE 0099.

MEEN 3310 Engineering Analysis for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Applications of fundamentals of linear algebra, vector analysis, numerical methods, computer programming, and probability and statistics for mechanical engineering. (Cross-listed with MATH 3310 - Mathematical Analysis for Mechanical Engineering)
Prerequisite: MATH 3315.

MEEN 3330 Solid Mechanics for Mechanical Engineering
3 Semester Credit Hours (3 Lecture Hours)
Stress analysis of deformable bodies and mechanical elements; stress transformation; combined loading; failure modes; material failure theories; fracture and fatigue; deflections and instabilities; thick cylinders; curved beams; design of structural/mechanical members; design processes for shafts, bearings, springs, fasteners, and mechanical joints.
Prerequisite: ENGR 3320.

MEEN 3335 Introduction to Unmanned Aircraft Systems
3 Semester Credit Hours (3 Lecture Hours)
Overview of unmanned aerial systems: history, platforms, operations, command and control, sensor systems, payloads, regulations, policy. Current developments in unmanned aerial systems.

MEEN 3340 Solid Modeling and Finite Elements
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Use of computer aided design and solid modeling tools in engineering design, and analysis, and manufacturing including: solid modeling, stress, flow, and heat transfer analysis using finite element methods.
Prerequisite: MEEN 3310 and ENGR 3320.

MEEN 3345 Heat Transfer
3 Semester Credit Hours (3 Lecture Hours)
Steady and unsteady conduction in one- and two-dimensions; forced convection, internal and external flows; heat exchangers; introduction to radiation; elements of thermal system design.
Prerequisite: (ENGR 3316 and 3315).

MEEN 4325 Energy Conversion
3 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Natural resources: fuels, solar, wind, geothermal, wave, and ocean thermal; thermodynamics of power cycles and processes: Rankine, Brayton, gas turbine, IC engines, fuel cell; nuclear power; direct energy conversion: photovoltaic, thermoelectric, thermionic, magnetohydrodynamics; non-reactive processes: wind, wave/tidal, ocean thermal energy, solar thermal; concept of life cycle assessments of carbon foot print. Student teamwork of a class term paper is expected.
Prerequisite: ENGR 3316.

MEEN 4330 Introduction to Plasma Engineering and Applications
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Physical, electrical, chemical properties of plasmas; differences in properties of thermal and non-thermal plasmas, direct and alternating current plasma sources, inductive and capacitive coupled plasma sources, diagnostics and applications of plasmas.
Prerequisite: ENGR 2322 and (ENGR 2460 or PHYS 2426).
Co-prerequisite: SMTE 0099.

MEEN 4335 Introduction to Aircraft Aerodynamics and Performance
3 Semester Credit Hours (3 Lecture Hours)
Forces on aircraft; standard atmosphere; steady-state cruise, climb, and turn performance; performance optimization; introduction to aircraft longitudinal stability.
Prerequisite: ENGR 2326 and COSC 1330.
MEEN 4336 Introduction to UAS for Agricultural Applications
3 Semester Credit Hours (3 Lecture Hours)
Provides the foundations to acquire remote sensing data using Unmanned Aircraft Systems (UAS) and to interpret, process, and apply remotely sensed data for agricultural applications. Principles of remote sensing, digital image processing, and geospatial analysis will be covered. Emphasis will be on the use of UAS remote sensing technology for various disciplines in agricultural sciences including plant breeding, plant physiology, crop scouting, pest management and entomology. Offered Spring.
Prerequisite: MEEN 3335.

MEEN 4345 Sensors and Systems
3 Semester Credit Hours (3 Lecture Hours)
This course covers sensors and sensing systems where sensing modalities, analysis of sensed data, data transmission and reception are discussed. Filtering and estimation in sensing systems are considered. The course covers sensors at component level to develop subsystems and more complex sensing systems that monitor physical phenomena in laboratory or marine/terrestrial environments. Other topics include multidimensional signal and image processing, object tracking, multisensory data fusion, applications in environmental monitoring, remote sensing and surveillance.
Prerequisite: MATH 2414, PHYS 2426 and ENGR 2460.

MEEN 4350 Controls, Automation and Robotics
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Automation in a manufacturing and assembly setting for ocean and marine environments, material handling systems, remote guided vehicles, automated storage and retrieval systems, computer numerical machine tools, robotics.
Prerequisite: MATH 3315, ENGR 2326 and 2460.
Co-requisite: SMTE 0099.

MEEN 4351 Dynamical Systems Analysis and Modeling
3 Semester Credit Hours (3 Lecture Hours)
Modeling and analysis of systems that have a time-based response. Transient as well as steady state solutions for SDOF and MDOF systems and computational solutions including time response, Bode plots, phase plots, and other plots relevant to the system. Linear and non-linear modeling of systems will be studied. Modeling of mechanical systems (vibrations), electrical circuits, and thermal/fluid systems will be covered.
Prerequisite: COSC 1330, ENGR 2460 and MEEN 3345.

MEEN 4355 Marine Fabrication
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Advanced topics in manufacturing and fabrication related to ships and offshore platforms and construction.
Prerequisite: ENGR 3350.
Co-requisite: SMTE 0099.

MEEN 4360 Thermal Systems Design
3 Semester Credit Hours (3 Lecture Hours)
Analysis, management and cost, optimal design, and computer simulation of thermal systems and components; Applications in fluid flow and heat transfer, pumps, turbines and heat exchangers. Selected course topics are assigned as projects.
Prerequisite: MEEN 3345.

MEEN 4365 Mechanical Systems Design
3 Semester Credit Hours (3 Lecture Hours)
Analysis, management and cost, optimal design, and computer simulation of mechanical systems and components; machine elements, and stress analysis. Selected course topics are assigned as projects.
Prerequisite: (MEEN 3330 and ENGR 3350).

MEEN 4375 Fuel Cells
3 Semester Credit Hours (3 Lecture Hours)
Students will acquire an understanding of thermodynamics, transport phenomena and reaction fundamentals that are required to understand the processes and phenomena that pose limits on fuel cell performance.
Prerequisite: ENGR 3316, MEEN 3345 and CHEM 1411.

MEEN 4380 Renewable Energy
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Renewable and alternative energy sources and fuels; modern energy conversion devices, such as offshore wind farms, marine current turbines, fuel cells, photovoltaic cells, and micro-power turbines. Cost and environmental analysis of renewable sources. Installation, design characteristics, operational performance, and maintenance of motors, turbines, pumps and compressors. Introduction to global energy concerns; fossil and nuclear fuels; energy consumption analysis; energy management and conservation techniques.
Prerequisite: ENGR 3316, 2460 and MEEN 4325.
Co-requisite: SMTE 0099.

MEEN 4385 Offshore Energy Management
3 Semester Credit Hours (3 Lecture Hours)
Topics related to the design and energy management of ships and offshore platforms will be covered. Such topics may include oil and gas exploration, wind and marine energy systems, and environmental protection.
Prerequisite: MEEN 3345.

MEEN 4390 Introduction to Computational Fluid Dynamics
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Introduction to numerical, computational, modeling and simulation of thermo-fluid systems. Applications related to ships and offshore platforms and structures will be presented.
Prerequisite: MEEN 3345.

MEEN 4395 Offshore Water Exploration and Desalination Systems
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Advanced and future applications of sea floor mapping, under-water acoustics and GIS for fresh water exploration and mining. Renewable energy driven coastal, near-shore, and offshore desalination systems.
Prerequisite: ENGR 2316.

MEEN 4396 Directed Independent Study
3 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration, approval of supervising faculty and chairperson.

Media (MEDA)

MEDA 1305 Film and Culture
3 Semester Credit Hours (3 Lecture Hours)
Introduction to film aesthetics, history, and criticism for non-communication majors. Establishes a vocabulary for examining films and their roles in American culture.
Co-requisite: PSYC 2301, UNIV 1102.

MEDA 1307 Media and Society
3 Semester Credit Hours (3 Lecture Hours)
History and development of mass media in the United States as well as the organizational, institutional, and cultural dynamics of today's major commercial media. Included are substantial components on print media, radio, television, cinema, and computer Internet communication systems. Course themes include media production and consumption, globalization, cultural imperialism, race, class, gender in media and popular culture.
TCCNS: COMM 1307
MEDA 1315 Editing
3 Semester Credit Hours (3 Lecture Hours)
Intensive instruction in postproduction software, postproduction workflows, and editing techniques for moving images.

MEDA 1380 Introduction to Media Production
3 Semester Credit Hours (3 Lecture Hours)
Overview of tools and skills necessary to produce digital media content such as editing, cinematography, sound recording, producing and directing for film, television and new media.

MEDA 2311 Media Writing
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to teach the fundamentals of writing for the mass media. It includes instruction in professional methods and techniques for gathering, processing and delivering content.

MEDA 2313 Intermediate Production: Documentary
3 Semester Credit Hours (3 Lecture Hours)
Principles and techniques of media production with a focus on non-fiction filmmaking.

MEDA 2315 News Reporting
3 Semester Credit Hours (3 Lecture Hours)
This course focuses on advanced news-gathering and writing skills. It concentrates on the three-part process of producing news and features, which include discovering the news, reporting the news and writing news in different formats. This course will incorporate all forms of news writing, including: press release, print news, web news and TV and radio broadcast news.

MEDA 2316 Intermediate Production: Narrative
3 Semester Credit Hours (3 Lecture Hours)
Principles and techniques of media production with a focus on fictional narrative filmmaking.

MEDA 2350 Media Performance
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to teach students articulation, pronunciation, effective writing and on-air performance techniques for all kinds of media environments with videotaped and audio taped presentations.

MEDA 2366 Media Forms
3 Semester Credit Hours (3 Lecture Hours)
Examination of the formal elements of media texts, including cinematography/videography, sound, and editing, across a variety of media platforms and styles. Includes instruction in writing formal analysis.

MEDA 2367 Media Industries
3 Semester Credit Hours (3 Lecture Hours)
Examination of the media industries, including how they have evolved and now operate, as well as broader theoretical and practical implications of changing media organizations and practices. Includes instruction in researching contemporary and historical modes of media production, distribution, and exhibition.

MEDA 3301 Television Criticism
3 Semester Credit Hours (3 Lecture Hours)
Exploration of how TV communicates through the study of programming content, production practices, and audiences. Includes a laboratory for screening assigned programs.

MEDA 3302 Film Criticism
3 Semester Credit Hours (3 Lecture Hours)
Exploration of the critical approaches to the study of film from a variety of historical and theoretical perspectives, with an emphasis on narrative film and some consideration of experimental cinema. Includes a laboratory for screening assigned films.

MEDA 3303 Documentary Studies
3 Semester Credit Hours (3 Lecture Hours)
Historical and critical study of the non-fictional film with attention to changing technologies, to varying uses and styles of documentary, and to contemporary critical and theoretical issues.

MEDA 3310 Media Theory and Research
3 Semester Credit Hours (3 Lecture Hours)
This course is intended to immerse students in the leading theoretical and methodological approaches employed within the field of media studies to gain understating of media texts, popular culture, and audiences. Closely affiliated with cultural studies, qualitative research methods will be a primary focus. Readings and case studies will offer students insight into the way these methods are being used in the field, including their limitations and strengths. A series of assignments will allow them to propose, design, and conduct multiple sample research projects and analyze data in ways that engage with a variety of theories.

MEDA 3314 Television Production
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of studio television production. Field-based course, transportation required.

MEDA 3317 Advanced Postproduction
3 Semester Credit Hours (3 Lecture Hours)
Intensive instruction in advanced postproduction software, postproduction workflows and editing techniques for moving images.

MEDA 3318 Editing & Layout
3 Semester Credit Hours (3 Lecture Hours)
This course will teach the principles of copy editing, with an emphasis on accuracy and fairness, as well as the principles of layout and design for print and web publications.

MEDA 3340 Photojournalism
3 Semester Credit Hours (3 Lecture Hours)
This course will instruct on photojournalism skills and methods for use in visual communication. It will examine ethical and legal limitations to photography and in editing. Student work in this class will be eligible for possible publication in the student newspaper or its accompanying website.

MEDA 3351 Screen Comedy
3 Semester Credit Hours (3 Lecture Hours)
Examination of the varieties of screen comedy, from silent comedy to contemporary forms, with some attention to the history and theory of comic performance.

Prerequisite: MEDA 1307.
MEDA 3360  Screenplay Writing
3 Semester Credit Hours (3 Lecture Hours)
Writing and analysis of the screenplay for narrative fictional films. Writing projects include problem-solving exercises and work on an original screenplay. Course can be repeated for credit.

MEDA 3361  Sports Writing
3 Semester Credit Hours (3 Lecture Hours)
This course will teach the elements of sports writing and reporting to include interviewing and writing to cover different aspects of sports coverage. This course will address content for print, Internet, radio and television. Campus-related sports assignments will be eligible for publication in the student newspaper and its accompanying website.

MEDA 3380  New Media and Communication
3 Semester Credit Hours (3 Lecture Hours)
Examines how new media technologies impact society and change communication practices. Particular emphasis placed on different modes of cultural expression and social interaction made possible through digital media and the Internet.

MEDA 4305  Interpreting and Making the Visual Culture of Hollywood
3 Semester Credit Hours (3 Lecture Hours)
This course examines the visual culture of Hollywood media production in a focused context, such as during a particular decade, or in relation to a particular genre, star, or cultural topic. The visual culture studied will include not just primary media texts such as films or television programs, but also posters, trailers, and other promotional materials, as well as visual culture not produced directly by the media industries, such as contemporary art. Students will learn and utilize basic design techniques to create their own artwork related to these materials, including movie posters, album covers, and sequential art. As resources and equipment availability allow, these designs will be produced using techniques including print-making.

MEDA 4308  Advanced Production: Commercial
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of client based commercial media content with a focus on conceptualization, production, and delivery of a commercial, PSA, or corporate video project.
Prerequisite: (MEDA 1315, 2313 and 2316).

MEDA 4310  Advanced Production: Documentary
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of documentary media content with a focus on conceptualization, production, and distribution of a short documentary film. Course can be repeated once for credit. This course serves as a capstone for the Media Production Track.
Prerequisite: MEDA 2313.

MEDA 4312  Advanced Production: Narrative
3 Semester Credit Hours (3 Lecture Hours)
Advanced techniques in the creation of narrative media content with a focus on scripting, production, and distribution of a short narrative film. Course can be repeated once for credit. This course serves as a capstone for the Media Production Track.
Prerequisite: MEDA 2316.

MEDA 4317  After Effects
3 Semester Credit Hours (3 Lecture Hours)
Conceptualization and execution of digital media projects using visual effects, motion graphics and composition through the creation of video, animation, special effects and more using Adobe’s After Effects postproduction software.
Prerequisite: MEDA 1315.

MEDA 4340  Advertising Criticism
3 Semester Credit Hours (3 Lecture Hours)
The examination of advertising history through critical and cultural approaches.

MEDA 4341  First Amendment and Ethical Issues in the Media
3 Semester Credit Hours (3 Lecture Hours)
Study of legal and ethical issues in mediated communication, including the First Amendment and free speech, control, and regulation of broadcasting, obscenity in the media.
Prerequisite: MEDA 1307.

MEDA 4342  Global Media and International Communication
3 Semester Credit Hours (3 Lecture Hours)
Examines global media in the context of international communication, diversity of media and cultural production, styles of media practices abroad, including differences between U.S. news values and ethical and moral dimensions across differing societies of the world.

MEDA 4343  News Publication
3 Semester Credit Hours (3 Lecture Hours)
This course will be a hands-on newsroom experience with the student newspaper the Island Waves and its accompanying website. Individual assignments will be assigned by editors of the student media. Assignments may include writing, advertising, photography, cartooning and video production and editing. Students are required to work on the staff of the official college publication during prescribed hours under faculty supervision.
Prerequisite: MEDA 2311.

MEDA 4347  Advanced New Media Project
3 Semester Credit Hours (3 Lecture Hours)
As the capstone course for the New Media Arts Certificate, this course guides students through the planning, development, and execution of new media-based project.
Prerequisite: ARTS 2356, MEDA 2313 and 1315.

MEDA 4381  Senior Seminar in Media Studies
3 Semester Credit Hours (3 Lecture Hours)
The capstone course for seniors in the Media Studies offers opportunities to synthesize information learned in other Media Studies courses through in-depth study of a particular topic. Students will demonstrate their abilities to think and write critically, and to conduct independent research or produce media projects at an advanced level. Topics vary by instructor.
Prerequisite: MEDA 1307 and 3310.

MEDA 4390  Topics in Media Arts
3 Semester Credit Hours (3 Lecture Hours)
Study of specialized topics and themes in media arts. May be repeated when topics vary.

MEDA 4396  Directed Individual Study
1-3 Semester Credit Hours
See College description. By application. Only 3 semester hours of Directed Individual Study credit may be counted toward the major.
MEDA 4399  Media Arts Internship
3 Semester Credit Hours
Practical experience in the field through placement in a media internship position. Students interested in applying for the internship course must have a minimum cumulative GPA of 3.0; have at least junior standing at the university; be a media arts (media studies or media production emphasis) major or digital journalism minor; have completed at least 12 hours of coursework in the major or minor at TAMU-CC. Preferred applicants will have a minimum media arts or digital journalism GPA of 3.25. All applicants must solicit a recommendation form from a Department of Communication and Media faculty member. Course may be taken three times for credit; however only 3 semester hours of internship credit may be counted toward the major. A second internship may apply to the digital journalism minor; a third internship may be used as a free elective. Authorization to repeat the internship course is contingent on the students’ successful completion of the previous internship experience. This course is graded Credit/No Credit.

Mexican American Studies (MXAS)

MXAS 3301  Introduction to Mexican American Studies
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the area of Chicano Studies including the cultural, historical, and linguistic approaches. This basic course includes the study of major authors, significant historical events, and important linguistic considerations.

MXAS 3307  Mexican American Folklore
3 Semester Credit Hours (3 Lecture Hours)
Studies folklore through selected examples of traditional Mexican and Mexican American culture. Possible topics include: folk songs, folk healing, folk art, foods, testimonials, tales, proverbs, riddles, or other cultural element characteristics of the Mexican American experience.

MXAS 3311  Mexican American Literature
3 Semester Credit Hours (3 Lecture Hours)
An analysis of Chicano literature. Special emphasis will be given to the new consciousness of the Chicano in the most current literature of the various genres.

MXAS 4390  Topics in Mexican American Studies
3 Semester Credit Hours (3 Lecture Hours)
May be repeated when topics vary.

Military Science (MSCI)

MSCI 1170  Introduction to the Army
1 Semester Credit Hour (1 Lecture Hour)
MSCI 1170/MSL 101 Focuses on introduction to the Army and critical thinking. It introduces Cadets to the Army and the Profession of Arms. Students will examine the Army Profession and what it means to be a professional in the U.S. Army. The overall focus is on developing basic knowledge and comprehension of the Army Leadership Requirements Model while gaining a complete understanding of the Reserve Officers’ Training Corps (ROTC) program, its purpose in the Army, and its advantages for the student. Cadets also learn how resiliency and fitness support their development as an Army leader. Includes a weekly lab facilitated by MS III Cadets and supervised by ROTC Cadre.

MSCI 1171  Foundations of Leadership
1 Semester Credit Hour (1 Lecture Hour, 1 Lab Hour)
MSCI 1171/MSL 102 Introduces Cadets to the personal challenges and competencies critical for effective leadership. Cadets learn the personal development of life skills such as critical thinking, time management, goal setting, and communication. Cadets learn the basics of the communications process and the importance for leaders to develop the essential skills to effectively communicate in the Army. Cadets will begin learning the basics of squad level tactics that will be reinforced during a weekly lab facilitated by MS III Cadets and supervised by ROTC Cadre.

MSCI 1172  Ranger Leadership Laboratory
1 Semester Credit Hour (1 Lab Hour)
RANGER LEADERSHIP LABORATORY Practical leadership and teamwork training in rappelling, rope bridges, weapons firing, map reading and land navigation, water safety, patrolling, and other ranger skills. Includes a weekend field trip where the techniques learned will be applied in competitive events. Cross listed with KINE 1116. May be repeated for credit.

MSCI 2270  Leadership and Ethics
2 Semester Credit Hours (1 Lecture Hour, 1 Lab Hour)
MSCI 2270/MSL 201 Focuses on leadership and decision making. The outcomes are demonstrated through Critical and Creative Thinking and the ability to apply Troop Leading Procedures (TLP) Innovative Solutions to Problems. The Army Profession is also stressed through leadership forums and a leadership self-assessment. Students are then required to apply their knowledge outside the classroom in a hands-on performance-oriented environment during a weekly lab facilitated by MSL III Cadets and supervised by Cadre.

MSCI 2271  Army Doctrine and Decision Making
2 Semester Credit Hours (1 Lecture Hour, 1 Lab Hour)
MSCI 2271/MSL 202 Focuses on Army doctrine and team development. The course begins the journey to understand and demonstrate competencies as they relate to Army doctrine. Army Values, Teamwork, and Warrior Ethos and their relationship to the Law of Land Warfare and philosophy of military service are also stressed. The ability to lead and follow is also covered through Team Building exercises at squad level. Students are then required to apply their knowledge outside the classroom in a hands-on performance-oriented environment during a weekly lab facilitated by MSL III Cadets and supervised by Cadre.

MSCI 3301  American Military History
3 Semester Credit Hours (3 Lecture Hours)
A comprehensive, but brief account of the U.S. Army from past to present. Integrates the basic knowledge of American military history into the future officer’s education. This is an Army standardized, mandatory course that is a part of pre-commissioning training for contracted U.S. Army ROTC cadets. Employs American military history as a tool for studying military professionalism and applying critical-thinking skills and decision-making skills to military problems. Analyzes the definition of Military History, the theory and practice of war, and the American Military System as an intellectual framework for applying critical-thinking skills and problem-solving skill to the study of historical, military problems.

Prerequisite: (MSCI 1170, 1171, 2271 and 2270).
MSCI 3403 Training Management and the Warfighting Functions
4 Semester Credit Hours (4 Lecture Hours)
MSCI 3304/MSL 301 Focuses on training management and the warfighting functions. It is an academically challenging course where you will study, practice and apply the fundamental of Training Management and how the Army operates through the Warfighting functions. At the conclusion of this course, the Cadet will be capable of planning, preparing, and executing training for a squad, conducting small unit tactics. Includes a lab per week using peer facilitation overseen by MSL IVs, supervised by ROTC Cadre.

MSCI 3404 Applied Leadership in Small Unit Operations
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
MSCI 3404/MSL 302 Focuses on applied leadership in small unit operations. It is an academically challenging course where the cadet will study, practice, and apply the fundamentals of direct-level leadership and small unit tactics at the platoon level. At the conclusion of this course, the Cadet will be capable of planning, coordinating, navigating, motivating, and leading a platoon in the execution of a mission. Includes a lab per week using peer facilitation overseen by MSL IVs, supervised by ROTC cadre. Successful completion of this course will help prepare for the Cadet Summer Training Advance Camp to be attended in the summer at Fort Knox, KY.

MSCI 3499 Leadership Development Assessment Course (LDAC)
4 Semester Credit Hours (4 Lecture Hours)
Four weeks of instruction and practical application in field training, demonstration of leadership capabilities, and leadership opportunities of problem analysis, decision making, and troop-leading. CR/NC only.
Prerequisite: MSCI 3303 and 3304.

MSCI 4305 Advanced Problem Solving
3 Semester Credit Hours (3 Lecture Hours)
Military Science special problems course designed for individual study in modern day military structure and policies.

MSCI 4403 The Army Officer
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
MSCI 4403/MSL 401 Focuses on development of the Army Officer. It is an academically challenging course where the Cadet will develop knowledge, skills, and abilities to plan, resource, and assess training at the small unit level. The Cadet will also learn about Army programs that support counseling subordinates and evaluating performance, values and ethics, career planning, and legal responsibilities. At the conclusion of this course, the Cadet will be familiar with how to plan, prepare, execute, and continuously assess the conduct of training at the company or field grade officer level. Includes a lab per week overseeing MSL III lesson facilitation and supervised by ROTC Cadre.

MSCI 4404 Company Grade Leadership
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
MSCI 4404/MSL 402 An academically challenging course where the Cadet will develop knowledge, skills, and abilities required of junior officers pertaining to the Army in Unified Land Operations and Company Grade Officer roles and responsibilities. This course includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam, and an Oral Practicum as the final exam. The Oral Practicum explores the knowledge of how well the Cadet will be prepared for the 20 Army Warfighting Challenges (AWFC) covered throughout the ROTC Advanced Course. Successful completion of this course will assist in preparing for the BOLC B course and is a mandatory requirement for commissioning. Includes a lab per week overseeing MSL III lesson facilitation and supervised by ROTC Cadre.

MSCI 4696 Military Science Directed Individual Study
1-6 Semester Credit Hours
Programs will be designed for individual cases through special permission of the Department Chair and Dean. May be repeated for credit when the topic varies.

Music (MUSI)

MUSI 1116 Aural Training I
1 Semester Credit Hour (1 Lecture Hour)
A companion course to MUSI 1311, designed to strengthen the understanding of theoretical principles through the development of aural perception and skills; exercises in melodic, harmonic, and rhythm; dictation; and drill in sight singing.
TCCNS: MUSI 1116

MUSI 1117 Aural Training II
1 Semester Credit Hour (1 Lecture Hour)
Continuation of MUSI 1116; a companion course to MUSI 1312.
Prerequisite: MUSI 1116 and 1311.
TCCNS: MUSI 1117

MUSI 1181 Class Piano I
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 1181

MUSI 1182 Class Piano II
1 Semester Credit Hour (1 Lab Hour)
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.
TCCNS: MUSI 1182

MUSI 1301 Fundamentals of Music
3 Semester Credit Hours (3 Lecture Hours)
Designed to teach beginning music students the basic tenet of music theory: note reading, rhythm, scales, key signatures, basic intervals and triads, and solfeggio.

MUSI 1302 Non-major Class Piano I
3 Semester Credit Hours (3 Lecture Hours)
Group instruction in the elements of piano playing, designed for the non-major. No previous experience necessary.

MUSI 1303 Basic Guitar I
3 Semester Credit Hours (3 Lecture Hours)
Group instruction in the fundamentals of guitar playing, designed for the non-major. The student must furnish an acceptable instrument. No previous experience necessary.
TCCNS: MUSI 1303

MUSI 1306 Understanding and Enjoying Music
3 Semester Credit Hours (3 Lecture Hours)
A course for the non-music major. Study of selected music literature of contrasting styles and forms with emphasis on listening to music with understanding.
TCCNS: MUSI 1306
MUSI 1307  Elements of Musical Style  
3 Semester Credit Hours (3 Lecture Hours) 
A survey of selected western and non-western musical styles, based upon the analysis of the characteristic use of the elements of music. Required for music majors and recommended for non-majors with a significant high school music background.  
TCCNS: MUSI 1307  

MUSI 1310  History of Rock and Roll  
3 Semester Credit Hours (3 Lecture Hours) 
A general survey of composers, performers, and styles of rock and roll. Emphasis on understanding stylistic elements of music, including rhythm, texture, form, and harmony.  
TCCNS: MUSI 1310  

MUSI 1311  Musicianship I  
3 Semester Credit Hours (3 Lecture Hours) 
First principles of chord progression and phrase harmonization. Theory assessment required prior to enrollment.  
TCCNS: MUSI 1311  

MUSI 1312  Musicianship II  
3 Semester Credit Hours (3 Lecture Hours) 
Continuation of MUSI 1311, with a study of more advanced chord structures and their placement within the phrase through written exercises, analysis, and sight singing.  
Prerequisite: MUSI 1311 and 1116.  
TCCNS: MUSI 1312  

MUSI 2116  Aural Training III  
1 Semester Credit Hour (1 Lecture Hour) 
Continuation of MUSI 1117; a companion course to MUSI 2311. Designed to further the understanding of advanced theoretical principles and techniques through related aural exercises, dictation, and sight singing.  
Prerequisite: MUSI 1117 and 1312.  
TCCNS: MUSI 2116  

MUSI 2117  Aural Training IV  
1 Semester Credit Hour (1 Lecture Hour) 
Continuation of MUSI 2116; a companion course to MUSI 2312.  
Prerequisite: MUSI 2116 and 2311.  
TCCNS: MUSI 2117  

MUSI 2181  Class Piano III  
1 Semester Credit Hour (1 Lab Hour) 
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.  
Prerequisite: MUSI 1182.  
TCCNS: MUSI 2181  

MUSI 2182  Class Piano IV  
1 Semester Credit Hour (1 Lab Hour) 
Group instruction in piano for music majors, covering piano technique and literature, major and minor scales, transposition, sight reading, and simple harmonization of melodies. In extraordinary circumstances, students may substitute one semester of secondary applied piano for this course. Keyboard majors accepted for degree-level study should substitute four semesters of Secondary Applied Studio.  
TCCNS: MUSI 2182  

MUSI 2302  Non-major Class Piano II  
3 Semester Credit Hours (3 Lecture Hours) 
Extension of skill development begun in MUSI 1302 Non-Major Class Piano I.  
Prerequisite: MUSI 1302.  

MUSI 2303  Basic Guitar II  
3 Semester Credit Hours (3 Lecture Hours) 
Extension of skill development begun in MUSI 1303 - BASIC GUITAR I. The student must furnish an acceptable instrument.  
Prerequisite: MUSI 1303.  

MUSI 2311  Musicianship III  
3 Semester Credit Hours (3 Lecture Hours) 
Continuation of MUSI 1312. A broad summary of classical and chromatic harmony, explored through written exercises, analysis, and correlated keyboard drill.  
Prerequisite: MUSI 1312 and 1117.  
TCCNS: MUSI 2311  

MUSI 2312  Musicianship IV  
3 Semester Credit Hours (3 Lecture Hours) 
Continuation of MUSI 2311. An exploration of 20th-century techniques through written exercises, analysis, and correlated keyboard drill.  
Prerequisite: MUSI 2311 and 2116.  
TCCNS: MUSI 2312  

MUSI 3085  Junior Recital  
0 Semester Credit Hours 
Required for all students presenting a Junior Recital in partial fulfillment of the requirements for the Bachelor of Music in Performance Degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Department Chair.  

MUSI 3162  Diction for Singers I  
1 Semester Credit Hour (1 Lecture Hour) 
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in English and French.  

MUSI 3165  Diction for Singers II  
1 Semester Credit Hour (1 Lecture Hour) 
Learning to use the International Phonetic Alphabet (IPA) with sufficient fluency to effectively teach and learn proper pronunciation of song texts in Italian and German.  

MUSI 3166  Woodwind Techniques I  
1 Semester Credit Hour (1 Lab Hour) 
Basic techniques of playing and teaching the oboe, bassoon, and saxophone. Includes a survey of pedagogical materials and basic performance literature.  

MUSI 3167  Woodwind Techniques II  
1 Semester Credit Hour (1 Lab Hour) 
Basic techniques of playing and teaching the flute and clarinet. Includes a survey of pedagogical materials and basic performance literature.  

MUSI 3168  Brass Techniques I  
1 Semester Credit Hour (1 Lab Hour) 
Basic techniques of playing and teaching the trumpet and French horn. Includes a survey of pedagogical materials and basic performance literature.
MUSI 3169 Brass Techniques II  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the trombone, euphonium, and tuba. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3170 Voice Techniques for Instrumentalists  
1 Semester Credit Hour (1 Lab Hour)  
Group instruction and practical experience in the fundamentals of voice production and song interpretation for the instrumental music educator. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3188 Percussion Techniques  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the instruments of the percussion family. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3189 String Techniques  
1 Semester Credit Hour (1 Lab Hour)  
Basic techniques of playing and teaching the violin, viola, 'cello, and string bass. Includes a survey of pedagogical materials and basic performance literature.

MUSI 3252 Foundations of Music Programs  
2 Semester Credit Hours (2 Lecture Hours)  
A survey of the historical, social, and philosophical bases of music education in the United States, psychological theories of learning and musical responsiveness, and studies of how these foundations have been applied in various types of music curricula.  
Prerequisite: MUSI 2311 and 2116.

MUSI 3253 Basic Conducting  
2 Semester Credit Hours (2 Lecture Hours)  
A skills acquisition course designed to give students competence in basic baton techniques and musical control of an ensemble. Includes score study and musical terminology.  
Prerequisite: MUSI 2311 and 2116.

MUSI 3310 History of Jazz  
3 Semester Credit Hours (3 Lecture Hours)  
A study of jazz styles, influences, trends, innovators, and literature. Readings include interviews and articles that discuss origins of jazz, definitions of jazz, and race politics of jazz. No previous experience is necessary.

MUSI 3334 Music Cultures of the World  
3 Semester Credit Hours (3 Lecture Hours)  
The course introduces the student to ethnomusicology and the cross-cultural study of music and society. It emphasizes the role of music in human life, and explores music and performance from around the world. The student will learn about classical, folk and popular styles found on all seven continents. This course is appropriate for any student of any musical background.

MUSI 3345 Composition  
1-3 Semester Credit Hours  
Creative writing with a view toward developing an individual style of musical composition. Variable credit, 1, 2, or 3 hrs. One private lesson per week.  
Prerequisite: MUSI 2312 and 2117.

MUSI 3346 Form and Analysis of Tonal Music  
3 Semester Credit Hours (3 Lecture Hours)  
Analysis of the melodic and harmonic design of tonal music, including the aural and visual analysis of scores for piano, voice, chamber ensembles, and orchestra.  
Prerequisite: MUSI 2312 and 2117.

MUSI 3354 Advanced Conducting  
3 Semester Credit Hours (3 Lecture Hours)  
A continuation of MUSI 3252. Advanced experiences with score preparation and effective ensemble rehearsal and management techniques.  
Prerequisite: MUSI 3252.

MUSI 3370 Class Voice  
3 Semester Credit Hours (3 Lecture Hours)  
Group instruction and practical experience in the fundamentals of voice production, music reading, and song interpretation. Dramatic stage movement and singing will be explored using Classical and Broadway song literature. This course is designed for the non-major. No previous experience is necessary.

MUSI 4085 Senior Recital  
0 Semester Credit Hours  
Required for all students presenting a Senior Recital in partial fulfillment of the requirements for any music degree. Specific policies governing the presentation and evaluation of such recitals are given in the document, Preparing and Presenting Degree Recitals, available from the Music Program Coordinator.

MUSI 4334 History of Western Music I  
3 Semester Credit Hours (3 Lecture Hours)  
An in-depth study of the evolution of Western musical style from antiquity through the 18th-century.  
Prerequisite: MUSI 1307, 2312 and 2117.

MUSI 4335 History of Western Music II  
3 Semester Credit Hours (3 Lecture Hours)  
Continuation of MUSI 4334, an in-depth study of the evolution of Western musical style from the age of Beethoven to the present.  
Prerequisite: MUSI 4334.

MUSI 4340 Studies in Repertoire  
3 Semester Credit Hours  
Systematic examination of the history and literature of a specific performance medium.

MUSI 4346 Orchestration and Arranging  
3 Semester Credit Hours (3 Lecture Hours)  
The compass, timbre, and techniques of arranging and/or orchestration for instruments and/or voices. Practical experience in arranging for orchestra, band, and other instrumental and vocal combinations.  
Prerequisite: MUSI 2312 and 2117.

MUSI 4355 Music for Young Children  
3 Semester Credit Hours (3 Lecture Hours)  
Study of musical development in children in grades K-6. Study of and practical experience with pedagogical approaches and materials appropriate for that age group.  
Prerequisite: MUSI 3252.

MUSI 4357 Choral Literature and Techniques  
3 Semester Credit Hours (3 Lecture Hours)  
Advanced study of the literature, pedagogy, and management techniques required for successful vocal ensembles in secondary schools.  
Prerequisite: MUSI 3253.
MUSI 4358 Instrumental Literature and Techniques
3 Semester Credit Hours (3 Lecture Hours)
Advanced study of the literature, pedagogy, and management techniques required for successful instrumental ensembles in secondary schools. Includes a segment pertaining to the development of marching band shows.
Prerequisite: MUSI 3253.

MUSI 4360 STUDIES IN PEDAGOGY
3 Semester Credit Hours
Methods, materials and psychology of presenting musical materials to students at various ages. Evaluation of teaching materials and techniques. Classes are organized by specific performance areas.

MUSI 4385 Senior Capstone
3 Semester Credit Hours
The Senior Capstone is intended to provide students seeking the Bachelor of Arts in Music with an opportunity to demonstrate their musical scholarship through scholarly analysis and writing within a field of music of their choosing. May include a performance component, as in a lecture recital, but musical performance may comprise no more than 40% of the capstone project.

MUSI 4390 Topics in Music
1-3 Semester Credit Hours (1-3 Lecture Hours)
May be repeated for credit when topics vary.

MUSI 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

MUSI 4398 Applied Experience
3 Semester Credit Hours
See College description.

Music Ensemble (MUEN)

MUEN 1122 Concert Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1123 Symphonic Winds
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1124 Concert Orchestra
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1127 Pep Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1128 Stage Band
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1131 Piano Accompanying
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1132 Classical Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 1133 Percussion Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1135 Brass Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1136 Wind Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1137 Clarinet/Sax Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1138 Jazz Guitar Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1139 Flute Ensemble
1 Semester Credit Hour (1 Lecture Hour, 1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1140 String Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1141 Chorale
1 Semester Credit Hour (1 Lecture Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1142 University Singers
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 1143 Chamber Choir
1 Semester Credit Hour (1 Lecture Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.
MUEN 1157 Opera Workshop  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the teaching semester.

MUEN 1159 Mariachi Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
This course is designed to assist the student in developing an increased proficiency in the art of Mariachi Performance. In accomplishing this goal, this course will allow each student to develop: 1.) performance skills on the instruments of the mariachi (including violin, trumpet, guitar, guitarron, vihuela, and harp), and 2.) knowledge of the repertoire and history of mariachi literature. Performance of an instrument in the mariachi also requires singing when the repertoire calls for it. The objective is to study the literature of Mexican Folk music; to engage in the technical study of mastering performance on the instruments of the mariachi; to represent TAMUCC in the immediate and global community through musical excellence.

MUEN 3122 Concert Band  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the teaching semester.

MUEN 3123 Symphonic Winds  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the teaching semester.

MUEN 3124 Concert Orchestra  
1 Semester Credit Hour (35 Lab Hours)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the teaching semester.

MUEN 3127 Pep Band  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the teaching semester.

MUEN 3128 Stage Band  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the teaching semester.

MUEN 3132 Classical Guitar Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the teaching semester.

MUEN 3133 Percussion Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the teaching semester.

MUEN 3135 Brass Ensemble  
1 Semester Credit Hour (1 Lab Hour)  
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the teaching semester.
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3140 String Ensemble
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3143 Chorale
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3151 University Singers
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3153 Chamber Choir
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3157 Opera Workshop
1 Semester Credit Hour (1 Lab Hour)
Membership in music ensembles is open to all University students. Ensembles meet for periods of rehearsal ranging from two to five hours each week. All ensemble courses carry one semester hour of credit, and all may be repeated for credit. Some degree programs limit the amount of such credit that may be applied to the degree. In some instances, an audition with the ensemble director may be required for admission to the course. Every full-time music major must enroll, participate, and receive a passing grade in a major ensemble every semester except the student teaching semester.

MUEN 3159 Mariachi Ensemble
1 Semester Credit Hour (15 Lab Hours)
This course is designed to assist the student in developing an increased proficiency in the art of Mariachi Performance. In accomplishing this goal, this course will allow each student to develop: 1) performance skills on the instruments of the mariachi (including violin, trumpet, guitar, guitarron, vihuela, and harp), and 2) knowledge of the repertoire and history of mariachi literature. Performance of an instrument in the mariachi also requires singing when the repertoire calls for it. The objective is to study the literature of Mexican Folk music; to engage in the technical study of mastering performance on the instruments of the mariachi; to represent TAMUCC in the immediate and global community through musical excellence.

Music Industry (MIND)

MIND 3311 Applications of Music Technology
3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course will focus on hands-on learning in a workshop environment. Students will gain perspective on the people, procedures, data, software and hardware associated with the creation of music. Topics discussed include: computer proficiency, MIDI, computer based music notation, sequencing software, music evaluation, music and the Internet, and current trends in music technology.

MIND 3312 Recording Techniques I
3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course is an examination of the art of audio recording. The curriculum will cover signal flow of the mixing console as it applies to both recording and sound reinforcement; microphones and techniques of application; use of sonic effects; recording devices (Digital, and Hard Disk); synchronization formats; etc.
MIND 3313 Recording Techniques II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of MIND 3312 Recording Techniques. The curriculum will cover advanced topics regarding digital console technology, power and ground related issues, studio acoustics and design, digital audio technology, multimedia and web applications, amplifiers, noise reduction, monitoring, surround sound, and mastering procedures.

MIND 3314 Live Sound Engineering
3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, an overview of the basic principles of sound and reinforcement and how audio can be manipulated utilizing current live sound technology. Topics will include signal flow, microphone selection and placement, signal processing, and mixing.

MIND 3315 Musical Acoustics
3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, an overview of acoustics with emphasis in the areas of scientific knowledge that are relevant to music: the physiological properties of sounds; the effect of acoustical environment; the acoustical behavior of musical instruments; and the various applications of electronics and computers to the production, reproduction, and composition of music.

MIND 3316 Introduction to MIDI Sound Synthesis and Control
3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course introduces students to the Musical Instrument Digital Interface (MIDI) sequencing using computer software and keyboard synthesizers. Students learn concepts, basic theory and techniques, and the application of MIDI techniques to the production of music. Hands-on projects are completed using MIDI keyboard synthesizers and sequencer software.

MIND 3320 Music Business Survey
3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course is an overview of the practices and procedures of the music industry, including such topics as career possibilities, publishing, labels, marketing, and copyrights. It also includes an overview of career options that involve performer, composer, record producer and engineer, artist manager, booking agent, concert promoter, sales, marketing, and entertainment attorney.

MIND 3321 Music Business II
3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, this course is an in-depth examination of the practices and procedures of the music industry that pertain to accounting, taxes, copyright, licensing, marketing and contracts. The primary objective of this course is to develop a working knowledge of the music industry and to remain in compliance with the U.S. legal system.

MIND 3322 Entertainment Law and the Music Industry
3 Semester Credit Hours (3 Lecture Hours)
Designed for both music majors and non-majors, an overview of the legal practices and ramifications of United States law and its influence on the music industry. Topics will include intellectual property, business structures, contracts, distribution regulations, and copyrights. Legal practices for entertainment mediums will include television, film, live stage performances, recording, and publishing.

MIND 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description. Offered on application.

MIND 4398 Applied Experience
3 Semester Credit Hours
See College description. Offered on application.

Nursing (NURS)

NURS 0015 Nursing Lab Safety Seminar
0 Semester Credit Hours
Co-requisite: NURS 3435, NURS 3614.

NURS 3150 Professional Nursing Issues I
1 Semester Credit Hour (1 Lecture Hour)
Concentrates on legal and ethical issues affecting the nurse as an individual and a professional, and health care delivery to clients, groups and aggregates. Consideration is given to self-discovery, personal assertiveness, role conflict, negotiation and collective bargaining. Students are encouraged to apply critical thinking strategies during classroom discussions and presentations.
Prerequisite: NURS 3318, 3342, 3435 and 3614.

NURS 3318 Nurse as therapeutic Communicator
3 Semester Credit Hours (3 Lecture Hours)
Emphasis is on caring communication as an essential dimension of professional nursing. Theories are presented to explain the dynamic relationship between human behavior, health, and illness, and the impact of interpersonal relationship skills to effect positive changes in individuals and their families. Nurse communication in the role of educator will be introduced as part of the teaching/learning course content.

NURS 3342 Use of Pharmacology Principles
3 Semester Credit Hours (3 Lecture Hours)
Focuses on the basic drug classifications, concepts and principles of pharmacology, with special consideration for the nursing role in developing a comprehensive approach to the clinical application of drug therapy through the use of the nursing process. Nursing implications relative to the utilization of drug therapy are examined. Dosage calculations are evaluated for competency. (Is a pre-requisite for admission into the nursing program.)
Prerequisite: BIOL 2401 and 2402.

NURS 3435 Health Assessment
4 Semester Credit Hours (4 Lecture Hours)
Focuses on health assessment skills and application of the nursing process in selected pathophysiological disorders through analysis and synthesis of information obtained from subjective and objective data collection methodologies. Specific frameworks are utilized for data categorization and processing. The data are used to make judgments about health status or determine care needs for a given individual. Students are assigned to a weekly two-hour lab to practice under supervision and demonstrate health assessment skills.

NURS 3548 Nursing Care of Children and their Families
5 Semester Credit Hours (5 Lecture Hours)
Applying a family-centered approach, this course focuses on health promotion, acute and chronic health conditions, and rehabilitative needs of children. Emphasis is placed on developmental, physiological, psycho-social, cultural, and spiritual care of the child within the family unit. Using the nursing process, strategies are formulated for promoting and maintaining optimal functioning of the child-family unit and for enhancing the strengths of the family unit. Clinical activities emphasize the application of theory to practice in a variety of acute care settings.
Prerequisite: NURS 3318, 3342, 3435 and 3614.
NURS 3550  Nursing Care of Parents/newborns
5 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
A study of the theoretical and empirical basis for nursing care of childbearing families using both nursing and developmental theories. Biopsychosocial factors such as legal/ethical and cultural considerations related to pregnancy, birth and newborn periods are included. A historical overview of obstetrical advances and parent-child nursing will be presented. Practice in providing nursing care to families during each phase of the childbearing cycle will occur in selected local hospitals and clinics. The nursing process is used with emphasis on the theoretical and empirical basis of practice.
Prerequisite: NURS 3318, 3614, 3342 and 3435.

NURS 3614  Fundamentals of Nursing Care
6 Semester Credit Hours (6 Lecture Hours)
is developed for the incoming nursing student and introduces them to nursing practice and philosophies that underpin clinical practice. Fundamental nursing skills are an integral part of the nursing experience and include, but are not limited to, patient safety; with a focus on techniques related to environmental concerns, positioning and transporting, asepsis and sterile technique, medication administration, and selected invasive therapies. The critical thinking process, art of caring, and nursing theories upon which clinical practice is based will be integrated throughout the course to provide and manage safe, holistic care practices. The campus laboratory and clinical settings will afford practical experiences that include simulation and direct patient care interventions. These experiences facilitate learner application and integration of the principles and skills taught in the theory portion of this class. Students are expected to demonstrate beginning competency in application of the nursing process.
Prerequisite: NURS 4322.
Co-requisite: NURS 3318, NURS 3435.

NURS 3628  Nursing Care of Adults I
6 Semester Credit Hours (3 Lecture Hours, 9 Lab Hours)
Introduces the student to the use of the nursing process in the care of adults with chronic or non-complex illness. Uses a systems approach to discuss the effects of illness on individual and family, and to examine the disruption of growth and development patterns across the lifespan from young adult to senior years. The course includes clinical laboratory to allow the student the opportunity to apply theoretical concepts to clinical practice in diverse adult populations.
Prerequisite: NURS 3318, 3435, 3614 and 3342.

NURS 4150  Professional Nursing Issues II
1 Semester Credit Hour (1 Lecture Hour)
Concentrates on economic and political issues affecting the nurse as an individual and a professional, and health care delivery to clients, groups and aggregates. Consideration is given to self-discovery, personal assertiveness, role conflict, negotiation and collective bargaining. Students are encouraged to apply critical thinking strategies during classroom discussions and presentations.
Prerequisite: NURS 3628, 4564, 3548 and 3550.

NURS 4155  Professional Nursing Planning and Licensure Preparation
1 Semester Credit Hour (1 Lecture Hour)
The course emphasizes reflection, integration, and synthesis of curricular concepts. Students engage in comprehensive review of major nursing content for licensure, preparation for entry into practice, and plans for lifelong learning.

NURS 4172  Biobehavioral Nursing Interventions II: Population Health and Chronic Health Issues Across the Life
1 Semester Credit Hour
Through psychomotor skill development and simulation this course advances health assessment, psychosocial, psychomotor, critical thinking, and therapeutic communication skills essential to caring for the childbearing family as well as infants, children, and adolescents with chronic/unique conditions across health care settings with an emphasis on primary care.

NURS 4173  Biobehavioral Nursing Interventions III: Family and Child Health and Complex Health Issues Across the Lifespan
1 Semester Credit Hour
Through psychomotor skill development and simulation this course advances health assessment, psychosocial, psychomotor, critical thinking, and therapeutic communication skills essential to caring for individuals, families, and populations with acute and chronic conditions across health care settings with an emphasis on primary care.

NURS 4231  Pathophysiology/Pharmacology I
2 Semester Credit Hours
The course integrates anatomy, chemistry, microbiology, genetics/genomics, and psychoneuroimmunoendocrinology to explore physiologic and neurobehavioral alterations that occur in response to internal and external changes across the lifespan. Pharmacological concepts and interventions are explored as one strategy to promote health. Course content aligns with Biobehavioral Nursing Concepts II & III.

NURS 4232  Pathophysiology/Pharmacology II
2 Semester Credit Hours
The course integrates anatomy, chemistry, microbiology, genetics/genomics, and psychoneuroimmunoendocrinology to explore physiologic and neurobehavioral alterations that occur in response to internal and external changes across the lifespan. Pharmacological concepts and interventions are explored as one strategy to promote health. Course content aligns with Biobehavioral Nursing Concepts II & III.

NURS 4233  Pathophysiology/Pharmacology III
2 Semester Credit Hours
The course integrates anatomy, chemistry, microbiology, genetics/genomics, and psychoneuroimmunoendocrinology to explore physiologic and neurobehavioral alterations that occur in response to internal and external changes across the lifespan. Pharmacological concepts and interventions are explored as one strategy to promote health. Course content aligns with Biobehavioral Nursing Concepts III & IV.

NURS 4234  Pathophysiology/Pharmacology IV
2 Semester Credit Hours
The course integrates anatomy, chemistry, microbiology, genetics/genomics, and psychoneuroimmunoendocrinology to explore physiologic and neurobehavioral alterations that occur in response to internal and external changes across the lifespan. Pharmacological concepts and interventions are explored as one strategy to promote health. Course content aligns with Biobehavioral Nursing Concepts III & IV.
NURS 4250 Professional Nursing Issues
2 Semester Credit Hours (2 Lecture Hours)
Concentrates on legal, ethical, economic and political issues affecting
the nurse as an individual and a professional, and health care delivery
to clients, groups and aggregates. Consideration is given to self-
discovery, personal assertiveness, role conflict, negotiation and collective
bargaining. Students are encouraged to apply critical thinking strategies
during classroom discussions and presentations.

NURS 4251 Professional Nursing Issues I
2 Semester Credit Hours
The first of four courses co-taught with an Art Professor, introduces
and enhances student aesthetic knowing and expression. Students
consider aspects of personal, ethical, empirical and aesthetic knowing
as foundational to providing optimal healthcare across the lifespan.
Foci include skills supporting expressions of aesthetics that highlight
contemporary nursing issues such as ethical care, national health
priorities, professional practice, and models of care.

NURS 4252 Professional Nursing Issues II
2 Semester Credit Hours
The second of four courses co-taught with a Health Care Practitioner, explores
the integration of aesthetic knowing and expression within contemporary
professional nursing. Students examine advocacy for patients, families
and populations within 21st century healthcare while reflecting on
topics such as self-care, work-life balance, healthy work environments,
allostasis, and effective communication.

NURS 4254 Professional Nursing Issues IV
2 Semester Credit Hours
The final aesthetic knowing and expression course co-taught with an Art
Professor considers allostasis in the creation of healing environments
in dynamic sociopolitical, cultural, economic and technologic arenas.
Students will be challenged to think about effective, efficient and
entrepreneurial care consistent with the "Quadruple Aim".

NURS 4260 Wellness and Health Promotion Across the Lifespan
2 Semester Credit Hours
Introduction of core knowledge, concepts, and values fundamental
to health promotion and nursing across the lifespan with diverse
populations. Students explore the social determinants of health, levels of
prevention, cultural competence, care management, identity formation,
health outcomes and leadership using an integrated framework of health
care delivery.

NURS 4281 Biobehavioral Care of Chronic Conditions Clinical
2 Semester Credit Hours (90 Lab Hours)
Students design and provide holistic, evidence-based nursing care to
individuals with chronic conditions across the lifespan and health care
settings using an integrated framework of health care delivery with an
emphasis on primary care settings. Students collaborate with members of
the health care team to plan, implement and evaluate care provided to
individuals and populations with chronic conditions.

NURS 4282 Biobehavioral Health of Complex Conditions Clinical
2 Semester Credit Hours (90 Lab Hours)
Students design and provide comprehensive holistic, evidence-based
nursing care to individuals with complex health problems across the
lifespan and health care settings using an integrated framework of health
care delivery with an emphasis on primary care. Students collaborate
with members of the health care team to plan, implement and evaluate
the care provided to individuals with complex health problems.

NURS 4283 Biobehavioral Health of the Family and Child Clinical
2 Semester Credit Hours (90 Lab Hours)
Students design and provide holistic, evidence-based nursing care to
the childbearing family as well as infants, children, and adolescents
with chronic/unique conditions across health care settings using
an integrated framework of health care delivery with an emphasis
on primary care. Normal and deviations from normal pregnancy are
explored in relation to labor, delivery, and post-partum care, care of the
neonate, and assisting families with transitions to parenthood. Students
collaborate with members of the health care team to plan, implement
and evaluate care provided to the childbearing family, infants, children, and
adolescents.

NURS 4284 Biobehavioral Population Health Clinical
2 Semester Credit Hours (90 Lab Hours)
Students design and provide holistic, evidence-based health promotion,
risk reduction, and disease management in selected community
settings using an integrated framework of health care delivery. Students
collaborate with members of the health care team to plan, implement
and evaluate care to promote health, reduce risk and manage care.

NURS 4318 Nurse as Research Consumer
3 Semester Credit Hours (3 Lecture Hours)
Study of theory and research as a base for nursing practice. Critically
analyzes published research studies with regard to implications for
clinical practice. The course is planned for collaborative peer examination
of the research process through critique of nursing studies.
Prerequisite: MATH 1442 and 1342 or MATH 2342.

NURS 4320 Principles and Concepts of Patient Education - RN/BSN
3 Semester Credit Hours (3 Lecture Hours)
Provides opportunities for students to apply principles of teaching and
learning with clients, families and identified groups. Special emphasis
is placed on patient teaching within a rapidly changing health care
environment. Students will examine learning readiness and intervene
with groups and families from diverse backgrounds and educational
preparation.

NURS 4322 Health Alterations
3 Semester Credit Hours (3 Lecture Hours)
Relates manifestations of disease, risk factors for disease, and the
principles of pathlogy underlying illness and injury to therapeutic
nursing interventions and outcomes. (Is a prerequisite for admission into
the nursing program.)
Prerequisite: BIOL 2401 and 3401.

NURS 4324 Nurse as Caregiver - RN/BSN
3 Semester Credit Hours (3 Lecture Hours)
Emphasis is on socialization into professional nursing. Theories are
presented to explain the relationship between human behavior, health
and illness and the impact of interpersonal relationship skills to effect
positive changes in individuals. Application of caring theories as a basis
for decision-making in nursing practice with clients and families is the
focus of clinical activities.

NURS 4353 Professional Nursing Issues III
3 Semester Credit Hours
In the third of four aesthetic enriched courses, co-taught with an Art
Professor, students gain aesthetic expression and knowledge related to
interdisciplinary teamwork, team science collaboration, and innovative
partnerships to advance solutions that address global, national, regional
and local health challenges.
NURS 4361 Biobehavioral Nursing Concepts I: Health Assessment and Foundations of Nursing Across the Lifespan
3 Semester Credit Hours
Health Assessment and Foundations of Nursing Across the Lifespan (3 SCH): This course introduces students to concepts, behaviors, principles, and theories that provide the foundation for nursing practice. Student recognition of normal and abnormal health patterns using an integrated framework of health care delivery is emphasized.

NURS 4362 Biobehavioral Nursing Concepts II: Population Health and Chronic Health Issues Across the Lifespan
3 Semester Credit Hours
Population Health and Chronic Health Issues Across the Lifespan (3 SCH): Students integrate nursing and public health science to promote, protect, maintain and restore the health of populations using an integrated framework of health care delivery. Evidence-based interventions which are implemented with individuals/families, communities, and systems are explored, as are the unique health needs of vulnerable populations and measures to eliminate health disparities in a multicultural and global environment.

NURS 4363 Biobehavioral Nursing Concepts III: Family and Child Health and Complex Health Issues Across the Lifespan
3 Semester Credit Hours
Students learn about nursing care for the childbearing family and the importance of developmentally-appropriate family-centered nursing care for infants, children, and adolescents with acute and chronic health issues using an integrated framework of health care delivery.

NURS 4364 Synthesis of Nursing Knowledge, Evidence and Practice
3 Semester Credit Hours (3 Lecture Hours)
In this course, students focus on implementing and evaluating an evidence-based practice project in conjunction with a clinical partner within primary care using an integrated framework of health care delivery. Students collaborate with leaders in practice settings to address a challenge using quality improvement initiatives.

NURS 4365 Care of the Individual within a Family - RN/BSN
3 Semester Credit Hours (2 Lecture Hours, 3 Lab Hours)
Utilizes a health patterns framework with systematic nursing inquiry to examine the impact of illness on families. In addition, primary, secondary, and tertiary prevention activities are emphasized as they relate to individuals, families, and aggregates. Data from individual and family assessment is used to judge and design interventions and evaluate client(s) outcomes.

NURS 4370 Nurse Coordinating Care
3 Semester Credit Hours (2 Lecture Hours, 1 Lab Hour)
This class provides a theoretical and experiential approach to identifying the coordinating role of the professional nurse within health care and its delivery. Current theories of management, leadership, and change are examined and related to nursing practice. Critical thinking is required in case analysis and student assessments of their own thinking, ideas and use of intellect.

NURS 4371 Biobehavioral Nursing Interventions I: Health Assessment and Foundations of Nursing Across the Life
3 Semester Credit Hours
Health Assessment and Foundations of Nursing Across the Lifespan (3 SCH): This course focuses on developing health assessment, psychosocial, psychomotor, critical thinking, and therapeutic communication skills that are essential for nursing practice across the lifespan as well as the health and illness continuum.

NURS 4380 Nursing Honors
3 Semester Credit Hours
Provides superior nursing students who have demonstrated ability to function independently an opportunity to design and implement a creative learning experience in an area of interest.

NURS 4390 Dimensions in Nursing
3 Semester Credit Hours (3 Lecture Hours)
Focuses on literature study and in-depth knowledge of selected topics relevant to the nurse as a professional provider of care or coordinator of care. Variable content is directed by faculty specialties.

NURS 4470 Professional Transitions
4 Semester Credit Hours (2 Lecture Hours, 6 Lab Hours)
This capstone course focuses on the role of the developing professional nurse's ability to use evidence-based practice and quality standards to deliver safe holistic care to culturally diverse and complex clients and families. Emphasis is on the transition of the student nurse into a professional role which includes the ability to apply concepts related to leadership, interprofessional teamwork, informatics, and patient-centered care. Strategies for successful completion of the graduate licensure exam will be included.

NURS 4471 Leadership/management - RN/BSN
4 Semester Credit Hours (4 Lecture Hours)
Uses a systems framework and critical thinking strategies to study the coordinating role of the professional nurse within health care delivery. Current theories of management, leadership and change are examined and related to nursing practice. Focuses on synthesis of this knowledge to develop innovative and creative approaches to nursing practice. Applies theoretical and empirical concepts through experiences gained in local health care institutions.
Prerequisite: NURS 4318 and 4324.

NURS 4560 Nursing Care of Community - RN/BSN
5 Semester Credit Hours (3 Lecture Hours, 6 Lab Hours)
Explores community health nursing, focusing on historical development, philosophy, health care systems, epidemiology, and individuals, families, and specific aggregate groups. Applies theoretical and empirical knowledge in using the nursing process in community settings to promote, maintain and restore health. Focuses on transcultural nursing concepts, rural and home health care delivery. Progressively more independent behaviors are expected of students in community health practice. Diverse roles of the community and public health nurse are examined and a community assessment is completed using research and data processing skills.
Prerequisite: NURS 4318 and 4324.

NURS 4564 Nursing Care of Psychiatric Clients
5 Semester Credit Hours (5 Lecture Hours)
Focus is on the nurse as a provider of care to individuals, families and groups experiencing psychiatric-mental health problems. Theoretical foundations for the practice of psychiatric-mental health nursing will be studied. Application of nursing process to promote, maintain or restore mental health of individuals, families and groups. During the clinical experience, students will demonstrate theory-based practice and collaboration with interdisciplinary team participants.
Prerequisite: NURS 3550 and 3628.
NURS 4586 Interprofessional Collaborative Practice Clinical
5 Semester Credit Hours (5 Lecture Hours)
Students design and provide comprehensive holistic, evidence-based nursing care to individuals, families, and populations with acute, chronic, complex conditions across the lifespan and health care settings with an emphasis on the role of the registered nurse in primary care settings using an integrated framework of health care delivery.

NURS 4628 Nursing Care of Adults II
6 Semester Credit Hours (6 Lecture Hours)
Prerequisite: OPSY 4314.
This course focuses on the senior student critical thinking and problem-solving strategies for care of adults with acute or complex illness and/or injury. The effects of acute illness are examined in relation to the individual’s developmental stage, culture, and gender. Building on Nursing Care of Adults I, a systems approach is used to analyze and intervene in alterations to the health of the individual and family. The course includes clinical laboratory to allow the student the opportunity to integrate theoretical concepts and clinical practice in diverse populations.

NURS 4660 Nursing Care of Community Health Clients
6 Semester Credit Hours (6 Lecture Hours)
Prerequisites: NURS 3550, 3548 and 3628.
Explores Community Health Nursing, focusing on historical development, philosophy, health care systems, epidemiology, and specific target groups. Primary, secondary and tertiary prevention activities are emphasized as they relate to individuals, families, and aggregates. Applies theoretical and empirical knowledge in using the nursing process in community settings to promote, maintain and restore health. Focuses on transcultural nursing concepts, rural and home health care delivery. Progressively more independent behaviors are expected of students in community health practice. Diverse roles of the community and public health nurse are examined and a community assessment is completed using research and data processing skills.

Operations Management (OPSY)

OPSY 4314 Operations Management
3 Semester Credit Hours (3 Lecture Hours)
The design, operation, and control of the transformation process in both service and production operations. Includes analysis and application of various decisions regarding site selection, process and facilities design, capacity planning, scheduling techniques, materials management, and cost and quality control.
Prerequisite: (ECON 2301, 2302 and ORMS 3310). May be taken concurrently.

OPSY 4345 Materials Management and Purchasing
3 Semester Credit Hours (3 Lecture Hours)
Management of ordering, storage and distribution of the materials and services purchased by the organization. Emphasis on skill and knowledge required in the practice of purchasing, inventory management and cost reduction in materials.
Prerequisite: OPSY 4314.

OPSY 4390 Current Topics in Operations Management
1-3 Semester Credit Hours (1-3 Lecture Hours)
Selected topics for special study related to operational functions, processes, or issues. May be repeated for credit when topics vary.

OPSY 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
Individual supervised study and a final report.

Operations Research/Mgmt Scien (ORMS)

ORMS 3310 Data Analysis and Statistics
3 Semester Credit Hours (3 Lecture Hours)
A study of descriptive statistics, probability distributions, the normal distribution, confidence intervals and hypothesis testing, regression analysis and chi-square.
Prerequisite: MATH 1314 and MISY 2305.

Philosophy (PHIL)

PHIL 1301 Introduction to Philosophy
3 Semester Credit Hours (3 Lecture Hours)
An examination of major philosophical issues such as the existence of God, freedom and determinism, moral rights and obligations, and the nature and limits of human knowledge.

PHIL 2303 Introduction to Logic and Critical Thinking
3 Semester Credit Hours (3 Lecture Hours)
Basic principles and techniques used in understanding, constructing, and evaluating arguments. Topics covered may include formal methods of analyzing arguments, informal fallacies, scientific reasoning, and moral arguments.

PHIL 2306 Introduction to Ethics
3 Semester Credit Hours
This course includes a study of ethical theories and principles, and application of those theories and principles to ethical issues.

PHIL 3301 History of Eastern Philosophy I
3 Semester Credit Hours (3 Lecture Hours)
An historical and critical examination of some of the philosophical and religious systems developed in China, Tibet, and Japan (such as various versions of Hinduism, Jainism, and Buddhism) and their relevance for contemporary people and societies.

PHIL 3306 History of Eastern Philosophy II
3 Semester Credit Hours (3 Lecture Hours)
An historical and critical examination of some of the philosophical and religious systems developed in China, Tibet, and Japan (such as various schools of Mahayana Buddhism, Taoism, Confucianism, and Zen Buddhism).

PHIL 3327 American Philosophy
3 Semester Credit Hours (3 Lecture Hours)
An introduction to American philosophy and the influential movement known as Pragmatism. The course focuses on the works of C.S. Peirce, William James, John Dewey, and George Santayana. Issues addressed include skepticism, the rejection of foundationalism, the role of belief in inquiry, verification and meaning, and the nature of truth.

PHIL 3342 Philosophy of Love and Sex
3 Semester Credit Hours (3 Lecture Hours)
This course is a study of the ethics of human relationships. Topics include friendship, romance, marriage, sexual orientation, adultery, promiscuity, sexual consent, sexual harassment, rape, pornography, and prostitution.
PHIL 3343 Philosophy of Law
3 Semester Credit Hours (3 Lecture Hours)
An introduction to philosophical issues concerning the law, such as the nature of law, relations between law and morality, theories of legal responsibility, and the role of law in society.

PHIL 3344 Social and Political Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A survey of classical and contemporary material in social and political philosophy, covering topics such as individual liberty and government intervention, the role of government, and social justice.

PHIL 3345 The Meaning of Life
3 Semester Credit Hours (3 Lecture Hours)
An exploration of a variety of views concerning the meaning of life. Three kinds of responses to the question of life's meaning will be examined: theistic responses; non-theistic responses focusing on the creation of personal meaning within a natural universe; and responses that challenge the intelligibility of the question regarding the meaning of life.

PHIL 3346 Elementary Formal Logic
3 Semester Credit Hours (3 Lecture Hours)
A course on technical methods and foundational issues in Philosophy, Computer Science, and Mathematics. Topics include the Propositional Calculus, First-Order Predicate Calculus, meta-theoretic results (such as consistency, soundness, completeness, and decidability), and Zermelo-Fraenkel Set Theory.

PHIL 3347 Philosophy and Science Fiction
3 Semester Credit Hours (3 Lecture Hours)
An exploration of issues in contemporary philosophy such as the nature of life, personhood and self, knowledge and skepticism, time travel, and obligations to the non-human world. The course combines the reading of purely philosophical works with an examination of contemporary works of science fiction (including novels, short stories, and films).

PHIL 3348 Ethics, War, and Terrorism
3 Semester Credit Hours (3 Lecture Hours)
Why is it wrong to kill? Is killing an innocent person ever justified? Under what conditions can we justify war? How should we respond to terrorist threats? The course explores ethical theories in application to these and similar issues.

PHIL 4303 Minds and Machines
3 Semester Credit Hours (3 Lecture Hours)
A study of the relationship of the mental to the physical as it pertains to the foundations of psychology, artificial intelligence, and robotics.

PHIL 4304 Metaphysics
3 Semester Credit Hours (3 Lecture Hours)
An examination of issues in contemporary metaphysics, such as freedom of the will and determinism, the nature of causation, the mind-body problem, and the existence of abstract and concrete entities.

PHIL 4305 Truth, Knowledge, and Justification
3 Semester Credit Hours (3 Lecture Hours)
In this course, we will discuss the following questions among others: What is the nature of truth? Should truth be understood as correspondence with reality? What is it to know something? Is knowledge of the external world possible at all? Can I conclusively rule out the possibility that I might be dreaming right now, or that I might be just a brain in a vat? Are there any privileged beliefs that can be said to constitute the foundation for all of our knowledge? Are the standards for rationality and justification absolute or rather relative to cultural norms? Can there be rational disagreement between equally intelligent people who share the same body of evidence?

PHIL 4321 Ancient Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A survey of the ancient Western philosophical tradition, including the Presocratics, Plato, Aristotle, and the Hellenistic Philosophers.

PHIL 4322 Modern Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A study of some of the major philosophical developments of the 17th-20th centuries, focusing on topics such as the relation between mind and body, religious belief and the problem of evil, rationalism and empiricism, and the limits of human knowledge.

PHIL 4323 Contemporary Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A course on important trends in contemporary philosophy beginning with the Fregean linguistic turn, and examining the major works of philosophers such as Frege, Russell, Wittgenstein, Quine, Davidson, Dummett, Putnam, Kripke, and Lewis.

PHIL 4330 Philosophy and History of Science and Technology
3 Semester Credit Hours (3 Lecture Hours)
An exploration of important issues concerning the natural and formal sciences from the standpoint of historical disputes and technological advances. Issues include the nature of science and of scientific progress, the justification of scientific theories, the possibility of objective knowledge of the world, the distinction between science and pseudo-science, and the relationship between faith and science.

PHIL 4331 Issues in Philosophy of Religion
3 Semester Credit Hours (3 Lecture Hours)
Standard philosophical methods will be used to explore issues such as the existence and nature of God, the problem of evil, and the relationship between morality and religion.

PHIL 4332 Moral Issues in Contemporary Medicine
3 Semester Credit Hours (3 Lecture Hours)
An examination of moral issues that arise in medicine, focusing on topics such as euthanasia, genetic interventions, medical research involving vulnerable subjects, and the distribution of medical resources.

PHIL 4333 Environmental Ethics
3 Semester Credit Hours (3 Lecture Hours)
An examination of our ethical obligations with respect to animals, plants, and environmental systems, and of the foundations of environmental law and policy. Can be cross listed with ESCI 4490, BIOL 4590 or BIMS 4590.

PHIL 4335 Moral Philosophy
3 Semester Credit Hours (3 Lecture Hours)
A study of moral theories, and of moral issues such as whether morality is subjective, whether there are moral facts, and the justification of practices such as capital punishment and abortion.

PHIL 4336 Advanced Seminar in Philosophy
3 Semester Credit Hours (3 Lecture Hours)
In-depth exploration of philosophical topics, designed for philosophy majors, with emphasis on student research and presentations.

PHIL 4337 Philosophy of Language
3 Semester Credit Hours (3 Lecture Hours)
A philosophical investigation into the nature of language. Topics include meaning, truth, theories of mediated reference, theories of direct reference, and speech acts.
PHIL 4390  Topics in Philosophy
3 Semester Credit Hours (3 Lecture Hours)
Study of important philosophical themes and figures. May be repeated for credit when topics vary. Topics may include, for example, Minds and Machines, Eastern Philosophy, Ancient Philosophy, Environmental Ethics, American Philosophy, and Moral Issues in Contemporary Medicine.

PHIL 4396  Directed Individual Study
1-3 Semester Credit Hours
See College description.

Physics (PHYS)

PHYS 1303  Introduction to Astronomy: Stars and Galaxies
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
This is one of two courses in the introduction to astronomy sequence which emphasizes the nature of astronomical phenomena over the mathematical analysis of them. This course will focus mostly on the nature of light, the nature and evolution of stars, the material between the stars, the Milky Way Galaxy, external galaxies, and the structure and evolution of the universe as a whole.
Co-requisite: SMTE 0095.
TCCNS: PHYS 1303

PHYS 1304  Introduction to Astronomy: Solar System
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
This is one of two courses in the introduction to astronomy sequence which emphasizes the nature of astronomical phenomena over the mathematical analysis of them. This course introduces astronomical phenomena related to the Solar System such as apparent motion of the Sun, phases of the Moon and apparent and true motion of the planets. Main focus will be on the objects comprising the Solar System: planets, their moons, asteroids, comets and trans-Neptunian bodies. A portion of the course will be dedicated to the formation and development of the Solar System and other, extrasolar planetary systems. The course also will touch the aspects of human exploration of the Solar System and the role of technology in our learning and understanding of the Solar System. This includes the history and the basics of robotic and manned spaceflights. Offered every Spring and Summer.
Co-requisite: SMTE 0095.
TCCNS: PHYS 1304

PHYS 1401  General Physics I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to Newtonian physics. Topics include Aristotelian physics and its overthrow, Newton's laws of motion and gravitation, and the motion of particles, rigid bodies and fluids. The idea of the universe as a law-governed system will be developed. Laboratory activities provide introduction to empirical methods in science.
Prerequisite: (MATH 1314, 1316, 1324, 1325, 2312, 2413, 2414, 2415, minimum score of 21 in 'ACT1 Math', minimum score of 500 in 'SAT Math', minimum score of 21 in 'ACT Math', minimum score of 500 in 'SAT1 Mathematics' or minimum score of 615 in 'Local Placement Test').
Co-requisite: SMTE 0095.
TCCNS: PHYS 1401

PHYS 1402  General Physics II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Introduction to oscillatory and wave phenomena, electricity and magnetism. The classical theory of fields will be used to study electric and magnetic phenomena, including light, and their role in modern technology. Laboratory activities provide introduction to empirical methods in science.
Prerequisite: (PHYS 1401 or 2425).
*May be taken concurrently.
Co-requisite: SMTE 0095.
TCCNS: PHYS 1402

PHYS 2425  University Physics I
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
A calculus based introduction to Newtonian physics. Topics include Aristotelian physics and its overthrow, Newton's laws of motion and gravitation, and the motion of particles, rigid bodies, and fluids. The idea of the universe as a law-governed system will be developed. Laboratory activities provide introduction to empirical methods in science.
Prerequisite: MATH 2413.
Co-requisite: SMTE 0095.
TCCNS: PHYS 2425

PHYS 2426  University Physics II
4 Semester Credit Hours (3 Lecture Hours, 3 Lab Hours)
Calculus based introduction to oscillatory and wave phenomena, electricity and magnetism. The classical theory of fields will be used to study electric and magnetic phenomena, including light, and their role in modern technology.
Prerequisite: PHYS 2425 and MATH 2414.
Co-requisite: SMTE 0095.
TCCNS: PHYS 2426

PHYS 3331  Mechanics I
3 Semester Credit Hours (3 Lecture Hours)
Fundamentals of classical mechanics. Topics include particle dynamics in one, two and three dimensions: conservation laws; dynamics of a system of particles; motion of rigid bodies; central force problems; accelerating coordinate systems; Newton's theory of gravitation; Lagrange's and Hamilton's formulations of classical mechanics. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 3315 or 3315*).
*May be taken concurrently.

PHYS 3332  Electromagnetism
3 Semester Credit Hours (3 Lecture Hours)
Electrostatics; Laplace's equation; the theory of dielectrics; magnetostatic fields; electromagnetic induction; magnetic fields of currents; Maxwell's equations. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 3315* or 2415*).
*May be taken concurrently.

PHYS 3333  Thermodynamics
3 Semester Credit Hours (3 Lecture Hours)
Concept of temperature, equations of state; the first and the second law of thermodynamics; entropy; change of phase; the thermodynamics functions. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
Prerequisite: PHYS 2426 and (MATH 2415 or 2415*).
*May be taken concurrently.
PHYS 3334 Modern Physics I
3 Semester Credit Hours (3 Lecture Hours)
A course in special relativity and elementary quantum mechanics. Topics include relativistic description of space-time, relativistic energy and momentum, the uncertainty principle, Schrödinger’s equation, observables and operators, bound states, potential barriers, and the quantum description of the hydrogen atom. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
**Prerequisite:** PHYS 2426 and (MATH 3315 or 3315*).
* May be taken concurrently.

PHYS 3490 Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject materials will be chosen from Electromagnetic Field Theory, Thermodynamics, Mathematical Methods of Physics, Waves and Optics, Advanced Modern Physics, Quantum Theory, Computational Physics, Geophysics, Environmental Physics and Medical Physics. May be repeated for credit if topics selected are different. This course will be used for upper-level physics electives offered from other Texas Physics Consortium (TPC) schools. See their website (http://www.tarleton.edu/tpc/) for details.

PHYS 4161 Physics Research Project
1 Semester Credit Hour (1 Lecture Hour)
The first half of a two semester sequence. The student will work with a faculty member to develop and conduct a senior research project including a search of the relevant literature and presentation of the proposed research idea. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
**Prerequisite:** PHYS 3334.

PHYS 4162 Physics Research Seminar
1 Semester Credit Hour (1 Lecture Hour)
The second half of a two semester sequence. The student will work with a faculty member to conduct a senior research project including giving an oral presentation of the final results and writing up the results in a form suitable for publication. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
**Prerequisite:** PHYS 4161.

PHYS 4330 Mathematical Methods for Physicists
3 Semester Credit Hours (3 Lecture Hours)
Mathematical techniques from the following areas: infinite series; integral transforming; applications of complex variables; vectors, matrices, and tensors; special functions; partial differential equations; Green’s functions; perturbation theory; integral equations; calculus of variations; and groups and group representatives. This course offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
**Prerequisite:** (MATH 3315 or 3315*).
* May be taken concurrently.

PHYS 4335 Quantum Physics
3 Semester Credit Hours (3 Lecture Hours)
The Schroedinger equation; one dimensional systems; the Heisenberg uncertainty principle; magnetic moments and angular momentum; two and three dimensional systems; approximation methods; spin. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
**Prerequisite:** PHYS 3334 and (MATH 3315* or 2415*).
* May be taken concurrently.

PHYS 4337 Nuclear Physics
3 Semester Credit Hours (3 Lecture Hours)
The study of nuclear phenomena and properties including mass, stability, magnetic moment, radioactive decay processes and angular momentum. The use of nuclear techniques as applied to other scientific fields including electronics and medicine. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
**Prerequisite:** PHYS 3334 and (PHYS 4335* or 4335) and (MATH 3315* or 2415*).
* May be taken concurrently.

PHYS 4340 Advanced Physics Lab
3 Semester Credit Hours (1 Lecture Hour, 4 Lab Hours)
A laboratory course focusing on experimental design, advanced data analysis and reduction, and experimental laboratory techniques and instrumentation. Experiments will be drawn from a variety of physics areas. This course is offered through the Texas Physics Consortium (TPC). See their website (http://www.tarleton.edu/tpc/) for details.
**Prerequisite:** (PHYS 3334 or 3334*).
* May be taken concurrently.
**Co-requisite:** SMTE 0095.

PHYS 4496 Directed Independent Study
1-4 Semester Credit Hours (1-4 Lecture Hours)
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College.

Political Science (POLS)

POLS 2304 Introduction to Political Science
3 Semester Credit Hours (3 Lecture Hours)
Introductory survey of the discipline of political science focusing on the scope and methods of the field, and the substantive topics in the discipline including the theoretical foundations of politics, political interaction, political institutions and how political systems function.
**TCNS:** GOVT 2304

POLS 2305 U.S. Government and Politics
3 Semester Credit Hours (3 Lecture Hours)
A basic survey of American government, including fundamental political institutions, with special attention to the United States and Texas Constitutions.
**TCNS:** GOVT 2305

POLS 2306 State and Local Government
3 Semester Credit Hours (3 Lecture Hours)
The politics, government, and administration of American states, counties, cities, and special districts, with special emphasis on Texas.
**TCNS:** GOVT 2306

POLS 2311 Mexican American and Latinx Politics
3 Semester Credit Hours (3 Lecture Hours)
The study of Mexican American and Latinx politics within the American political experience. Topics include historical, cultural, socioeconomic, and constitutional issues that pertain to the study of Mexican Americans and other Latinx populations in the United States. Other topics such as political participation, governmental institutions, electoral politics, political representation, demographic trends, and other contemporary public policy debates will also be addressed.
**TCNS:** GOVT 2311
POLS 3303 Contemporary Political Analysis
3 Semester Credit Hours (3 Lecture Hours)
Analysis of current problems in national and international politics. Emphasis is on methods of analysis, particularly the use of computers. Includes a segment on career opportunities for political science majors.

POLS 3311 Women and Politics
3 Semester Credit Hours (3 Lecture Hours)
The course will examine public policies affecting women, political participation, women in public office, and political attitudes of women.

POLS 3312 Campaigns and Elections
3 Semester Credit Hours (3 Lecture Hours)
A survey of the literature on campaigns and elections including theories of voter choice; effects of mass media and campaign finance regulations on the conduct and outcome of elections; effects of elections on policy; emphasis on U.S. national elections.

POLS 3313 The Legislative Process
3 Semester Credit Hours (3 Lecture Hours)
Survey and description of the legislative process in the United States Congress with relevant comparisons to practices within the several states and foreign nations. Emphasis upon the law-making process explained in terms of structure, participants, groups, associations and power relationships.

POLS 3314 Public Opinion
3 Semester Credit Hours (3 Lecture Hours)
An analysis of the kinds and distributions of opinions and attitudes in the mass public and the effects of those opinions on activities of policy makers, with special attention to problems of linking public opinion to public policy.

POLS 3315 Political Parties
3 Semester Credit Hours (3 Lecture Hours)
Organization, history, and activities of political parties and functions they serve in national, state, and local politics in the United States and elsewhere.

POLS 3316 The American Presidency
3 Semester Credit Hours (3 Lecture Hours)
A study of the federal executive branch with an emphasis upon the American Presidency with its relationships to other American political institutions and processes.

POLS 3317 Judicial Politics
3 Semester Credit Hours (3 Lecture Hours)
This course examines the political factors that influence judicial selection, decision-making and the policy-making role of courts. Furthermore, attention is directed at the impact of court decisions and the structure of the judiciary.

POLS 3318 Interest Groups
3 Semester Credit Hours (3 Lecture Hours)
Role of interest groups in politics: types of groups and resources; internal dynamics; group strategies/tactics (including PACs); forms of indirect and direct lobbying; influence of groups in the political arena.

POLS 3319 Religion and Politics
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the intersection of religion and politics historically and during contemporary times with an emphasis on beliefs, behaviors, institutions, and policies.

POLS 3321 Comparative Politics
3 Semester Credit Hours (3 Lecture Hours)
Concepts, theories and analytical frameworks for comparing different types of political systems around the world. Emphasis is placed on learning about different political systems and using the comparative method to evaluate and develop a richer understanding of politics, political culture, political behavior, and political institutions.

POLS 3331 International Relations
3 Semester Credit Hours (3 Lecture Hours)
Examination of the structure and function of the international system focusing on the power relationships among states, international organizations, and the critical issues animating contemporary international relations.

POLS 3341 Introduction to Public Administration
3 Semester Credit Hours (3 Lecture Hours)
Study of organization and management theories and practices of public administration affecting federal and subnational governments. Bureaucratic structures and procedures will be examined for their effects on policy, program development and evaluation.

POLS 3342 Introduction to Public Policy
3 Semester Credit Hours (3 Lecture Hours)
A survey of the policy process in the United States. The course will examine factors affecting the development, implementation and impact of public policies as well as a discussion of policy alternatives and controversies.

POLS 3343 Bureaucracy
3 Semester Credit Hours (3 Lecture Hours)
Examines the concept of the political role of the bureaucracy and the impact of other government institutions on bureaucratic structures, functions and behavior. The role of bureaucracy in public policy making and the influence of politics on implementation is analyzed.

POLS 3351 U.S. Constitution and Federalism
3 Semester Credit Hours (3 Lecture Hours)
The course will examine the development of the U.S. Constitution since 1789 through legal decisions and interpretations. The development, evolution, and interpretations of federalism are also addressed. (Note: This course will complete the Texas Teacher Certification requirement in government for those who already have three semester hours in U.S. Government and need three additional semester hours that include the government and constitution of Texas.)

POLS 3361 Western Political Theory
3 Semester Credit Hours (3 Lecture Hours)
The fundamental concepts and problems of political theory, as viewed by the major classical philosophers and contemporary theorists, including justice, power, authority, obligation, freedom, equality.

POLS 3365 Political Theory and Ideologies
3 Semester Credit Hours (3 Lecture Hours)
Major 19th and 20th?Century political theorists and ideological movements. Includes a review of capitalism, socialism, fascism, and liberalism.

POLS 4303 Seminar in Political Science
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for political science majors, examines significant developments and issue in American politics as they are addressed in the professional literature of political science. Offers the opportunity of an intensive study of as selected topic. Emphasis on supervised research on selected topic.

Prerequisite: POLS 3303.
POLS 4311 Urban Politics
3 Semester Credit Hours (3 Lecture Hours)
The institutions, political processes and policy issues of urban areas of the United States.

POLS 4312 Government Budgeting and Finance
3 Semester Credit Hours (3 Lecture Hours)
Study of the politics and processes of governmental budgeting at local, state, and federal levels with emphasis on the interrelatedness of governmental units through budgeting.

POLS 4314 Media and Politics
3 Semester Credit Hours (3 Lecture Hours)
Impact of mass media coverage on American political institutions, the election process, and public opinion in general and the appropriate role of media and news in a society.

POLS 4320 The Politics of the European Union
3 Semester Credit Hours (3 Lecture Hours)
Examination of the institutional, economic and political forces that led to the creation and development of the European Union. Emphasis on the impact the European Union has had on world affairs.

POLS 4321 Comparative Politics of Developing Nations
3 Semester Credit Hours (3 Lecture Hours)
Analysis of contemporary issues within and amongst developing nations. Examines various institutions, political processes, and public policy debates in some or all of the following regions: Africa, Latin America, the Middle East, or Asia.

POLS 4322 Transitions to Democracy
3 Semester Credit Hours (3 Lecture Hours)
Analysis of transitions to democracy from authoritarian rule. Various stages of the transition process and theories of democratization are assessed. Emphasis will be placed on "third wave" transitions to democracy.

POLS 4325 Politics in Latin America
3 Semester Credit Hours (3 Lecture Hours)
Latin American governments and politics as related to such topical problems and processes as land reform and expropriation.

POLS 4327 The Politics of War
3 Semester Credit Hours (3 Lecture Hours)
This course will examine the politics of war from ancient times to the present. Included in this survey are great generals and military strategists, from Sun Tzu to Napoleon to generals of the American Civil War. Students will study concepts of international law, the law of nations, and the laws of war. The course further examines military strategy and tactics of the 20th century.

POLS 4361 American Political Thought
3 Semester Credit Hours (3 Lecture Hours)
A survey of the major developments in American political thought from the Colonial period to the present, followed by an analysis of important recent theoretical developments in American political thought.

POLS 4390 Topics in Political Science
3 Semester Credit Hours (3 Lecture Hours)
May be repeated for credit when topic varies.

POLS 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description.

POLS 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
NCD.

PSYC 2301 General Psychology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the fundamental concepts and theories in psychology. Topics include biological processes, development, learning, personality, abnormal behavior, therapy, and social interactions.

PSYC 2302 Lifespan Developmental Psychology
3 Semester Credit Hours (3 Lecture Hours)
The study of normal physical, cognitive, social, and emotional development from infancy to late adulthood.

PSYC 2307 Social Psychology
3 Semester Credit Hours (3 Lecture Hours)
The scientific study of how a person's thoughts and behavior are influenced by others. Topics will include social cognition, attitudes, persuasion, interpersonal relationships, and group behavior. (Credit may not be given for both this course and SOCI 2326.) Cross listed with SOCI 2319.

PSYC 2319 Social Psychology
3 Semester Credit Hours (3 Lecture Hours)
The scientific study of how a person's thoughts and behavior are influenced by others. Topics will include social cognition, attitudes, persuasion, interpersonal relationships, and group behavior. (Credit may not be given for both this course and SOCI 2326.) Cross listed with SOCI 2319.

PSYC 2332 Close Relationships
3 Semester Credit Hours (3 Lecture Hours)
This course is designed as an overview to the field of close relationships. The major theories of close relationships will be emphasized, including examinations of evolution, attachment, interdependence, and cognitive approaches. Additional topics include attraction, relationship development and maintenance, infidelity, and relationship violence.
PSYC 3335 Forensic Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course examines the relationship between the practice of psychology and the functioning of the legal system. The course surveys many aspects of clinical forensic psychology, including assessment, treatment, and consultation services.

PSYC 3342 Cognitive Psychology
3 Semester Credit Hours (3 Lecture Hours)
A survey of current research and theory in the field of human cognition, emphasizing the information processing model. Topics include attention, memory, language, and problem solving.

PSYC 3343 Learning and Behavior
3 Semester Credit Hours (3 Lecture Hours)
The study of the fundamental principles of learning through a consideration of theories and constructs, such as associations, reinforcement, punishment, generalization, discrimination, and modeling.

PSYC 3346 Psychology of Language
3 Semester Credit Hours (3 Lecture Hours)
The purpose of the course is to introduce students to a multidisciplinary study of language. This course will provide an introduction to psychological, sociolinguistic, and social-interactive theories of language use, acquisition/development, knowledge, context, perception, disorders, and related cognitive and social processes.

PSYC 3350 Evolutionary Psychology
3 Semester Credit Hours (3 Lecture Hours)
Evolutionary psychologists argue that much of human behavior is the output of neural and psychological adaptations that evolved to solve recurrent problems in human ancestral environments. Some challenges addressed in this course involve survival, mating, familial relationships, and living in social groups.

PSYC 3360 Health Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course will provide an overview of the field of health psychology, examining how psychological theories and research are applied to enhance health and well-being and to prevent and treat illness.

PSYC 3361 Psychology of Personality
3 Semester Credit Hours (3 Lecture Hours)
An introduction to major theories of personality. Personality processes and development are discussed from psychoanalytic, behavioral, humanistic, and other perspectives.

PSYC 3363 Abnormal Psychology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of abnormal behavior. Studies the etiology and characteristics of the major behavioral disorders, including current research findings and treatment practices. Competency in personality psychology, such as that obtained by completing PSYC 3361, is assumed for this course.

PSYC 3370 Psychology of Religion
3 Semester Credit Hours (3 Lecture Hours)
This course examines religious experience and behavior from a psychological perspective. Topics include historical and theoretical perspectives, development of religious beliefs across the lifespan, religious conversion, social and group experiences, and the varieties of religious belief.

PSYC 3374 Human Sexuality
3 Semester Credit Hours (3 Lecture Hours)
The study of human sexual behavior from a biological and psychosocial perspective. Emphasizes current research methods and findings.

PSYC 3375 Introduction to Clinical Psychology
3 Semester Credit Hours (3 Lecture Hours)
A survey of diagnostic and therapeutic strategies employed by clinical psychologists. The scientist-practitioner model is emphasized through the critical analysis of theories and empirical research that provide the foundation for determining effective treatments of mental disorders.

PSYC 3377 Physiological Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide students with both a theoretical and a practical understanding of the effects of culture on human thinking, values, and behavior. As such, it is focused on the effects of culture on the nature and behavior of individuals, their adaptations to institutions and environments, and their relations with others within and outside their culture. Knowledge presented in the class is drawn from both qualitative and quantitative research.

PSYC 3378 Drug Use and Abuse
3 Semester Credit Hours (3 Lecture Hours)
Study of the physiological, psychological, and social effects of drug use and abuse. Following a review of basic neuroanatomy and pharmacology, the actions and known effects of specific drugs of use and abuse will be examined. Treatments and prevention issues related to substance abuse will also be discussed.

PSYC 3379 Physiological Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the physiological mechanisms that underline behavior with emphasis on the nervous, the endocrine and sensory systems.
Higher Education Assessment (THEA) reading skills will be covered. This course is designed to introduce the undergraduate student to the theoretical and empirical issues related to the psychology of gender. Both traditional and contemporary theories that focus on the unique aspects in the psychological development of women as well as men will be examined.

PSYC 4372 Psychological Testing
3 Semester Credit Hours (3 Lecture Hours)
Statistical and research basis for test construction. Instruction in use of group and individual tests in intelligence, achievement, interest and personality. Understanding of individual measures in these areas. 
Prerequisite: MATH 1442.

PSYC 4377 Industrial/Organizational Psychology
3 Semester Credit Hours (3 Lecture Hours)
This course will provide an introduction to Industrial and Organizational Psychology, a scientific discipline that studies human behavior in the workplace. Topics will include the history of Industrial/Organizational psychology, job analysis, psychological assessments, personnel decisions, training and development, organizational change, teamwork, motivation, leadership and work stress and health.
Prerequisite: (PSYC 2301).

PSYC 4390 Topics in Psychology
3 Semester Credit Hours (3 Lecture Hours)
May be repeated for credit when topics vary.
Prerequisite: PSYC 2301.

PSYC 4395 Undergraduate Research
3 Semester Credit Hours
A research project in psychology designed in consultation with a faculty director. The study is to be conducted by the student under the supervision and direction of the faculty member and may culminate in a formal report written in APA journal style.

PSYC 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

PSYC 4398 Applied Experience
3 Semester Credit Hours
See College description.

Reading (READ)

READ 0399 Basic Reading and Comprehension
3 Semester Credit Hours (3 Lecture Hours)
This is a reading course for students who need assistance in developing college level reading skills. Emphasis will be on improving reading comprehension, critical reasoning skills, recognition of the organization of ideas in written material, study skills and vocabulary development. The Higher Education Assessment (THEA) reading skills will be covered.

READ 3310 Principles and Practices of Early Reading Instruction
3 Semester Credit Hours (3 Lecture Hours)
This course explores theories of early language and literacy development of children. Course content addresses language development and literacy concepts essential for pre-reading areas, such as phonemic awareness, oral language development, listening comprehension development, and alphabetic knowledge. The course explores ways educators can enhance language and literacy concepts utilizing art, music, and drama. READ 3310 emphasizes development of emergent literacy skills that lead to literacy skills taught in READ 3320.

READ 3320 Principles and Practices of Reading Instruction
3 Semester Credit Hours (3 Lecture Hours)
The purpose of this course is to provide the preservice teacher with a solid foundation for effective literacy instruction. This course will review research-based teaching strategies, instructional materials for phonics, vocabulary, fluency, and comprehension will as methods and assessments for efficacious literacy instruction. The primary focus of course content will be on core (tier 1) classroom instruction with discussions of differentiated instruction and frameworks for responsive intervention also addressed. The targeted grade levels for this course are third through sixth grade.

READ 3321 Principles and Practices of Reading Instruction, Grades 4 – 8
3 Semester Credit Hours (3 Lecture Hours)
This course will emphasize materials, methods, and beliefs for teaching reading in grades 4-8. Components of the course will include but not be limited to the five pillars of reading instruction identified by the National Reading Panel (2000): phonemic awareness, phonics, fluency, vocabulary, and comprehension.

READ 3351 Reading Assessment and Intervention
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to utilizing formal and informal reading assessments and intervention strategies in a classroom setting. Students will administer assessments in the areas of phonemic awareness, phonics, vocabulary, fluency, and comprehension. Students will then select and adapt appropriate scientifically proven instructional strategies, based upon assessment results, for working with readers of varying abilities and implement these through actual lessons.
Prerequisite: READ 3310 and 3320 or READ 3353.

READ 3352 Content Area Reading for Elementary Students
3 Semester Credit Hours (3 Lecture Hours)
This course focuses on recent issues, materials, methods, and strategies considered essential for effective reading instruction in the elementary school content areas. Components of the course will include comprehension strategies, vocabulary development, reading-writing connections, and word study. The course will also include but not be limited to the five pillars of reading instruction identified by the National Reading Panel (2000): phonemic awareness, phonics, fluency, vocabulary, and comprehension.
Prerequisite: READ 3310 and 3320.

READ 3353 Content Area Reading for Secondary Students
3 Semester Credit Hours (3 Lecture Hours)
The skills required of secondary students to deal with subject matter in the various content areas are presented. In addition, developmental and corrective processes that incorporate the identification and remediation of dyslexia and other reading disorders are presented.
READ 3355 Teaching Reading in the Secondary School
3 Semester Credit Hours (3 Lecture Hours)
This course focuses on planning, developing, selecting, and organizing reading materials for secondary reading instruction.
Prerequisite: READ 3353.

READ 3356 Technology and Literacy
3 Semester Credit Hours (3 Lecture Hours)
Various software packages that have been developed for providing initial and tutorial instruction in the language arts are presented. In addition, instructional techniques for using these packages are covered.
Prerequisite: READ 3320 and 3321.

READ 3380 Children's and Adolescents' Literature
3 Semester Credit Hours (3 Lecture Hours)
Provides students with an understanding of children's and adolescent literature. Included in the class is the reading and study of literature and how to promote reading of literature in the schools. Extensive reading is required.

READ 4352 Advanced Practices in Reading/ Language Arts
3 Semester Credit Hours
The emphasis is on instructional approaches supported by current theory and research and supervised implementation in a school setting. Attention is given to word study, comprehension, critical reading and reasoning, and reading-writing connections. Components of the course will include but not be limited to the five pillars of reading instruction identified by the National Reading Panel (2000): phonemic awareness, phonics, fluency, vocabulary, and comprehension.
Prerequisite: READ 3320, 3351, 4380 and 4394.
May be taken concurrently.

READ 4394 Field Experiences in Reading
3 Semester Credit Hours (3 Lecture Hours)
The culminating experience for those students working toward a specialization in reading. Students are provided supervised experience in field-based activities, in addition to on-campus activities.
Prerequisite: READ 3310, 3320, 3351, 3352 and 4380.

READ 4696 Directed Individual Study
1-6 Semester Credit Hours
Programs will be designed for individual cases through special permission of the Department Chair and Dean. May be repeated for credit when the topic varies.

Reciprocal Exchange Program (REEP)

REEP 4096 Reciprocal Exchange Program
12 Semester Credit Hours
NCD.

Science/Math and Tech Educat (SMTE)

SMTE 0091 Biological Laboratory Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0092 Biomedical Laboratory Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0093 Chemistry Laboratory Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0094 Geology Laboratory Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0095 Physics Laboratory Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0096 Environmental Science Laboratory Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0097 Art Student Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0098 Theatre Student Safety Seminar
0 Semester Credit Hours
This non-credit course is designed as an on-line offering that must be passed by students each semester and at a grade of 100%. Students will be responsible for taking safety courses with different course numbers of SMTE, as each lab must meet different safety requirements as specified by the A&M System, depending on the types of hazardous materials used in each lab. Students will not be charged a fee for taking these courses.

SMTE 0099 Engineering Safety Seminar
0 Semester Credit Hours
SMTE 1350  Fundamentals of Mathematics I
3 Semester Credit Hours (3 Lecture Hours)
The conceptual framework for understanding and applying properties, models, and operations related to various number systems in problem solving settings.
Prerequisite: MATH 1314.
TCCNS: MATH 1350

SMTE 1351  Fundamentals of Mathematics II
3 Semester Credit Hours (3 Lecture Hours)
The conceptual framework for understanding and applying properties, models, and operations related to various data systems in problem solving settings.
Prerequisite: SMTE 1350.
TCCNS: MATH 1351

SMTE 3315  Foundational Approaches to the Physical Sciences
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Physical science topics such as simple machines, atoms, molecules, electricity and magnetism, sound, and light. Laboratory involvement will emphasize techniques of problem solving, data gathering, and data application. The course is taught following an inquiry based format and is recommended for future K-8 level science educators.
Co-requisite: SMTE 0096.

SMTE 3316  Foundational Approaches to the Life Sciences
3 Semester Credit Hours (2 Lecture Hours, 2 Lab Hours)
Emphasis on biological concepts including cells, plants, invertebrate and vertebrate structural systems. Laboratory investigations focus on techniques of problem solving, data gathering, and data applications. The course is taught following an inquiry based format and is recommended for future K-8 level science educators.
Co-requisite: SMTE 0091.

SMTE 3352  Fundamentals of Mathematics III
3 Semester Credit Hours (3 Lecture Hours)
The conceptual framework for understanding and applying properties, models, and operations related to various geometric systems in problem solving settings.
Prerequisite: SMTE 1351.

SMTE 4217  Secondary Approaches to the Life Sciences
2 Semester Credit Hours (2 Lecture Hours)
Study of secondary science teaching and learning from the standpoints of theory and practice, curriculum objectives, materials and evaluation. The course will emphasize contemporary issues by focusing on biological content ranging across the sub-disciplines of molecular biology, physiology, evolution and environmental science while teaching in a relevant and engaging context that includes web searches, laboratory activities, and student-centered inquiry activities.

SMTE 4270  Science Education Topics I
2 Semester Credit Hours (2 Lecture Hours)
Presentation of the conceptual framework for understanding and applying science content in life sciences including biology, ecology and evolution using the national standards for science education and Texas Essential Knowledge and Skills (TEKS). The course is taught using scientifically researched literature and content knowledge in an inquiry based format and is recommended for future 4-8 and 7-12 level science educators.

SMTE 4273  Historical Development of the Sciences
2 Semester Credit Hours (2 Lecture Hours)
Study of human endeavors leading to the present body of scientific knowledge placed in a historical and philosophical context. Portions of the materials will be presented in a format conducive to adaptation for middle school and high school.
Prerequisite: BIOL 1407, CHEM 1412 and EDUC 3311.

SMTE 4320  Secondary Science Laboratory Techniques
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to assist the 4-8 and 7-12 future science teacher in developing content knowledge, skills and mastery of designated laboratory and research techniques through scientific experimentation in areas such as chemistry, biology and physics. State and national laboratory safety mandates will also be addressed.
Prerequisite: BIOL 1407, CHEM 1412 and EDUC 3311.
Co-requisite: SMTE 0091.

SMTE 4370  Mathematics Education Topics I
3 Semester Credit Hours (3 Lecture Hours)
Presentations of contemporary issues in mathematics education. Topics include history of mathematics education, state and national standards for mathematics education, cognitive development, the importance of culture, language and gender in learning mathematics, authentic assessment, and interdisciplinary curriculum.

SMTE 4382  Basic Mathematics From An Advanced Viewpoint
3 Semester Credit Hours (3 Lecture Hours)
Capstone course for students pursuing grades 4-8 certification in mathematics. Presents basic mathematical concepts in the context of advanced mathematics courses. The course includes historical development of significant ideas in mathematics and science, interpretations of mathematical topics at multiple levels, and the use of technology to generate and convey understanding of mathematical ideas.
Prerequisite: MATH 2305 and 3312.

SMTE 4490  Selected Topics
1-4 Semester Credit Hours (1-4 Lecture Hours)
Subject materials variable. May be repeated for credit when topics are significantly different.

SMTE 4496  Directed Independent Study
1-4 Semester Credit Hours
Requires a formal proposal of study to be completed in advance of registration and to be approved by the supervising faculty, the Chairperson, and the Dean of the College.

Social Work (SOCW)

SOCW 2361  Introduction to Social Work
3 Semester Credit Hours (3 Lecture Hours)
An introductory survey of the field of social work including the nature, function, and types of social work practice. This course is designed to acquaint the student with the history, terminology, scope, and values of the profession of social work.

SOCW 3310  Approaches to Social Welfare
3 Semester Credit Hours (3 Lecture Hours)
Origin, development, and present status of social service programs with particular emphasis on the relationship of program resources, human needs, and the methods through which services are provided.
SOCI 3320 Social Services in the Community
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the organizations and agencies involved in social service delivery. Exploration of the range and characteristics of the human service delivery system with particular emphasis on the social work profession.
Prerequisite: SOCW 3310.

SOCI 3350 Social Work Practice
3 Semester Credit Hours (3 Lecture Hours)
Social Work practice from a generalist perspective of social work intervention. Data collection, assessment, intervention, planning/implementation, and evaluation are covered.
Prerequisite: SOCW 3301.

SOCI 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

SOCI 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
One semester course of field work in a selected agency. (See college description.

Sociology (SOCI)

SOCI 1301 Introduction to Sociology
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the basic concepts, methods, and theories used in Sociology. Topics illustrate the systematic understanding of social interaction, social organization, and social institutions. Reciprocal relationships between individuals and society are examined. Topics may include — but are not limited to — socialization, culture, social stratification, race and ethnicity, sex and gender, deviance, family, work, and social change.
TCCNS: SOCI 1301

SOCI 2301 Social Problems
3 Semester Credit Hours (3 Lecture Hours)
A survey and exploration of the causes and consequences of major social problems in the U.S. society, including contemporary issues of poverty, unemployment, income inequality, health care, crime, climate change, and other issues of social class, racial, ethnic, and gender inequality.
TCCNS: SOCI 1306

SOCI 2319 Social Psychology
3 Semester Credit Hours (3 Lecture Hours)
The scientific study of how a person’s thoughts and behavior are influenced by others. Topics will include social cognition, attitudes, persuasion, interpersonal relationships, and group behavior. (Credit may not be given for both this course and PSYC 2326.) Cross listed with PSYC 2319.
TCCNS: SOCI 2326

SOCI 3310 Sociology through Film
3 Semester Credit Hours (3 Lecture Hours)
The examination of film as a culture artifact to illustrate sociological concepts, theories, and perspectives. Specific attention will be given to narratives of film as they illustrate culture, aging, social class, gender, race/ethnicity, identity, and other sociological concepts.

SOCI 3312 Racial and Ethnic Relations
3 Semester Credit Hours (3 Lecture Hours)
The study of cultural, religious, ethnic and racial groups, and the treatment accorded them in society. Prejudice, discrimination and the outcomes of discrimination in relation to both dominant and subordinate groups are considered.

SOCI 3320 Sociology of Gender
3 Semester Credit Hours (3 Lecture Hours)
An examination of the roots, nature and social construction of gender roles including socialization of men and women, gender role relationships from the perspectives of sociology. Issues of family, education, work and the economy, religion, politics and law, feminist organizations, feminist theory, and men’s and women’s movements will be considered.

SOCI 3321 Mexican American Women
3 Semester Credit Hours (3 Lecture Hours)
A study of the Chicanas and the trends in society and Mexican-American culture affecting their lives and behaviors.

SOCI 3340 Sociology of the Family
3 Semester Credit Hours (3 Lecture Hours)
The study of the family, relationships among its members, and the relationship of family to other social institutions.

SOCI 3349 Sociology of Deviant Behavior
3 Semester Credit Hours (3 Lecture Hours)
A systematic and critical study of the nature, patterns, and processes of violations of significant social norms by members of society. Specific attention is given to violations such as drug abuse, violence in and outside the family, and white-collar offenses.

SOCI 3350 Sociology of Education
3 Semester Credit Hours (3 Lecture Hours)
Employing a sociological lens to examine formal education in the United States and other countries, students will explore various schools of thought and controversies surrounding education in modern societies. They will examine important issues related to formal education, such as the expansion of schooling, equality of educational opportunity, unequal achievement of groups of students, the reproduction of inequality in education, schools’ roles in the transmission of culture, and the social organization of schools.

SOCI 4301 Social Theory
3 Semester Credit Hours (3 Lecture Hours)
Combines an analysis of the major ideas and theories in sociology and their relationship to social research with an understanding of social processes and structures.
Prerequisite: SOCI 1301.

SOCI 4310 Sociology of Work and Occupations
3 Semester Credit Hours (3 Lecture Hours)
The study of work as a social phenomenon, including the social organization of work, occupations, and professions in society. The labor force, work culture, workers mobility, career lines, and leisure in contrast to work are considered.

SOCI 4312 Social Class and Inequality
3 Semester Credit Hours (3 Lecture Hours)
The study of social inequality in society, with emphasis on the social class structure of the United States, its origins, development, and consequences for individuals, groups, and society.
Prerequisite: SOCI 1301 and 3312.
SOCI 4315 Complex Organizations
3 Semester Credit Hours (3 Lecture Hours)
The development of a theoretical and applied understanding of those social institutions where most of us will be employed. Topics include organizational effectiveness, decision making, designs, politics, cultures, as well as gender and racial inequality.

SOCI 4320 Sociology of Sports
3 Semester Credit Hours (3 Lecture Hours)
This course critically examines the relationships between organized sports and the rest of society. It will undertake a sociological analysis of how organized sports affect, and are affected by, major social institutions such as the economy, racial and gender relations, mass media, and religion, to mention but a few.

SOCI 4325 Medical Sociology
3 Semester Credit Hours (3 Lecture Hours)
Examination of the social contexts of physical and mental health, illness and medical care. Topics include the social, environmental, and occupational factors in health and disease; socialization of health care providers; doctor-patient relationships; the structure and processes of health care organizations; and health care and social change.

SOCI 4331 Juvenile Delinquency
3 Semester Credit Hours (3 Lecture Hours)
Examination of the extent and pattern of juvenile crime today. History and theory of delinquency and society’s response to it. (Credit may not be given for both this course and CRIJ 4331.) Cross listed with CRIJ 4331.

SOCI 4335 Criminology
3 Semester Credit Hours (3 Lecture Hours)
An examination of the major sociological explanations for crime, criminal behavior, and the social responses to crime. (Credit may not be given for both this course and CRIJ 4335.) Cross listed with CRIJ 4335.

SOCI 4385 Senior Seminar in Sociology
3 Semester Credit Hours
This is a capstone course required of all students graduating with a major in sociology. The course is designed to enable faculty to assess each student's expertise in applying sociological concepts and practices. Students demonstrate this expertise through the completion of a final project that combines a minimum of classroom hours with substantial research activity. The course is team taught by the entire sociology faculty. Students are allowed considerable flexibility in selecting either survey research or evaluation research for their project. (Offered Spring Only.)

SOCI 4390 Topics in Sociology
3 Semester Credit Hours (3 Lecture Hours)
A consideration of various topics on social behavior and social structure. May be repeated when topics vary.

SOCI 4396 Directed Individual Study
1-3 Semester Credit Hours
See College description.

SOCI 4398 Applied Experience
3 Semester Credit Hours (3 Lecture Hours)
See College description.

SOCI 4445 Social Research Methods
4 Semester Credit Hours (4 Lecture Hours)
A survey of the basic research techniques and methods used in sociology including content analysis, field research, sampling, surveys, polls, and computerized data analysis.
Prerequisite: SOCI 1301.

Spanish (SPAN)

SPAN 1100 Introduction to Service Learning
1 Semester Credit Hour
This is a one-credit course in which students in Spanish 1311 or 1312 may enroll and participate. This service learning course aims to promote collaborative learning between college students learning Spanish and people in the community. Available upon application. Repeatable up to 2 hours.

SPAN 1311 Spanish I
3 Semester Credit Hours (3 Lecture Hours)
Introduction to listening, speaking, reading and writing skills within a Spanish cultural framework. For students without previous knowledge of the language. (Language laboratory required. One hour per week.) *A lab fee is required for these courses.

SPAN 1312 Spanish II
3 Semester Credit Hours (3 Lecture Hours)
Continued practice in listening, speaking, reading and writing skills within a Spanish cultural framework. (Language laboratory required. One hour per week.) A lab fee is required for these courses.
Prerequisite: (SPAN 1311).

SPAN 2311 Spanish III
3 Semester Credit Hours (3 Lecture Hours)
Study of more complex Spanish sentence structure to further listening, speaking, reading and writing skills at an intermediate level within a Spanish cultural framework.
Prerequisite: SPAN 1312.
TCCNS: SPAN 2311

SPAN 2312 Continuing Spanish
3 Semester Credit Hours (3 Lecture Hours)
Continued development and review of all language skills at an intermediate level within a Spanish framework with an emphasis in the linguistic and cultural perspective.
Prerequisite: SPAN 2311.
TCCNS: SPAN 2312

SPAN 2313 Spanish for Heritage Speakers
3 Semester Credit Hours (3 Lecture Hours)
An introductory course designed for bilingual students who wish to enhance their linguistic skills (speaking, listening, reading and writing). This course will focus on the cultural and historical aspects related to the heritage Spanish speaker.
TCCNS: SPAN 2313

SPAN 2315 Language and Culture for Heritage Learners
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to guide Spanish heritage language learners, as well as advanced learners of Spanish, in the development of their oral proficiency, written communication, and grammatical accuracy while exploring different cultural aspects from the Spanish-speaking world. It is highly recommended for students who have taken SPAN 2313 and/or who are transitioning into upper-division Spanish courses. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.
Prerequisite: SPAN 2313.

SPAN 3302 Spanish Composition
3 Semester Credit Hours (3 Lecture Hours)
A course designed to develop analytical perspectives in literary criticism and to strengthen reading and writing skills in Spanish through intensive reading of Spanish, Spanish American, and Chicano fiction.
Prerequisite: SPAN 2312.
SPAN 3303 Spanish Conversation
3 Semester Credit Hours (3 Lecture Hours)
A course designed to strengthen the student's oral proficiency in the language through selected readings, videos and oral presentations.
Prerequisite: SPAN 2312.

SPAN 3304 Spanish Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course has been designed to provide a general overview of the cultural, linguistic, and historical experience of the Spanish people within its larger European context. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum requirement in Language, Philosophy, and Culture.
Prerequisite: SPAN 2312.

SPAN 3305 Latin American Civilization
3 Semester Credit Hours (3 Lecture Hours)
This course is designed to provide a general overview of the cultural, linguistic, and historical experience of Latin American people before and after Columbus. Conducted in Spanish unless otherwise stated. This course may be used to satisfy the university core curriculum in Language, Philosophy, and Culture.
Prerequisite: SPAN 2312.

SPAN 3307 Spanish Literature I
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of early Spanish literature from the Middle Ages through the Eighteenth Century. Literary selections include masterpieces that establish and reflect Spain's literary tradition within its larger European context.

SPAN 3308 Spanish Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish literature from the Nineteenth Century through the present. Representative works of Spanish Romanticism, Realism, Naturalism, and contemporary literature are studied within their larger European context.

SPAN 3309 Spanish American Literature I
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of early Spanish American literature from the Pre-Columbian Period through the Nineteenth Century. Selected readings in all literary genres, major themes, writers, and early literary movements will be studied within their larger Latin American context.

SPAN 3310 Spanish American Literature II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of a critical approach to the study of Spanish American literature from the Twentieth Century through the present. Representative works of Latin American writers and literary movements: Modernism, Realism, Avant-Garde, Regionalism, Magic-Realism are studied within their larger Latin American context.

SPAN 3311 Spanish Phonetics
3 Semester Credit Hours (3 Lecture Hours)
A course designed to study the production and discrimination of the Spanish sound system with a general overview of the geographical and social distribution of phonemic and allophonic variants.

SPAN 3312 Spanish Grammar
3 Semester Credit Hours (3 Lecture Hours)
The course will serve to expand vocabulary, further develop writing skills; understand, apply, and use Spanish grammatical structures, and communicate more accurately in written and oral Spanish within a Hispanic cultural context.

SPAN 3313 Introduction to Translation
3 Semester Credit Hours (3 Lecture Hours)
This course is an introduction to the theory, methods and practice of English to Spanish and Spanish to English translation of general texts from different fields. Challenges related to culture and language, as well as professional ethics will be examined.
Prerequisite: SPAN 2312.

SPAN 3316 Spanish for the Professions
3 Semester Credit Hours (3 Lecture Hours)
The course stresses Health, Business and Legal terminology in Spanish to enhance communication skills and cultural knowledge that will help to serve the South Texas Spanish speaking population as well as to conduct interactions with Spanish speakers and/or businesses through the United States and the world.

SPAN 3317 Introduction to Hispanic Linguistics
3 Semester Credit Hours (3 Lecture Hours)
This course introduces the study of language, the main subfields of Hispanic linguistics, and their application to other sciences.

SPAN 3320 Introduction to Spanish Literature
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of Spanish literature from the Middle Ages through the present. Representative works of Spanish literature are studied within their larger European context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303 have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 3325 Introduction to Latin American Literature
3 Semester Credit Hours (3 Lecture Hours)
A critical approach to the study of Latin American literature from the Pre-Columbian Period through the present. Selected readings in all literary genres, major themes, writers, and literary movements will be studied with a wide Latin American context. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated. This course may be used to satisfy the University Core Curriculum requirement in Language, Philosophy, and Culture.

SPAN 4100 Service Learning
1 Semester Credit Hour
This is a one-credit course designed specifically for students who are preparing themselves to serve the community using their Spanish language skills. Students in this course will familiarize themselves with the methodology of a particular field (heritage language teaching, translation, interpreting, etc.) to be able to interact and serve Spanish-speaking individuals in the community. Available upon application. Repeatable up to 3 hours.

SPAN 4301 Spanish Civil War and Literature
3 Semester Credit Hours (3 Lecture Hours)
Significance of the Civil War for Spanish, European, and world history. Effect of war on literary and cultural life of the country and the response of writers from Spain and Latin America. Conducted in Spanish.
SPAN 4302 Mexican Narrative  
3 Semester Credit Hours (3 Lecture Hours)  
Examination of representative novels and short stories reflecting the emergence of a post-revolutionary society in Mexico. Conducted in Spanish.

SPAN 4303 Spanish in the Southwest  
3 Semester Credit Hours (3 Lecture Hours)  
Cultural and linguistic dimensions of Spanish dialects of the Southwestern United States, with special attention to Texas Spanish and its sociolinguistic perspectives in the bilingual community at large.  
Prerequisite: SPAN 2312.

SPAN 4304 Miguel de Cervantes' Don Quijote  
3 Semester Credit Hours (3 Lecture Hours)  
An advanced course designed to provide an introduction to Miguel de Cervantes' Don Quijote.

SPAN 4305 Latin American Novel  
3 Semester Credit Hours (3 Lecture Hours)  
This course explores major novels from Latin America from the 20th century to the present. It examines the different problems, discourses, voices, contexts, and geographies that define this genre in Latin America.

SPAN 4306 Modern Spanish Literature  
3 Semester Credit Hours (3 Lecture Hours)  
A course that focuses on modern Spanish literature. It is highly recommended that students take any of the following before taking this course: SPAN 2313, 2315, 3302, 3303, have advanced proficiency or faculty permit. Conducted in Spanish, unless otherwise stated.

SPAN 4313 Spanish Interpretation  
3 Semester Credit Hours (3 Lecture Hours)  
This course presents an introduction to methodologies, requirements, terminology, and practice of interpretation, with emphasis on simultaneous, consecutive, and sight interpretation.

SPAN 4320 Spanish in the Americas  
3 Semester Credit Hours (3 Lecture Hours)  
A study of the Spanish that was brought to the Americas, its development, propagation and contact with native-American languages, including the sociocultural factors that have contributed to the linguistic variation in contemporary Spanish-speaking societies.

SPAN 4322 Medical, Scientific and Technical Translation  
3 Semester Credit Hours (3 Lecture Hours)  
An advanced course in translation concentrating on medical, scientific and technical translation. The course is designed to extend student's knowledge of translation theory and consolidate their skills in specialized translation.  
Prerequisite: (SPAN 3313).

SPAN 4327 Methods in Foreign Language Instruction  
3 Semester Credit Hours (3 Lecture Hours)  
This course is designed to study the current methods in foreign languages, their application in maximizing language proficiency, and the role of the students' culture and language during the learning process.

SPAN 4390 Topics in Spanish  
3 Semester Credit Hours (3 Lecture Hours)  
Study of specialized topics in language or literature. These courses may also be designed to develop terminology and overall Spanish proficiency regarding specific professions: Business, Medical, Criminal Justice, Sociology, etc. May be repeated when topics vary.

SPAN 4396 Directed Individual Study  
1-3 Semester Credit Hours (1-3 Lecture Hours)  
See College description.

SPAN 4398 Applied Experience  
3 Semester Credit Hours  
A practical work experience related to the Spanish area and related careers. It is intended to provide an opportunity for a student to gain first-hand experience in an unfamiliar field. Consequently, Applied Experience credit may not be granted for a student's regular work assignment or for previous work experience. Registration is by application. The application must include a clearly written description of the duties and responsibilities involved in the Applied Experience project, and be signed by the student, the on-site supervisor, and the faculty supervisor. Completed applications must be received in the Dean's Office by the last class day of the semester preceding intended registration. This course is graded "credit" or "no credit." No more than three semester hours of Applied Experience credit may be counted toward the baccalaureate degree. Undergraduate Applied Experience course will include no less than one hundred hours and no more than 150 hours of work experience per semester.

SPAN 4421 Business, Commercial, and Legal Translation  
4 Semester Credit Hours (4 Lecture Hours)  
An advanced course in translation concentrating on business, commercial and legal texts. The course is designed to extend student's knowledge of translation theory and consolidate their skills in specialized translation.  
Prerequisite: (SPAN 3313).

Special Education (SPED)

SPED 2397 Special Education Field Experience  
3 Semester Credit Hours (3 Lecture Hours)  
This course requires students to participate in schools and programs that serve individuals with disabilities on and off campus. Students will be actively involved in the learning situation.

SPED 3325 Strategic Instruction for Students with High-Incidence Disabilities  
3 Semester Credit Hours (3 Lecture Hours)  
This course provides an introduction and demonstration of specific skills necessary for teaching students with high-incidence disabilities.

SPED 3330 Individualized Education Programs for Students with Disabilities  
3 Semester Credit Hours (3 Lecture Hours)  
This course emphasizes the design and implementation of individualized educational programs (IEP) for students with disabilities.

SPED 3335 Applied Learning Theory  
3 Semester Credit Hours (3 Lecture Hours)  
This course is designed to develop and extend the student's knowledge of the principles of applied learning theory as it relates to students with extensive and pervasive support needs.

SPED 3340 Individuals with Severe Disabilities  
3 Semester Credit Hours (3 Lecture Hours)  
This course is an introductory study of the adaptations, approaches, and supports necessary to meet the educational needs of students who have communication, intellectual, motor, sensory, medical impairments, and/or other extensive and pervasive support needs. There are no prerequisite courses required to enroll in this course.

SPED 4310 Students with Exceptionalities  
3 Semester Credit Hours (3 Lecture Hours)  
This course is designed to familiarize the student with the various conditions of individuals with disabilities.
SPED 4315 Motor Development for Students with Exceptional Needs
3 Semester Credit Hours (3 Lecture Hours)
A comparative overview of the physical development and motor-activity needs of students with disabilities.

SPED 4320 Community-based Instruction for the Students with Exceptionalities
3 Semester Credit Hours (3 Lecture Hours)
Strategies and procedures for teaching community-based instruction to individuals with disabilities, including independent living and socialization skills, are discussed.

SPED 4345 Behavioral Supports and Interventions for Students with Disabilities
3 Semester Credit Hours (3 Lecture Hours)
This introductory course will focus on positive behavioral supports and behavior intervention techniques. Course content includes information on: definitions, characteristics, prevalence, causes, assessment, prevention of behavioral difficulties, functional behavior assessment, applied behavior analysis, education service delivery, advocacy, and other current issues in the field.

SPED 4696 Directed Individual Study
1-6 Semester Credit Hours
Programs will be designed for individual cases through special permission of the Department Chair and Dean. May be repeated for credit when the topic varies.

Study Abroad Program (SAPR)

SAPR 4096 Study Abroad Program
12 Semester Credit Hours (12 Lecture Hours)
NCD.

Teacher Education/Student Teaching (EDUC)

EDUC 2307 Schooling in a Democracy
3 Semester Credit Hours
A course to enable citizens, parents, and prospective professional educators to synthesize their general education experiences/courses with current issues and practices related to teaching and learning in the United States. Career opportunities and personal commitments to the teaching profession will be explored. The systematic process of admission to the teacher education program will be initiated. Field observations in communities and schools will be required.

TCCNS: EDUC 1301

EDUC 3311 School and Society
3 Semester Credit Hours (3 Lecture Hours)
The characteristics, organization, and management of the American School System including: The history of the development of American schools, legal and ethical issues, teaching as a profession, influence of cultural background on instruction of students, characteristics and needs of special populations, and adapting curriculum and instruction for students from special populations. A student interview with Department of Teacher Education faculty will be required. Field experiences required.

EDUC 4311 Classroom Management
3 Semester Credit Hours (3 Lecture Hours)
A study of classroom organization and management as related to basic principles of human development and learning. Preventative discipline techniques utilizing both group and individual processes are emphasized. This course is to be taken concurrently with Planning, Teaching, Assessment, and Technology.

EDUC 4312 Classroom Management: Grades 7-12
3 Semester Credit Hours (3 Lecture Hours)
A study of classroom organization and management as related to basic principles of human development and learning. Preventative discipline techniques utilizing both group and individual processes are emphasized. This course is to be taken concurrently with Planning, Teaching, Assessment and Technology for Grades 7-12 Teachers.

EDUC 4313 Classroom Management: Grades 4-8
3 Semester Credit Hours (3 Lecture Hours)
A study of classroom organization and management as related to basic principles of human development and learning. Preventative discipline techniques utilizing both group and individual processes are emphasized. This course is to be taken concurrently with Planning, Teaching, Assessment and Technology for Grades 4-8 Teachers.

EDUC 4314 Classroom Management: Grades EC-6
3 Semester Credit Hours (3 Lecture Hours)
A study of classroom organization and management as related to basic principles of human development and learning. Preventative discipline techniques utilizing both group and individual processes are emphasized. This course is to be taken concurrently with Planning, Teaching, Assessment and Technology for Grades EC-6 Teachers.

EDUC 4321 Instructional Design for Special Populations
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with clinical teaching.

EDUC 4322 Instructional Design for Special Populations: Grades 7-12
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with student teaching.

EDUC 4323 Instructional Design for Special Populations: Grades 4-8
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with student teaching.
EDUC 4324  Instructional Design for Special Populations: Grades EC-6
3 Semester Credit Hours (3 Lecture Hours)
A study of the characteristics and needs of special student populations in a culturally diverse society. Special populations emphasized will include special education, gifted and talented, at-risk, and bilingual. Instructional strategies, differentiating curriculum, and diversifying assessment will be examined in relation to special populations. This course is to be taken concurrently with student teaching.

EDUC 4390  Special Topics
1-3 Semester Credit Hours (1-3 Lecture Hours)
Topics in Curriculum and Pedagogy will be explored at the request of participants or faculty with the approval of the Department Chair, Dean, and Curriculum Coordinating Committee (CCC).

EDUC 4392  Student Teaching: EC-Grade 6
3 Semester Credit Hours (3 Lecture Hours)
Laboratory experiences and directed teaching in grades EC-Grade 6.

EDUC 4393  Student Teaching: Grades 7-12
3 Semester Credit Hours (3 Lecture Hours)
Laboratory experiences and directed teaching in grades 7-12.

EDUC 4394  Student Teaching: EC-Grade 6
3 Semester Credit Hours (3 Lecture Hours)
Laboratory experiences and directed teaching in grades EC-Grade 6.

Prerequisite: EDUC 4693*.
*May be taken concurrently.

EDUC 4605  Planning, Teaching, Assessment and Technology
6 Semester Credit Hours (6 Lecture Hours)
A study of planning, teaching, assessment and technology as they relate to teaching. Lesson planning, teaching, reflection, observation, and collaboration with site professors and cooperating teachers in the field are integral parts of the course.

EDUC 4606  Planning, Teaching, Assessment and Technology for Grades 7-12 Teachers
6 Semester Credit Hours
A study of planning, teaching, assessment and technology as they relate to teaching in grades 7-12. Planning will include general curriculum issues, the lesson cycle, multiple intelligences, learning styles and resources. Teaching will include methods and strategies for delivery of instruction and classroom environment. Assessment will focus on traditional and authentic alternative assessment. Technology will cover media and techniques from transparencies to computer technology, and will incorporate the skills and knowledge for using the microcomputer to plan and develop presentations, instructional materials, and learning activities in the public school curriculum. Observation and collaboration with professional teachers in the field, as well as journal writing, will be integral parts of the course. Two full days per week are required at a partner school site. A student may enroll in this course for a maximum of 2 times only; and it must be completed during the Fall or Spring semesters in order to successfully complete all requirements.

EDUC 4607  Planning, Teaching, Assessment and Technology for Grades 4-8 Teachers
6 Semester Credit Hours
A study of planning, teaching, assessment and technology as they relate to teaching in grades 4-8. Planning will include general curriculum issues, the lesson cycle, multiple intelligences, learning styles and resources. Teaching will include methods and strategies for delivery of instruction and classroom environment. Assessment will focus on traditional and authentic alternative assessment. Technology will cover media and techniques from transparencies to computer technology, and will incorporate the skills and knowledge for using the microcomputer to plan and develop presentations, instructional materials, and learning activities in the public school curriculum. Observation and collaboration with professional teachers in the field, as well as journal writing, will be integral parts of the course. Two full days per week are required at a partner school site. A student may enroll in this course for a maximum of 2 times only; and it must be completed during the Fall or Spring semesters in order to successfully complete all requirements.

EDUC 4608  Planning, Teaching, Assessment and Technology for Grades EC-6 Teachers
6 Semester Credit Hours
A study of planning, teaching, assessment and technology as they relate to teaching in grades EC-6. Planning will include general curriculum issues, the lesson cycle, multiple intelligences, learning styles and resources. Teaching will include methods and strategies for delivery of instruction and classroom environment. Assessment will focus on traditional and authentic alternative assessment. Technology will cover media and techniques from transparencies to computer technology, and will incorporate the skills and knowledge for using the microcomputer to plan and develop presentations, instructional materials, and learning activities in the public school curriculum. Observation and collaboration with professional teachers in the field, as well as journal writing, will be integral parts of the course. Two full days per week are required at a partner school site. A student may enroll in this course for a maximum of 2 times only; and it must be completed during the Fall or Spring semesters in order to successfully complete all requirements.

EDUC 4693  Student Teaching: Grades 7-12
6 Semester Credit Hours (6 Lecture Hours)
Laboratory experiences and directed teaching in grades 7-12 in the student’s teaching field(s).

EDUC 4694  Student Teaching: EC-Grade 6
6 Semester Credit Hours (6 Lecture Hours)
Laboratory experiences and directed teaching in grades EC-Grade 6.

Prerequisite: EDUC 4693*.
*May be taken concurrently.

EDUC 4696  Directed Individual Study
1-6 Semester Credit Hours
Programs will be designed for individual cases through special permission of the Department Chair and Dean. May be repeated for credit when the topic varies.

EDUC 4699  Teaching Internship
6 Semester Credit Hours
An internship designed for inservice teachers seeking certification under the post baccalaureate program. Grade assigned will be “credit” (CR) or "no credit" (NC).

EDUC 4992  Student Teaching: Grades 4-8
9 Semester Credit Hours
Laboratory experiences and directed teaching in grades 4-8 in the student’s teaching field(s).
EDUC 4993 Student Teaching: Grades 7-12
9 Semester Credit Hours
Laboratory experiences and directed teaching in grades 7-12.

EDUC 4994 Student Teaching: EC-grade 6
9 Semester Credit Hours (9 Lecture Hours)
Laboratory experiences and directed teaching in an EC-Grade 6 classroom.

EDUC 4995 Clinical Teaching
9 Semester Credit Hours
Laboratory experiences and directed teaching in student's certification area(s).

Theatre (THEA)

THEA 1120 Theatre Practicum 1
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Linked with THEA 1342 - Costume Technology.
Co-requisite: SMTE 0098, THEA 1342.

THEA 1121 Theatre Practicum 2
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Linked with THEA 1330 - Theatre Stagecraft.
Co-requisite: SMTE 0098, THEA 1330.

THEA 1310 Theatre Appreciation
3 Semester Credit Hours (3 Lecture Hours)
Survey of theatre including its history, dramatic works, stage techniques, production procedures, and relation to other art forms. Participation in productions may be required.
TCCNS: DRAM 1310

THEA 1330 Theatre Stagecraft
3 Semester Credit Hours (3 Lab Hours)
Study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, and sound.
Co-requisite: SMTE 0098, THEA 1121.

THEA 1341 Stage Makeup
3 Semester Credit Hours (3 Lecture Hours)
A practical exploration of basic stage makeup techniques. The student will also investigate the relationships of character to makeup and begin to understand the work needed to design makeup for a production.
TCCNS: DRAM 1341

THEA 1351 Acting I
3 Semester Credit Hours (3 Lecture Hours)
The development of basic skills and techniques of acting, including sensory awareness, ensemble performing, character analysis, and script analysis. Emphasis on the mechanics of voice, body, emotion, and analysis as tools for the actor.
TCCNS: DRAM 1351

THEA 1352 Acting II
3 Semester Credit Hours (3 Lecture Hours)
A continuation of Acting I with emphasis on characterization and working with extended realism. The student will study the theories of Constantin Stanislavski.
Prerequisite: THEA 1351.
TCCNS: DRAM 1352

THEA 1371 Costume Technology
3 Semester Credit Hours (3 Lecture Hours)
A BEGINNING OVERVIEW OF THE VOCABULARY AND BASIC SEWING METHODS OF THEATRICAL COSTUMING.
Co-requisite: SMTE 0098, THEA 1120.
TCCNS: DRAM 1342

THEA 2120 Theatre Practicum 3
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Co-requisite: SMTE 0098.

THEA 2121 Theatre Practicum 4
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Co-requisite: SMTE 0098.

THEA 2336 Voice for the Actor
3 Semester Credit Hours (3 Lecture Hours)
Principles, practices, and exercises in awareness, relaxation, freedom, flexibility, and expressiveness in the actor's vocal instrument.

THEA 3120 Theatre Practicum 5
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Co-requisite: SMTE 0098.

THEA 3121 Theatre Practicum 6
1 Semester Credit Hour (1 Lab Hour)
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Co-requisite: SMTE 0098.

THEA 3165 The Design and Technical Portfolio.
1 Semester Credit Hour (1 Lecture Hour)
A basic course in the development of the student portfolio for the areas of design and technology with emphasis in the theatrical job market or graduate school.

THEA 3300 Stage Movement
3 Semester Credit Hours (3 Lecture Hours)
Students will gain insights into the physical skills, practices, exercises, and staging techniques developed and used by actors and directors in theatrical performance, with an emphasis on relaxation, freedom, expressiveness, spatial relationships, and composition.
Prerequisite: THEA 1351 and 1352.

THEA 3302 Creative Dramatics
3 Semester Credit Hours (3 Lecture Hours)
Theories and practices incorporating the techniques of creative drama in the elementary, middle, and high school classroom. Especially recommended for elementary education, recreation, and the social sciences.
THEA 3303  Theatre in the Public Schools
3 Semester Credit Hours (3 Lecture Hours)
Theories and practices of incorporating theatre activities in the public schools. Especially recommended to students of elementary and secondary education, recreation and the social sciences.

THEA 3310  Contemporary Theatre
3 Semester Credit Hours (3 Lecture Hours)
An overview of the nature and function of theatre in our contemporary society with discussion of representative plays and playwrights, theatrical styles, and avant-garde theatre. Students will explore multicultural, political, and experimental themes, attend theatrical productions, and meet with actors, designers, and directors to discuss contemporary practices.

THEA 3311  Script Analysis
3 Semester Credit Hours (3 Lecture Hours)
Students will learn the principles, techniques, and processes of dramatic structure found in written scripts as seen through the perception of the stage director, actor, and designer. A written intensive analysis of each script studied during the semester will be required. Focus will be on the theories of Aristotle and Eugene Scribe's "Well Made Play Formula".
Prerequisite: THEA 1352 and 2370.

THEA 3312  Stage Combat I
3 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Stage combat is a unique form of acting and movement; integral to the training of the professional actor and an extremely marketable skill. This course is an introduction to the stage fight discipline. It is important as actors that we develop a keen sense of duality in performance; a seemingly impromptu, theatrically engaging moment of violence built upon a foundation of safe, consistent physical dialogue. In this way, we can enhance the physical lives of all the characters we play; especially those engaged in acts of violence. This course explores many fundamental acting techniques in a new light including responsibility to a partner, listening and responding, projection, articulation, spatial awareness and above all intent. May be repeated for credit.

THEA 3315  UIL Debate and Speech
3 Semester Credit Hours (3 Lecture Hours)
This course will prepare students to coach High School speech events as extra-curricular and co-curricular activities. The class will focus primarily on Texas University Interscholastic Leagues (UIL competitions) but will also cover events sponsored by the Texas Forensics Association (TFA) and the National Forensics League (NFL). Areas covered will include oral interpretation, extemporaneous speaking, and debate.

THEA 3340  Audition Preparation
3 Semester Credit Hours (3 Lecture Hours)
Provides the student with the information and skills needed for auditioning in both professional and educational theatre.
Prerequisite: THEA 1351 and 1352.

THEA 3350  Production Management
3 Semester Credit Hours (3 Lecture Hours)
This course is a survey of stage management and theatre administration. Topics to be studied include stage management, production management, professional unions, publicity/marketing, box office and house management.
Prerequisite: THEA 1371, 2370 and 3311.

THEA 3370  History of the Theatre I
3 Semester Credit Hours (3 Lecture Hours)
Historical investigation of the nature and function of theatre from primitive rituals through the Renaissance periods with discussions of representative plays/playwrights, theatrical styles and stage design.
Prerequisite: THEA 3311.

THEA 3371  History of the Theatre II
3 Semester Credit Hours (3 Lecture Hours)
Historical investigation of theatre from the Restoration era to the present. Focus on the nature and function as well as the critical analysis of theatre and design, various movements, and influential people.
Prerequisite: THEA 3311.

THEA 3373  Principles of Design
3 Semester Credit Hours (3 Lecture Hours)
Builds upon the student’s practical lab experience and understanding of theatrical design begun in costume construction and theatre stagecraft. Students will explore the creative process of theatre production as it pertains to lighting, set, sound, props, and costume design projects.
Prerequisite: THEA 1371 and 2370.

THEA 3375  Acting III: Period Styles
3 Semester Credit Hours (3 Lecture Hours)
Specific training for actors in period plays. Emphasis on training the actor for the Classical, Renaissance, Shakespearean, and Modern Periods.
Prerequisite: THEA 1351 and 1352.

THEA 3380  History of Theatrical Styles
3 Semester Credit Hours (3 Lecture Hours)
A survey and research-oriented course which studies the major impact of the visual, artistic, historical, and social period movements. The course will focus on the approach that the actor, designer, director, and playwright take in developing the understanding of the environment of a play's location and time period.

THEA 3381  Drawing and Rendering for the Stage
3 Semester Credit Hours (3 Lecture Hours)
Examination of the uses of the various materials used and the development of the techniques employed in the creation and presentation of theatrical renderings and models.

THEA 3382  Drafting and Computer-Aided Design for the Stage
3 Semester Credit Hours (3 Lecture Hours)
Practical examination and practice in theatrical drafting conventions with an emphasis on the development of hand drafting techniques and CAD (computer-aided design).
Prerequisite: THEA 2370.

THEA 3385  Musical Theatre
3 Semester Credit Hours (3 Lecture Hours)
The focus of the course is on musical theatre history, exploring trends in the genre, audition techniques, characterization, staging and choreography.

THEA 3386  Playwriting
3 Semester Credit Hours (3 Lab Hours)
is a fundamentals course in writing for the stage. The course will cover playwriting for monologues, 10 Minute Plays, and One Act Plays. Completion of Script Analysis is strongly suggested but not required. May be repeated for credit.
THEA 3377 Dramaturgy
3 Semester Credit Hours (3 Lecture Hours)
This class will provide a brief overview of many of the skills and tools that
 dramaturgs possess. We will study the history of the field and learn about
currently working dramaturgs, while also covering the foundational skills
of historical research, structural analysis, and theoretical application.
Completion of Script Analysis is strongly suggested but not required. May
be repeated for credit.

THEA 4100 Senior Seminar
1 Semester Credit Hour (1 Lecture Hour)
A seminar class for the graduating senior. The student will be given
the opportunity to address individual weaknesses and strengths in
preparation for graduate school or entering the job market.

THEA 4200 Senior Capstone
2 Semester Credit Hours (2 Lab Hours)
The course is designed to provide the graduating senior an opportunity
to complete a final project in the acting/directing or design/tech focus
areas. The student’s project will be juried by the entire faculty and include
a research and production component.

THEA 4312 Stage Combat II
3 Semester Credit Hours (1 Lecture Hour, 2 Lab Hours)
Stage combat is a continuation of the skills of acting and movement;
integral to the training of the professional actor and an extremely
marketable skill. This course is an advanced weaponry course in the
stage fight discipline. It is important as actors that we develop a keen
sense of duality in performance; a seemingly impromptu, theatrically
engaging moment of violence built upon a foundation of safe, consistent
physical dialogue. In this way, we can enhance the physical lives of all the
characters we play; especially those engaged in acts of violence. May be
repeated for credit.
Prerequisite: THEA 3312.

THEA 4313 Theatre Technologies
3 Semester Credit Hours (3 Lecture Hours)
Designed to provide a forum for intensive study of a particular aspect of
modern theatrical technologies. Various topics may be selected based on
current industry trends, student needs and available resources.
Prerequisite: THEA 2370, 3381 and 3382.

THEA 4314 Collaborative Approaches to Design
3 Semester Credit Hours (3 Lecture Hours)
An advanced design course where the student will examine the process
design from the standpoint of the relationship created within the
design team. Through class projects, the student will participate
in a design process which fosters communication of ideas, written
analysis and collaboration in pursuit of a unified design in all aspects of
production.
Prerequisite: THEA 3373.

THEA 4323 Oral Interpretation of Children's Literature
3 Semester Credit Hours (3 Lecture Hours)
A study, primarily through the medium of performance, of various types
and forms of literature for children. Strongly oriented toward teaching
literature in the elementary school classroom. (Credit may not be given
for both this course and COMM 4323 or ENGL 4370.)

THEA 4333 Technical Direction
3 Semester Credit Hours (3 Lecture Hours)
An advanced technical class geared for the student who wishes to
receive training and employment as a technical director.

THEA 4360 Stage Direction I
3 Semester Credit Hours (3 Lecture Hours)
The study and practical application of directing principals for the
beginning director. Elements of script analysis, blocking, movement,
character development, tempo, and design will be investigated as part of
the directing process. The student will direct a ten-minute play for public
performance.
Prerequisite: THEA 1352 and 3311.

THEA 4361 Stage Direction II
3 Semester Credit Hours (3 Lecture Hours)
An advanced study in directing with actual experience in organization,
interpretation, casting, and producing the one-act play. The student will
direct a one-act play for public performance.
Prerequisite: THEA 4360.

THEA 4365 Costume Design
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of costume design utilizing the human
form as a design element for the stage. Encompasses theatre form, style,
and drafting and drawing techniques. Students are required to work on
University Theatre productions as part of this course.

THEA 4366 Scene Painting
3 Semester Credit Hours
The examination and practice of the various materials and techniques of
professional scenic painting, including material mixing, faux techniques,
and textural applications.

THEA 4370 Set Design
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of set design. Students will learn the
fundamentals of theatre design and will apply this knowledge to projects.
Projects will encompass theatre form, style, and concept utilization.
Students are required to work on University Theatre productions as a part
of this course.

THEA 4371 Acting for the Camera
3 Semester Credit Hours (3 Lecture Hours)
Emphasizes the practice of various acting styles for television, video, and
film. The student will receive practical experience in commercial styles,
public service announcements, television and video style acting, and film
scene study. (Credit may not be given for both this course and COMM
4371.)

THEA 4372 Theatre Practicum
3 Semester Credit Hours (3 Lecture Hours)
Advanced practice and participation in set construction, lighting
implementation, and stagecraft. Students will build upon skills in the
areas of theatre production and design for production in the University
Theatre. Class meets twice weekly with additional crew/lab work
requirements as well. Students are required to work on University Theatre
productions as a part of this course. May be repeated twice for credit.

THEA 4373 Improvisation Skills Level I
3 Semester Credit Hours (3 Lecture Hours)
is a fundamentals of improvisation course that teaches the guidelines
for successful improvisation skills. The course emphasizes the basics of
successful improvisation as it pertains to Theatre, Communication, and
the student who wants to improve their communication skills. May be
repeated for credit.
THEA 4374 Improvisation Skills Level II
3 Semester Credit Hours (3 Lecture Hours)
is a continuation of improvisation course level I that instructs the student in the guidelines for advanced improvisation skills. The course teaches the skills necessary for advanced individual and group improvisation. Emphasis is on ensemble performance. May be repeated for credit.
Prerequisite: THEA 4373.

THEA 4375 Lighting Design
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of lighting design. Practical experiences in University Theatre are included to provide exposure to the total design and implementation of lighting design. Students will become familiar with the techniques and aesthetics of lighting theatrical performances and will apply skills to create designs for projects and actual plays. Students are required to work on University Theatre productions as part of this course.

THEA 4380 Advanced Stage Makeup
3 Semester Credit Hours (3 Lecture Hours)
A study of the theory and practice of designing makeup for the stage. Students will learn about aesthetics, application, and techniques of stage makeup. Students will do makeup designs as projects in the class. Students are required to work on University Theatre productions as part of this course.

THEA 4384 Theatre Production
1-3 Semester Credit Hours (1-3 Lecture Hours)
An applied production experience in which students perform in a play, work back stage or on a stage crew, or learn to design a play or musical from conception to final production. Students enrolling in the course but not cast in the shows will work backstage (technical production) or in another production capacity. Enrollment is by application only, and must be approved by the instructor in advance of registration. As part of the application process the number of credit hours will be determined by the instructor. May be repeated for credit.

THEA 4390 Topics in Theatre
1-3 Semester Credit Hours (1-3 Lecture Hours)
Study of specialized topics and themes in the areas of acting, directing, and theatre history. May be repeated when topics vary.

THEA 4396 Directed Individual Study
1-3 Semester Credit Hours (1-3 Lecture Hours)
See College description. By application.

THEA 4398 Applied Experience
3 Semester Credit Hours
See College description. By application.

University Studies (UNIV)

UNIV 1100 Career and Academic Planning
1 Semester Credit Hour (2 Lecture Hours)
assists students in confirming career and educational choices based on strengths-based career assessments, research on career interests, and clarification of majors and degree options. Through in-class activities, discussions, and presentations, students will explore the variety of educational opportunities available to them at the university to support their career and academic interests. In addition, students will be introduced to decision-making and goal-setting strategies to identify and set achievable academic and career goals.

UNIV 1101 First-Year Seminar I
1 Semester Credit Hour (2 Lecture Hours)
Students are introduced to college level work and responsibilities, and provided with appropriate support and resources to successfully navigate their first semester. Required of full-time first-year students; to be taken as a component of a student's first learning community.

UNIV 1102 First-Year Seminar II
1 Semester Credit Hour (2 Lecture Hours)
Continuation of UNIV 1101. Students participate in academic discourse and prepare for their future coursework and careers. Required of full-time first-year students; to be taken as a component of a student's second learning community
Co-requisite: MEDA 1305, PSYC 2301.

UNIV 1103 University Studies Capstone
3 Semester Credit Hours (3 Lecture Hours)
This course emphasizes writing, research, professionalization, and workforce preparation. Students will be responsible for developing a reflective writing portfolio that showcases their academic specialization and preparation within the University Studies program. The course will also cover the practical skills of obtaining employment, including writing resumes, effectively interviewing, and effectively searching for available jobs.

Women and Gender Studies (WGST)

WGST 3301 Introduction to Women and Gender Studies
3 Semester Credit Hours (3 Lecture Hours)
An introduction to the study of women and gender across disciplines and cultures. Designed to engage students in some of the most important methodological and theoretical debates regarding women's experiences and the construction of knowledge about women historically and today. Literary, anthropological, sociological, historical, scientific, and managerial perspectives may be included.

WGST 4380 Senior Seminar in Women and Gender Studies
3 Semester Credit Hours (3 Lecture Hours)
This seminar explores the relationship between theory and application in the field of women and gender studies. This includes the study of feminist theories and methodologies with special attention to the application of these to current debates and social issues. In addition, students must complete a research paper or applied experience project that is relevant for their major field of study.

Faculty, Regents, and Administration

Faculty and Librarians
(As of June 2020)

Abdulla, Hussain
Associate Professor of Chemistry; B.S., University of Bahrain; M.S., Ph.D., Old Dominion University.

Aguilar, Israel
Assistant Professor of Educational Administration; B.A., M.S., UT Brownsville; Ph.D., Texas State University.

Aipperspach, Ruth
Instructor of Communication; B.A., John Brown University; M.S., University of North Texas.

Ajisafe, Toyin D.
Associate Professor of Kinesiology; B.S., University of North Dakota; M.S., Barry University; Ph.D., Georgia State University.

Anderson, Jennifer Lynn
Associate Librarian; B.A., Texas A&M University-Corpus Christi; M.L.S., Texas Woman's University.

Andrews, Christopher
Assistant Professor of English; B.A., McMurry University; M.A., Tarleton State University; Ph.D., Texas Tech University.

Araiza, Isabel
Associate Professor of Sociology; B.A., Texas A&M University-Corpus Christi; M.A., Ph.D., Boston College.

Aubrey, Meg
Assistant Professor of Art and Foundations Coordinator; B.F.A., Rhode Island School of Design; M.F.A., Savannah College of Art and Design.

Avsar, Veyesel
Associate Professor of Economics; B.A., Istanbul University; M.A., Ph.D., Florida International University.

Babbili, Anantha S.
Professor of Communication; B.S., B.J., Osmania University (India); M.A., University of Oklahoma; Ph.D., University of Iowa.

Baca, Jose
Assistant Professor of Electrical Engineering; B.S., Matamoros Institute of Technology; M.S., University of Applied Sciences in Aachen; Ph.D., Technical University of Madrid.

Bajuyo, Leticia
Associate Professor of Art; B.F.A., University of Notre Dame; M.F.A., University of Tennessee, Knoxville.

Baldwin, Sara
Associate Professor of Nursing and Associate Dean, College of Nursing and Health Sciences; B.S.N., University of Utah; M.S., University of Portland; Ph.D., University of Nebraska.

Banda, Rose M.
Assistant Professor of Educational Leadership; B.A., M.E., University of Texas at San Antonio; Ph.D., Texas A&M University-College Station.

Barbosa, Mara
Assistant Professor of Spanish; B.A., Universidade Federal de Minas Gerais; M.A., Ph.D., Purdue University.

Barnes, Mary L.
Clinical Assistant Professor/ Athletic Training Education Program Director; B.A., Coe College; M.A., Texas A&M University-Corpus Christi.

Belkhoucha, Mohammed
Professional Assistant Professor of Computer Science; B.S., Tlemcen University; M.S., Tulane University; Ph.D., University of North Texas.

Benibo, Bilaye R.
Professor of Sociology; O.N.D., University of Science and Technology, Port-Harcourt, Nigeria; B.Sc., M.Sc., University of Lagos, Nigeria; Ph.D., Washington University, St. Louis.

Berkich, Don
Associate Professor of Philosophy; B.A., M.A., University of Kansas; Ph.D., University of Massachusetts.

Bernhardt, Ross
Professor of Music; B.S., University of Missouri; M.A., University of North Carolina; Ph.D., Michigan State University.

Besonen, Mark R.
Assistant Professor of Earth System Science; B.S., Tufts University; M.S., University of Minnesota; Ph.D., University of Massachusetts.

Bezio, Kelly
Associate Professor of English; B.A., University of Wisconsin-Oshkosh; M.A., Ph.D., University of North Carolina at Chapel Hill.

Bhattacharya, Kakali
Associate Professor of Educational Leadership; B.S., McMaster University; M.S., Southern Illinois University at Carbondale; Ph.D., University of Georgia.

Billiot, Eugene J.
Professor of Environmental Chemistry; B.S., Nicholls State University; Ph.D., Louisiana State University.

Billiot, Fereshteh Haddadian
Professor of Chemistry; B.S., Sharif University of Technology, Iran; M.S., Ball State University; Ph.D., Louisiana State University.

Bippert, Kelli
Assistant Professor of Literacy Education; B.A., M.A., Ph.D., University of Texas at San Antonio.

Bird, Chris
Associate Professor of Biology; B.S., University of Connecticut; Ph.D., University of Hawaii at Manoa.

Bland, Eugene
Associate Professor of Finance; B.A., M.A., University of South Florida; Ph.D., University of Mississippi.

Blanke, David
Professor of History; B.S., University of Kentucky; M.A., Ph.D., Loyola University, Chicago.

Bogucki, Darek J.
Associate Professor of Physical Oceanography; B.S., Gdansk Technical University, Poland; M.S., Dallhousie University; Ph.D., University of Southern California.

Boham, Mikaela
Associate Professor of Athletic Training; B.S., University of Nevada; M.S., Ed.D., Boise State University.

Bolick, Margaret
Associate Professor of Teacher Education; B.A., M.Ed., University of Texas at Austin; Ph.D., Kansas State University.

Bonnette, Randy
Associate Professor of Kinesiology; B.S., M.Ed., Northwestern State University; Ed.D., Texas A&M University.

Botello-Zamarron, Raquel
Assistant Professor of Psychology; B.A., M.S., Ph.D., Iowa State University.

Bowden, Randall
Professor of Educational Leadership-Higher Education Administration; B.A. Colorado Christian College; M.A. University of Colorado; Ph.D. University of Denver.

Bray, Christell O.
Associate Professor of Nursing; B.S.N., M.S.N., University of Texas at Austin; Ph.D., University of Texas – Medical Branch Galveston.

Bridges, David
Associate Professor of Mechanical Engineering and Chair, Department of Engineering; B.S., M.S., Mississippi State University; Ph.D., California State of Technology.

Britt, Sean
Professional Assistant Professor of First Year Seminar; B.A., M.A., Texas A&M University-Corpus Christi.

Brouillard, Pamela J.
Professor of Psychology and Chair, Department of Psychology and Sociology; B.A., University of Wisconsin-Madison; Psy.D., Baylor University.

Brown, Jennifer
Associate Professor of History; B.A., University of Montana-Western; M.A., Montana State University; Ph.D., Washington State University.

Brumley, Christina
Clinical Assistant Professor of Nursing; B.S.N., Rockhurst University; M.S.N., Walden University.

Bruun, Cilla Faye
Professor of Curriculum, Instruction, & Learning Sciences; B.A., University of Texas at Austin; M.S., Ed.D., Texas A&M University-Corpus Christi.

Buck, Gregory
Associate Professor of Biology; B.S., Morehouse College; M.S., Ph.D., Georgia State University.

Byus, Kent
Professor of Marketing; B.B.A., University of Texas at El Paso; M.B.A., Texas Tech University; Ph.D., New Mexico State University.

Cammarata, Kirk Vincent
Associate Professor of Biology; B.A., University of Maryland-Baltimore County; Ph.D., University of Kentucky.

Carstensen, Robin
Associate Professor of English; B.A., M.A., Texas A&M University-Corpus Christi; Ph.D., Oklahoma State University.

Carter, Amy
Professional Assistant Professor of Social Science; B.A., Colorado College; M.A., Vanderbilt University; J.D., Gonzaga University School of Law.

Castillo, Yvonne
Professional Assistant Professor; B.S., Corpus Christi, State University; M.S., Ph.D., Texas A&M University-Corpus Christi.

Causgrove, Tim
Associate Professor of Chemistry; B.S., University of Nebraska; Ph.D., Iowa State University.

Changchit, Chuleeporn
Professor of Management Information Systems; B.S., Assumption University, Bangkok, Thailand; L.L.B., Ramkhamhaeng University, Bangkok, Thailand; M.S., Ph.D., University of Kentucky.

Chen, Baohua
Professional Assistant Professor of Mathematics; B.S., Lanzhou University; M.S., Institute of Atmospheric Physics, Chinese Academy of Science; Ph.D., Illinois Institute of Technology.

Chen, Lea-Der
Professor of Mechanical Engineering and Associate Dean, College of Science and Engineering; B.S. National Taiwan University; M.S., Ph.D., The Pennsylvania State University.

Choi, Haekyoung
Instructor of Mathematics; B.A., Korea University; M.S., Texas A&M University-Corpus Christi.

Coeckelenbergh, Yves
Professional Assistant Professor of Chemistry; License, University of Brussels; Ph.D., SUNY at Buffalo.

Coffin, Richard
Professor of Oceanography and Chair, Department of Physical and Environmental Sciences; B.A., M.S., University of New Hampshire; Ph.D., University of Delaware.

Colbourn, Alston
Assistant Librarian; B.A., M.L.S., University of North Carolina at Chapel Hill.

Comparini, Lisa
Associate Professor of Psychology; B.A., Austin College; M.A., Ph.D., Clark University.

Concannon, Kevin
Professor of English and Chair, Department of English; B.A., University of California-Los Angeles; M.A., Ph.D., University of California-Irvine.

Conkey, Andrew
Assistant Professor; B.S., Texas A&I University; M.S., Texas A&M University-Kingsville; Ph.D., Texas A&M University-College Station.

Conkle, Jeremy
Associate Professor of Chemistry; B.S., Longwood University; M.S., The College of Charleston; Ph.D., Louisiana State University.

Cook, Bart
Associate Professor of Biology; B.A., University of Kansas; Ph.D., Texas Tech University.

Costanzo, Adam
Professional Associate Professor of History; B.A., American University; M.A., Ph.D., University of California, Davis.

Crane, Kathleen
Clinical Assistant Professor of Nursing; Diploma in Nursing, Saint Vincent Health Center; B.S., Gannon University; M.S.N., Edinboro University of Pennsylvania; Certified in Nursing Informatics.

Crowley, Patrick Matthew
Professor of Economics, B.Sc., M.Sc., University of Bristol, United Kingdom; Ph.D., McGill University, Canada.

Cruz-Milan, Oliver
Assistant Professor of Marketing; B.S., Hilton College-University of Houston; M.S., Universidad La Salle-Cancun; Ph.D., University of Texas Rio Grande Valley.

Culver, Melissa
Associate Professor of Spanish; B.A., Universidad de Murcia, España; Ph.D., State University of New York-Stony Brook.

Cutshall, Robert
Associate Professor of Management Information Systems; B.B.A., M.B.A., Ph.D., University of North Texas.

Davis, Liana
Associate Professor of Kinesiology; B.S., Pennsylvania State University; M.Ed., Indiana University of Pennsylvania; Ph.D., University of South Carolina.

de Ghize, Susan
Associate Professor of Music Theory; B.A., University of California at Berkeley; M.A., Ph.D., University of California at Santa Barbara.

Deis, Donald Ray
Ennis S. and Virginia C. Joslin Endowed Chair in Accounting; B.B.A., M.B.A., Texas A&M University-Corpus Christi; Ph.D., Texas A&M University; C.P.A., C.G.F.M.

Deis, Kathy Ann
Clinical Assistant Professor of Nursing; B.S., M.S.N., Texas A&M University-Corpus Christi.

Denham, Ellen
Professional Assistant Professor of Music; B.M., North Carolina School of the Arts; M.M., New England Conservatory of Music; D.M.A., University of Illinois Urbana-Champaign.

Denny, Diane Lynn
Associate Professor of Mathematics; B.A., Wake Forest University; M.S., Courant Institute of Mathematics; Ph.D., University of Maryland at College Park.

DeSilva, Saman
Professional Assistant Professor of Computer Science; B.S., M.S., Ph.D., University of Texas at San Antonio.

Devlin, Donna
Research Professor of Life Sciences; B.A., University of South Florida; Ph.D., University Louisiana Lafayette.

Dillard, Robert J.
Associate Professor of Political Science; M.S., United States Military Academy; M.A., Ph.D., Texas Tech University.

Dogbey, James K.
Associate Professor of Mathematics Education; B.Ed., University of Cape Coast; M.S., Wichita State University; Ph.D., University of South Florida.

Doolan, Stephen
Associate Professor of English; M.A., Humboldt State; Ph.D., Northern Arizona University.

Doyungan, Stella M.
Professional Associate Professor of Biology; B.S., Mindanao State University, Philippines; M.S., Ph.D., University of the Philippines- Los Baños, Philippines.

Dubose, Loree
Clinical Assistant Professor of Nursing; B.S.N., University of Texas Health Science Center at Houston; M.S.N., Texas A&M University-Corpus Christi.

Edwards, Dessynie
Assistant Professor of Education Administration; B.A., M.A., St. Mary's University; Ph.D., Texas State University.

Ekici, Celil
Associate Professor of Mathematics; B.S., M.S., Middle East Technical University; Ph.D., University of Georgia.

Elkassabgi, Ahmed
Visiting Assistant Professor of Economics; B.S., Texas A&M University-Kingsville; M.B.A., Texas A&M University-Corpus Christi; Ph.D., Texas A&M International University.

Elwood, Susan
Associate Professor of Educational Technology; B.S., Minnesota State University-Mankato; M.Ed., Framingham University; Ed.D., Texas Tech University.

Epley, Jennifer
Associate Professor of Political Science; B.A., Vassar College; M.A., ABD, University of Michigan.

Ercan, Teresa
Clinical Assistant Professor of Nursing; B.S.N., Laurentian University; M.S.N., Western Governors University.

Ersoy, I. Burak
Instructor of Computer Science; B.S., Mindanao State University; M.S., Ph.D., University of the Philippines.

Etheridge, Charles, Jr.
Professor of English; B.A., University of Texas at El Paso; M.A., Ph.D., Texas Christian University.

Fahlman, Andreas.
Assistant Professor of Biology; B.S., Hawaii Pacific University; Ph.D., Carleton University.

Fant, J. Steven
Assistant Professor of Computer Science/Mathematics; B.S., M.S., Texas A&M University.

Felix, Joseph
Assistant Professor of Environmental Chemistry; B.S., Indiana University of Pennsylvania; M.S., University of North Carolina Wilmington; Ph.D., University of Pittsburgh.

Ferreya-Orozco, Gabriel
Associate Professor of Criminal Justice; B.A., Universidad Michoacana de San Nicolas de Hidago; M.A., University of Texas at San Antonio; Ph.D., Arizona State University.

Fitzsimmons-Doolan, Shannon
Associate Professor of English; B.A., University of Virginia; M.A., Georgetown University; Ph.D., Northern Arizona University.

Fleming, Kathleen G.
Clinical Assistant Professor of Literacy Education; B.S., M.S., Ph.D., Texas A&M University-Corpus Christi.

Flores, José
Professor of Music; B.M., M.M., Queens College-Aaron Copland School of Music; Ph.D., University of Arizona.

Fomenko, Julie
Assistant Professor of Nursing; B.S.N., Medical College of Georgia; M.S.N., Walden University.

Forgione, Frances "Bunny"
Associate Professor of Nursing and Interim Dean, College of Nursing and Health Sciences; B.S.N., Niagara University; M.S.N., Texas Woman's University; Ph.D., University of Texas Health Science Center at San Antonio; Registered Nurse, Clinical Nurse Specialist in Maternal/Child Health.

Fox, Joe
Professor of Fisheries and Mariculture and Environmental Science; B.S., Southwest Texas State University; Ph.D., Texas A&M University.

Fox, Rafael
Instructor of Electrical Engineering; B.S., Texas A&M University-Kingsville; M.S., Texas A&M University.

Frazier, Kimberly N.
Assistant Professor of Counseling; B.S., M.A., Xavier University of Louisiana; Ph.D. University of New Orleans.

Friday, H. Swint
Professor of Finance; B.S.Ed., Southwest Texas State University; M.S., Ph.D., Florida State University, C.F.P.

Freiley, L. Brooke
Assistant Professor of Communication; B.A., M.A., University of Louisville; Ph.D., Purdue University.

Gamble, John E.
Professor of Management and Dean of the College of Business; B.S., University of Alabama; M.A., University of Alabama; Ph.D., University of Alabama.

Garcia, Rosario
Clinical Assistant Professor of Nursing; B.S., Texas A&M University- Corpus Christi; A.D.N., Del Mar College; M.S.N., University of Phoenix.

Garcia Carrillo, Luis R.
Associate Professor of Engineering; B.S., M.S., Institute of Technology of La Laguna, Mexico; Ph.D., University of Technology of Compiegne.

Garza, Susan
Professor of English; B.S.Ed., M. Ed., Texas Christian University; Ph.D., University of Texas at Arlington.

Garza-Cuen, Jennifer
Assistant Professor of Art (Photography); B.A., American University in Cairo; M.F.A., M.A., Rhode Island School of Design.

Geist, Simon
Assistant Professor of Marine Biology; B.S., Ph.D., University of Bremen, Germany.

Gerlach, Jennifer
Assistant Professor of School Counseling; B.A., University of Tennessee; M.E., Ph.D., Virginia Commonwealth University.

Gevrek, Deniz
Associate Professor of Economics; B.A., Bogazici University; M.S., University of Texas at Austin; Ph.D., University of Texas at Austin.

Gibeaut, James C.
Harte Research Institute Endowed Associate Research Professor and Associate Professor of Physical and Environmental Science; B.S., Ohio State University; M.S., University of Rhode Island; Ph.D., University of South Florida.

Glanc, Gina
Associate Professor of Psychology; B.A., M.A., and Ph.D. Western Reserve University.

Gold, John R.
Research Professor of Biology; B.A., Knox College; PostDoc, Ph.D., University of California.

Gonzales, Xavier
Professional Assistant Professor of Biomedical Sciences; B.S., Texas A&M University-Corpus Christi; M.S., Texas A&M University Health Science Center; Ph.D., Universidad Nacional Autonoma de Mexico.

Goodman, Nancy T.
Clinical Assistant Professor of Nursing; B.S.N., Wayne State University; M.S., Wright State University; Registered Nurse, Certified in Maternal, Gynecological, Neonatal Nursing.

Greathouse, Susan
Clinical Assistant Professor of Nursing; B.N., University of Calgary; M.S.N., University of British Columbia.

Guardiola, Jose
Associate Professor of Mathematics; B.S. Universidad Autonoma de Chihuahua; M.S., Instituto Tecnologico de Monterrey; Ph.D., Baylor University.

Gurney, David M.
Associate Professor of Media and Chair, Communication and Media; B.A., Bowdoin College; M.A., University of Texas at Austin; Ph.D., Northwestern University.

Hadimlioglu, I. Alihan
Instructor of Computer Science; B.S., Istanbul Commerce University; M.S., Texas A&M University-Corpus Christi.

Hamilton, Mary Jane
Professor of Nursing; B.S.N., Medical College of Georgia; M.S., Texas A&M University-Kingsville; Ph.D., Texas Woman's University, Houston; Registered Nurse, Certified Neonatal Intensive Care.

Hariri, Mahdiar
Professional Assistant Professor of Mechanical Engineering; B.S., M.S., Shiraz University; Ph.D., University of Iowa.

Harris, Randall
Professor of Management and Chair, Management and Marketing; B.A., University of Texas at Austin; M.B.A., University of Texas at Austin; Ph.D., University of Florida.

Hartlaub, Mark
Professor of Psychology and Dean of College of Liberal Arts; B.A., University of Denver; M.A., University of Connecticut; Ph.D., University at Albany-State University of New York.

Hartman, Amanda
Professional Assistant Professor of FYL Communities; B.A., M.A., Texas A&M University-Corpus Christi.

Hawkinson, Chelsie
Professional Associate Professor of Undergraduate Studies; B.A., M.A., Ph.D., Texas A&M University-Corpus Christi.

Hemmer, Lynn M.
Associate Professor of Educational Administration; B.S., California Lutheran University; M.A., Ph.D., Texas A&M University.

Hernandez, Carmen
Clinical Assistant Professor of Nursing; A.D.N., Del Mar College; B.S.N., M.S.N., Texas A&M University-Corpus Christi; Registered Nurse.

Hiatt, Derrik
Associate Librarian; B.A., Brigham Young University.

Hill, David
Professional Assistant Professor of Art and Galleries Manager; B.F.A., University of South Alabama; M.F.A., University of Tennessee.

Hilker, Jerry
Instructor of Kinesiology and Head Athletic Trainer; B.S., University of Nebraska; M.S., Northwest Missouri State University.

Hinojosa, Yndalecio
Assistant Professor of English; B.A., M.A., Texas A&M University-Kingsville; M.A., Texas A&M University-Corpus Christi; Ph.D., University of Texas at San Antonio.

Hiraishi, Sayuri
Clinical Assistant Professor of Kinesiology; B.S., Texas State University; M.S., University of Florida.

Hodges, Ann
Associate Librarian; B.A., University of Texas at Austin; M.L.S., University of North Texas; M.S., University of North Texas.

Hogan, J.Derek
Associate Professor of Marine Biology; B.S., Brock University; Ph.D., University of Windsor.

Holubowitch, Nicolas
Professional Assistant Professor of Chemistry; B.S., College of William and Mary; M.S., University of Denver; Ph.D., Tyndall National Institute, University College Cork.

Hormoz, Amir
Professor of Operations Management; B.B.A., Tehran Business College; M.B.A., Ph.D., University of Houston-University Park.

Houlihan, Amy
Associate Professor of Psychology; B.A., St. Edwards University; M.S., Ph.D., Iowa State University.

Hu, Xiping
Associate Professor of Chemistry; B.S., Peking University; Ph.D., Old Dominion University.

Huang, Minhua
Professional Assistant Professor of Computer Science; B.S., Jiang Nan University; B.S., M.S., City College, CUNY; M.S., Ph.D., Graduate Center, CUNY.

Huang, Yuxia (Lucy)
Associate Professor of Geographic Information Science; B.S., Jiang Xi Normal University; M.S., South China Normal University; Ph.D., University at Buffalo/The State University of New York.

Hudgins, David L.
Professor of Economics and Chair, Decision Sciences and Economics; B.S., Oklahoma State University; M.S., University of Illinois at Urbana-Champaign; Ph.D., University of Illinois at Urbana-Champaign.

Hughes, Mark V.
Clinical Assistant Professor of Teacher Education; B.S., North Texas State University; M.S., Corpus Christi State University; Ed.D., Texas A&M University-Corpus Christi.

Huerta, Juan Carlos
Professor of Political Science; B.A., Texas A&M University; M.A., Ph.D., University of Houston.

Hunnicutt Hollenbaugh, K. Michelle
Associate Professor of Counselor Education; B.S., M.A., Ph.D., Ohio State University.

Ivy, Diana K.
Professor of Communication; B.A., Texas Wesleyan College; M.A., Ph.D., University of Oklahoma.

Jarrell, Melissa
Professor of Criminal Justice and Dean of University College; B.A., Eckerd College; M.A., Ph.D., University of South Florida.

Jeffery, Tonya D.
Assistant Professor of Teacher Education; B.S., M.Ed., Ed.D., University of Houston.

Jeffress, Gary A.
Professor of Geographic Information Science and Director of the Blucher Institute for Surveying and Science; B.Surv., M.Surv.Sci, University of New South Wales, Australia; Ph.D., University of Maine, Registered Professional Land Surveyor.

Jin, Lei
Associate Professor of Statistics; B.S., Huanzhong University of Science & Technology; M.S., Zhejiang University; Ph.D. Texas A&M University.

Johnson, Andrew F.
Assistant Professor of Management; B.B.A., M.S., M.A., Tarleton University; Ph.D., University of Texas-San Antonio.

Johnson, Douglas
Instructor of Mathematics; B.S., Texas A&M University; M.S., Texas A&M University-Corpus Christi.

Johnson, Philip
Professor of Theatre and Technical Director of University Theatre; B.S., Ball State University; M.F.A., Michigan State University.

Johnson, Rachel
Professional Assistant Professor of First Year Seminar; B.S.I.S., M.A.C.C., Texas A&M University-Corpus Christi.

Johnson, Robin
Assistant Professor of Teacher Education; B.S., Baylor University; M.Ed., Ed.D., Texas A&M University-Commerce.

Johnson, Timothy
Faculty, Regents, and Administration

Visiting Assistant Professor of History; B.A., Denison University; M.Phil., Ph.D., Graduate Center, CUNY.

Jorgensen, Daniel
Professor of Public Administration and Chair, Department of Social Sciences; B.A., Loras College; M.P.A., Drake University; Ph.D., Florida State University.

Jung, Jinha
Assistant Professor of Engineering; B.S., M.S., Seoul National University; Ph.D., Purdue University.

Kar, Dulal C.
Professor of Computer Science; B.S., M.S., Bangladesh University of Engineering and Technology; M.S., Ph.D., North Dakota State University.

Katz, Louis H.
Professor of Art and Chair, Department of Art and Design; B.F.A., Kansas City Art Institute; M.F.A., Montana State University.

Kears, Kevin
Assistant Professor of Political Science; B.A., Ashland University; Ph.D., University of North Texas.

Kesterson, Misty R.
Clinical Assistant Professor of Kinesiology; B.S., M.S., Texas Tech University; Ed.D., Texas A&M University-Corpus Christi.

Keys, Yolanda
Professor of Nursing; B.S.N., M.S.N., Texas A&M University-Corpus Christi, D.H.A., University of Phoenix.

Kim, Iltae
Associate Professor of Engineering; M.S. Pohang University of Science & Technology; Ph.D. University of Tennessee.

King, Scott
Professor of Computing Sciences and Chair, Department of Computing Sciences; B.S., Utah State University; M.S., Ph.D., Ohio State University.

Klaus, Timothy
Professor of Management Information Systems; B.S., M.B.A., M.S., Illinois State University; Ph.D., University of South Florida.

Kouzekanani, Kamiar
Professor of Educational Administration and Research; B.S., Oklahoma State University, M.S., University of California at Davis; Ph.D., University of Miami; Ph.D., Ohio State University.

Krishnagiri, Archana
Instructor of Mathematics; B.S., ASM College, India; M.S., Texas A&M University.

Kruse, James Scott
Professional Assistant Professor of Accounting; B.A., Drury University; M.A.C.C., Texas A&M University-Corpus Christi.

Kutil, Brandi
Professional Senior Professor of Undergraduate Studies; B.S., Ph.D., Texas A&M University-College Station.

Larkin, Patrick David
Associate Professor of Biochemistry; B.S., University of Iowa; Ph.D., Texas A&M University.

Lau, Chrissy
Assistant Professor of History; B.A., M.A., Ph.D., University of California Santa Barbara.

Lazaro, Rosa
Professor of Theatre; B.F.A., Utah State University; M.F.A., Southern Illinois University-Carbondale.

Lee, Byung-Cheol
Assistant Professor of Industrial Engineering; B.S., M.S., Yonsei University, Korea; Ph.D., Purdue University.

Lee, Jim
Professor of Economics; B.A., Wilfrid Laurier University, Canada; M.A., University of Waterloo, Canada; Ph.D., Pennsylvania State University.

Lenz, Alan Stephen
Associate Professor of Counselor Education; B.A., M.A., Ph.D., Texas A&M University-Corpus Christi.

Levine, Jeffrey
Assistant Professor of Kinesiology; B.A., University of Michigan; J.D., Tulane University Law School.

Li, Long-Zhuang
Professor of Computer Science; B.S., M.S., Northwestern Polytechnic University; Ph.D., University of Missouri-Columbia.

Li, Zhaorui
Assistant Professor of Engineering; B.S., M.S., Tsinghua University; M.B.A., University of Detroit Mercy; Ph.D., Washington State University.

Liu, Chuntao
Associate Professor of Atmospheric Sciences; B.S., Lanzhou University, Gansu, China; M.S., Ph.D., University of Wyoming.

Loeffler, Kevin
Associate Professor of Theatre; B.F.A., University of Evansville; M.F.A., University of Iowa.

Long, Arlene
Instructor of Music; B.M., Samford University; M.M., University of Michigan.

Louis, Lisa
Associate Librarian; B.A., Louisiana State University; M.L.S., University of North Texas; M.S., University of North Texas.

Loveland, Karen
Assistant Professor of Marketing; B.B.A., M.B.A., Ph.D., New Mexico State University.

Lucido, Frank
Professor of Education and Interim Associate Dean, College of Education and Human Development; B.A., M.S., Texas A&M University; M.S., Texas A&M University-Corpus Christi; M.A., Incarnate Word University; Ed.D., Texas A&M University-Kingsville.

Luna, J. Don
Professor of Theatre and Chair, Department of Theatre and Dance; B.S., Memphis State University; M.F.A., University of Arizona.
Luttrell, Eric
Professional Associate Professor of English; B.A., University of Louisiana; M.A., University of Denver; Ph.D., University of Oregon.

Lynch-Davis, Kathleen
Professor and Chair, Department of Curriculum, Instruction, and Learning Sciences; B.A., M.Ed., University of North Carolina at Wilmington; Ph.D., Indiana University.

Mahdy, Ahmed
Professor of Computer Science and Vice President for Research and Innovation; B.S., Cairo University; M.S., Ph.D., University of Nebraska-Lincoln.

Maitland, Daniel
Assistant Professor of Clinical Psychology; B.A., University of Wisconsin-Milwaukee; M.A., Ph.D., Western Michigan University.

Manley, Nick
Assistant Professor of Communication & Media; B.B.A., University of Massachusetts; M.F.A., Emerson College.

Maresh-Fuehrer, Michelle M.
Professor of Communication; B.A., Texas A&M University-Corpus Christi; M.A., Texas Tech University; Ph.D., University of Nebraska-Lincoln.

Martin, Eliza
Professional Associate Professor of History; B.A., University of San Diego; M.A., Ph.D., University of California, Santa Cruz.

Martinez, Laura
Associate Librarian; B.A., Yale University; M.L.S., University of North Texas.

Martinez, Petra
Clinical Assistant Professor of Nursing; B.S.N., M.S.N., Texas A&M University-Corpus Christi.

Mathur, Sunil
Professor and Assistant to the Dean for Research Development; B.S., M.S., M.Phil., Ph.D., University of Delhi.

Maxwell, Gerri
Professor and Chair, Department of Educational Leadership; B.A., Texas Lutheran College; M.Ed., University of Houston-Victoria; Ph.D., Texas A&M University-College Station.

McCaleb, Karen
Professor of Special Education and Dean of the College of Graduate Studies; B.S., Framingham State University; M.Ed., Westfield State College; Ed.D., University of Northern Colorado.

McClellan, Dorothy S.
Professor of Criminal Justice and Regents Professor; B.A., Temple University; M.A., Ed.S, Ph.D., State University of New York at Albany.

McClenon, Lola
Instructor of Mathematics; B.S., M.S., Lamar University.

McClung, James Matthew
Assistant Professor of Music; B.S., M.M., University of Cincinnati; D.M.A., Rice University, Shepherd School of Music.

McColough, Cherie Ann
Professor of Science Education and Chair, Department of Life Sciences; B.S., M.S., Baylor University; Ph.D., University of Texas at Austin.

McEndree, Phillip
Associate Professor of Education; B.S., Abilene Christian University; M.Ed., Ed.D., Texas A&M University.

McLaughlin, Richard J.
Professor of Public Policy and Harte Research Institute Chair of Marine Policy and Law; A.B., Humboldt State University; J.D., Tulane University School of Law; L.L.M., University of Washington School of Law; J.S.D., Boalt Hall School of Law, University of California at Berkeley.

McMahon, Melanie
Professional Assistant Professor of Humanities and Social Science; B.A., University of Texas; M.A., Washington University in St. Louis; Ph.D., King's College London.

McNamara, Mark
Professional Senior Professor of Undergraduate Studies; B.S., M.S., Ed.D., Texas A&M University-Corpus Christi.

Mehrzeboğlu, Mehru
Professor of Engineering; B.S., The University of Texas at Austin; M.S., Ph.D., Texas A&M University.

Melrose, Don
Professor of Kinesiology and Chair, Department of Kinesiology; B.S., M.S., Illinois State University; Ph.D., Southern Illinois University.

Melville, Meredith
Assistant Professor of Theatre; B.A., University of North Texas; M.S., Dominican University; M.F.A., University of Memphis.

Metcalf, Judy
Professional Assistant Professor of Biology; B.S., Ph.D., University of Louisville; M.S., Texas A&M University-Corpus Christi.

Miletich, Marko
Assistant Professor of Spanish; B.A., Hunter College; M.A., New York University; M.A., Graduate Center, CUNY; Ph.D., Binghamton University, SUNY.

Miller, Cathy
Associate Professor of Nursing; A.D.N., Florida Community College Jacksonville; M.S.N., Texas A&M University-Corpus Christi; Ph.D., University of Texas-Tyler.

Miller, Kelly M.
Professor of Communication and President and CEO; B.A., University of Pittsburgh; M.A., Ph.D., Pennsylvania State University.

Miller, Mary Ellen
Clinical Assistant Professor of Nursing; B.S.N., M.S.N., Texas A&M University-Corpus Christi; Registered Nurse.

Miller, Nancy
Assistant Professor of Art, Graphic Design; B.F.A., Texas Christian University; M.F.A., Full Sail University.

Mollick, Joseph
Associate Professor of Management Information Systems; B.A., Bangladesh College; M.S., University of Texas at Arlington; M.B.A., Saint Edward's University; Ph.D., Southern Illinois University.
Montagna, Paul
Harte Research Institute Endowed Chair for Ecosystem Studies and Modeling and Professor of Marine Biology; B.S., State University of New York at Stony Brook; M.S., Northeastern University; Ph.D., University of South Carolina.

Montalvo-Hamid, Andrea
Professional Assistant Professor of English; B.A., M.A., Texas A&M University-Corpus Christi.

Moore, Eric
Associate Professor of Criminal Justice; B.S., Sam Houston State University; M.Phil., Cambridge University, England; J.D., Harvard Law School.

Moore, Peter
Professor of History and Chair, Department of Humanities; B.A., East Tennessee State University; Ph.D., University of Georgia.

Moreno, Miguel
Associate Professor of Psychology; B.A., Arizona State University-West; Ph.D., Arizona State University.

Mozzachiodi, Riccardo
Assistant Professor of Neurobiology; B.S., Ph.D., University of Pisa, Italy.

Mulic, Dino
Assistant Professor of Music; B.M., M.M., University of Sarajevo; D.M.A., University of Wisconsin-Madison.

Murgulet, Dorina
Associate Professor of Geology; B.Sc., M.Sc., Al. I. Cuza University, Romania; M.S., Ph.D., University of Alabama.

Murgulet, Valeriu
Professional Assistant Professor of Geology; B.S., M.S., Alexandru Ioan Cuza University of Iasi; M.S., Ph.D., University of Alabama.

Murphey, Christina
Professor of Nursing; B.S.N., Texas A&M University-Corpus Christi; M.S.N., Ph.D., University of Texas at Austin.

Murphy, Susan Wolff
Professor of English and Associate Dean, College of Liberal Arts; B.A., University of California; M.A., Sonoma State University; Ph.D., Texas A&M University.

Murray, Karen
Clinical and Associate Professor of Nursing; B.S.N., St. Louis University; M.S., University of California at San Francisco; Ph.D., University of Illinois, Chicago.

Myers, Elwin R.
Associate Professor of Management; B.A., M.S., University of Southern California; M.A., California State University, Sacramento; Ph.D., Arizona State University.

Narayana, Narendra
Professional Assistant Professor of Chemistry; B.S., M.S., Bangalore University; Ph.D., Indian Institute of Science, Bangalore, India.

Nelson, Kristina
Assistant Professor of Counselor Education; B.A., M.A., Ph.D., University of Central Florida.

Newmire, Daniel
Assistant Professor of Kinesiology; B.A., University of Iowa; M.S., Life University; Ph.D., Texas Woman's University.

Nicolau, Terri
Instructor of Biology; B.A., Corpus Christi State University; B.S., M.S., Texas A&M University Corpus Christi; M.S. Secondary Education Certification.

Oliver, Marvarene
Professor of Counseling and Educational Psychology and Associate Dean, College of Graduate Studies; B.S.Ed., University of Houston; M.Ed., Ed.D., Texas A&M University-Commerce.

O’Malley, Ryan
Associate Professor of Art; B.A., University of South Dakota; M.A., Louisiana State University.

Omoruyi, Felix
Associate Professor of Clinical Laboratory Science; B.S., M.S., Ph.D., University of Benin.

Ortiz, Cristina Jasso
Assistant Professor of Spanish; B.A., Southern Connecticut State University; MPhil., Ph.D., Yale University.

Ortiz, Pamela
Clinical Assistant Professor of Nursing; B.S.N., University of the Incarnate Word; M.S.N., Western Governor's University.

Ozymy, Joshua
Professor of Political Science and Director, Honors Program; B.A., M.A., Ph.D., Texas Tech University.

Palaniappan, Devanayagam
Associate Professor of Mathematics; B.Sc., University of Madras, India; M.Sc. Bharathidasan University, India; Ph.D. University of Hyderabad, India.

Park, Jangwoon
Assistant Professor of Industrial Engineering; B.S., Ajou University; Ph.D., Pohang University of Science and Technology.

Patrick, Christopher
Assistant Professor of Marine Biology; B.S., University of Maryland at College Park; Ph.D., University of Notre Dame.

Pattison, Dale
Associate Professor of English; B.A., M.A., Ph.D., Arizona State University.

Peck, Jessica
Professor of Nursing; B.S.N., M.S.N., University of Texas Medical Branch; D.N.P., University of Alabama.

Pena, Joe
Associate Professor of Art; B.F.A., M.F.A., Texas A&M University-Corpus Christi.

Petican, Laura
Associate Professor of Art and Director of University Galleries; B.A., Visual Arts, University of Western Ontario; Ph.D., Art History, Jacobs University Bremen.

Pezold, Frank Lorenzo III
Professor of Biology and Dean of the College of Science and Engineering; B.A., M.S., University of New Orleans; Ph.D., University of Texas at Austin.

Phillips, Clara M.
Professor of Sociology and Provost and Vice President for Academic Affairs; Ph.D, University of Illinois at Urbana-Champaign.

Pichardo, Claudia
Professional Associate Professor of Social Work; B.A., University of Kentucky; M.S.S.W., University of Texas at Austin.

Picou, Armand
Associate Professor of Finance; B.S., Louisiana State University; M.B.A., Nicholls State University; Ph.D., Florida Atlantic University.

Piker, Andrew
Associate Professor of Philosophy; B.A., Connecticut College; M.A., Ph.D., Vanderbilt University.

Pletcher, Bethanie C.
Associate Professor of Curriculum & Instruction/Reading Education; B.S., University of Houston; M.Ed., University of Texas; Ed.D., University of Houston.

Pollack, Jennifer
Associate Professor of Marine Biology; M.S., Northwestern University; M.S., Ph.D., University of South Carolina.

Pollock, Wendi
Associate Professor of Criminal Justice; B.S., M.S., Sul Ross State University; Ph.D., Sam Houston State University.

Pool, Christopher
Professional Assistant Professor of Music; B.M., University of Central Oklahoma; M.M., University of Oklahoma; D.M.A., University of Arizona.

Portnoy David S.
Associate Professor of Marine Biology; B.S., The College of William and Mary; Ph.D., The Virginia Institute of Marine Science, The College of William and Mary.

Postelnicu, Valentina
Assistant Professor of Mathematics Education; M.S., University of Bucharest; Ph.D., Arizona State University.

Prakash, Jai
Assistant Professor of Chemistry; B.S., St. Stephen's College; M.S., Indian Institute of Science; Ph.D., Wayne State University.

Proffitt, Ed
Professor of Life Sciences; B.S., University of Miami; M.S., East Carolina University; Ph.D., University of South Florida.

Quick, Catherine
Associate Professor of English; B.S., Southwest Baptist University; M.A., Ph.D., University of Missouri-Columbia.

Quiroz, Anthony
Professor of History; B.A., University of Houston; M.A., Ph.D., University of Iowa.

Rahmmoonfar, Maryam
Associate Professor of Computer Science; B.S., University of Isfahan, Iran; M.S., University of Tehran, Iran; Ph.D., University of Salford, UK.

Ramirez, Michael
Associate Professor of Sociology; B.A., Texas Tech University, M.A., Ph.D., University of Georgia.

Rangel, Pablo
Visiting Assistant Professor of Engineering; B.S., M.S., Ph.D., University of Texas at El Paso.

Rao, Mohan
Professor of Decision Sciences; B.S., Osmania University; M.S., National Institute of Technology, Warangal; M.S., University of Waterloo; Ph.D., University of Alabama.

Rauhaus, Beth
Associate Professor of Public Administration; B.A., Nicholls State University; M.A., Ph.D., Mississippi State University.

Reed, Anita
Associate Professor of Accounting and Associate Dean, College of Business; B.B.A., Corpus Christi State University; M.B.A., Texas A&M University-Corpus Christi; C.P.A; Ph.D., University of South Florida.

Reese, Brandi
Associate Professor of Life Sciences; B.S., Southern Methodist University; M.S., University of California; Ph.D., Texas A&M University- Corpus Christi Station.

Reid, Galina
Instructor of Physics and Astronomy; M.S., State Pedagogical University, St. Petersburg, Russia.

Reinhardt, Kimberly
Assistant Professor of Teacher Education; B.A., Niagara University; M.Ed., Boston University; Ph.D., University of Arizona.

Reinhardt, Mark
Associate Professor of Nursing; B.S.N., Belmont University; M.S.N., University of Texas Health Science Center; D.N.P, Vanderbilt University.

Rhoades, Philip W.
Professor of Criminal Justice and Regents Professor; B.A., M.A., University of Texas at El Paso; Ph.D., State University of New York at Albany.

Rhoden, Aubrey
Professional Associate Professor of Mathematics; B.S., Texas State University; Ph.D., University of Texas in Arlington.

Ricard, Richard J.
Professor of Counselor Education and Associate Dean, College of Education and Human Development; B.A., University of California at San Diego; A.M., Ph.D., Harvard University.

Rios, Jo Marie
Professor of Political Science; B.A., M.A., St. Mary's University; M.A., Ph.D., University of Oklahoma.

Roberto, Katherine
Assistant Professor of Management; B.A., Austin College; M.S., Ph.D., University of Texas-Arlington.

Robertson, Phyllis M.
Associate Professor of Special Education; B.S., M.Ed., Ph.D., University of Texas at Austin.

Rodriguez, Stephanie
Associate Professor of Communications; B.A., Luther College; M.A., and Ph.D., University of Iowa.

Rodríguez, Stephen
Associate Professor of Education; B.A., University of San Diego; M.A., San Diego State University; Ph.D., Florida State University.

Rogers, Bryan
Assistant Professor of Management; B.S.A., M.P.P.A., Ph.D., Mississippi State University.

Rote, Carey
Professor of Art; B.A., Texas Christian University; M.A., Tulane University; Ph.D., University of Texas at Austin.

Rudowsky, Catherine
Dean of University Libraries; B.A., Ashland University; M.L.I.S., University of Pittsburgh; M.B.A., Ph.D., Indiana University of Pennsylvania.

Rueda, Claudia
Associate Professor of History; B.A., Dartmouth College; M.A., Ph.D., University of Texas at Austin.

Russell, Kelly
Professor of Theatre and Director of the University Theatre; B.F.A., Southwest Texas State University; M.F.A., Baylor University.

Sadovski, Alexey
Professor of Mathematics and Chair, Department of Mathematics and Statistics; M.S., Moscow Institute of Transport Engineers (MITE); Ph.D., Academy of Science of the USSR.

Salter, Sarah
Assistant Professor of English; B.A., University of Illinois at Urbana-Champaign; M.A., Ph.D., Pennsylvania State University.

Sanders, Jana M.
Professor of Education; B.S., M.S., Northeastern Oklahoma State University; Ed.D., Oklahoma State University.

Sanford, Amy Aldridge
Professor of Communication Studies and Associate Provost for Academic Affairs; B.A., M.Ed., Northeastern State University; M.A., Ph.D., University of Iowa.

Sanos, Sandrine
Professor of History; B.A., Oxford University; M.A., London University; Ph.D., Rutgers University.

Scarpa, John
Associate Professor of Aquaculture; B.S., Long Island University; M.S., University of Delaware Newark; Ph.D., Texas A&M University-College Station.

Scott, David K.
Professor of Education and Dean of the College of Education and Human Development; B.S., Texas A&M University; M.S., Midwestern State University; Ed.D., University of Northern Colorado.

Scott, Paula M.
Hospital Librarian. B.A., Bucknell University; M.S., Ph.D., University of Rochester; M.L.S., State University of New York – Albany.

Scott, Sarah
Associate Professor of Criminal Justice and Public Administration; B.S., M.S., Ph.D., Texas State University.

Scott, Ronald D.
Associate Professor of Music; B.S., University of Alabama; M.S., University of Tennessee; Ph.D., Texas Tech University.

Sefcik, Elizabeth
Professor of Nursing; B.S., Incarnate Word College; M.S., University of Colorado; Ph.D., Texas Woman's University; Registered Nurse, Clinical Specialist in Community Health.

Seidel, Steven D.
Professor of Psychology; B.A., University of Akron; M.A., University of Dayton; Ph.D., Miami University, Ohio.

Seiger, Lon H.
Professor of Kinesiology; B.S., Southeastern Oklahoma State University; M.Ed., East Central Oklahoma State University; Ed.D., Oklahoma State University.

Senczer, Stefan
Associate Professor of Philosophy; B.A., University of Warsaw; M.A., Ph.D., University of Rochester.

Shaver, Leigh
Clinical Assistant Professor of Nursing; B.A., M.S.N., University of Texas at Austin.

Sheehan, Lucy
Assistant Professor of English; B.A., Amherst College; M.A., M. Phil., Ph.D., Columbia University.

Shelton, Brian
Associate Professor and Chair, Department of Music; B.M., Northern Illinois University; M.A., George Mason University; D.M.A., University of Arizona.

Sheng, Jian
Professor of Engineering; B.S., Tong-Ji University; M.S., Kansas State University; M.S., Ph.D., Johns Hopkins University.

Sherman, W. Scott
Associate Professor of Management; B.A., M.B.A., Ph.D., Texas A&M University.

Sheta, Ala
Assistant Professor of Computer Science; B.E., M.Sc., Cairo University; Ph.D., George Mason University.

Shinoda, Toshiaki
Associate Professor of Atmospheric Sciences; B.S., M.S., Hokkaido University; Ph.D., University of Hawaii.

Silliman, James E.
Associate Professor of Chemistry; B.S., Muskingum College; M.S., John Carroll University; Ph.D., University of Michigan.

Simionescu, Petru-Aurelian
Associate Professor of Mechanical Engineering; B.S., Ph.D., University of Politehnica of Bucharest; Ph.D., Auburn University.

Sipes, Dan
Professor of Music; B.M., Arizona State University; M.M., Appalachian State University.
Sipes, Diana
Professor of Music and Associate Dean, College of Liberal Arts; B.M., M.M., University of South Carolina; D.M.A., Louisiana State University.

Slagle, Kristine
Clinical Assistant Professor of Nursing; B.S.N., Southwest Baptist University; M.S.N., Walden University.

Smith, Katherine
Associate Professor of Marketing; B.B.A., University of Louisiana at Monroe; M.B.A., D.B.A., Louisiana Tech University.

Smith, Kellie W.
Assistant Professor of Communication and Director, Center for Faculty Excellence; B.A., University of Texas at Austin; M.A., Texas A&M University-Corpus Christi; Ph.D., Texas A&M University.

Smith, Lawrence
Professor of Accounting; B.B.A., M.B.A., University of Louisiana at Monroe; D.B.A., Louisiana Tech University.

Smith, Richard
Assistant Professor of Geographic Information Science; B.S., M.S., Texas A&M University-Corpus Christi; Ph.D., University of Georgia.

Smith, Robert Leonard
Professor of Counseling; B.S., Ed.S., Western Michigan University; Ph.D., University of Michigan.

Smith-Engle, Jennifer Margaret
Professor of Environmental Science and Geology; A.B., Vassar College; M.S., Yale University; Ph.D., University of Georgia.

Sollitto, Michael
Associate Professor of Communication, B.S., M.S., Murray State University; Ph.D., West Virginia University.

Song, Hongzhi
Professional Assistant Professor of Geographic Information Science; B.S., Ph.D., Texas A&M University-Corpus Christi.

Sorensen, Jennifer
Associate Professor of English; B.A., Princeton University; M.A., Ph.D., University of Michigan.

Spaniol, Frank J.
Professor of Kinesiology; BUS, M.S., M.A., Morehead State University; Ed.D., University of Mississippi.

Sparks, Jean
Associate Professor; B.S., Sam Houston State University; M.S., Corpus Christi State University; Ph.D., Texas Woman’s University.

Sperry, Rita
Professional Senior Professor of Undergraduate Studies and Associate Dean, University College; B.S., M.S., Ph.D., Texas A&M University-Corpus Christi.

Spirko, Jeffery
Professional Associate Professor of Physics; B.S., Ph.D., Lehigh University.

Squires, David
Assistant Professor of Instructional Design and Educational Technology; B.A., Southwestern University; M.Ed, Ph.D., University of Georgia.

Staples, Michele
Clinical Assistant Professor of Teacher Education; B.S., University of Houston; M.A., University of Texas at San Antonio; Ed.D., Texas A&M University-Kingsville.

Starek, Michael
Associate Professor of Civil and Geospatial Engineering; M.S., Texas A&M University-Corpus Christi; Ph.D., University of Florida.

Sterba-Boatwright, Blair D.
Associate Professor of Mathematics and Associate Dean, College of Science and Engineering; B.A., Swarthmore College; M.S., Texas A&M University; Ph.D., University of Texas at Austin.

Stunz, Greg
Associate Professor of Marine Biology; B.S., University of Texas at San Antonio; M.S., Ph.D., Texas A&M University.

Szczerbinska, Barbara
Professor of Physics; M.S., University of Wroclaw; Ph.D., University of South Carolina.

Tejeda-Delgado, Maria Del Carmen
Professor of Curriculum, Instruction, & Learning Sciences; B.S., M.S., Texas A&M University-Corpus Christi; Ed.D., Texas A&M University-Kingsville and Texas A&M University-Corpus Christi.

Thacker, Brian
Professional Associate Professor of Music; B.M., University of North Carolina at Greensboro; M.M., University of New Mexico; D.M.A., University of North Carolina at Greensboro.

Theodossiou, Alexandra
Associate Professor of Finance and Chair, Accounting, Finance, and Business Law; B.Sc., The Catholic University of America; M.B.A., Rutgers, The State University of New Jersey; Ph.D., Drexel University.

Thomas, Rebekah
Associate Professor of Physiology; B.A., Metropolitan State College of Denver; Ph.D., University of Texas Health Science Center at San Antonio.

Thompson, Ethan
Professor of Media; B.A., University of Texas at Austin; M.A., Ph.D., University of Southern California.

Thornton, Mary
Professor of Music; B.A., Rice University; M.A., Cleveland Institute of Music; D.M.A., University of Wisconsin-Madison.

Tiller, Glenn
Professor of Philosophy; B.A., M.A., University of Manitoba, Ph.D., University of Toronto.

Tintera, George D.
Associate Professor of Mathematics; A.B., Wabash College; Ph.D., University of Texas at Austin.

Tintera, Ping-Jung Hsiang
Professional Associate Professor of Mathematics Education; B.S., B.B.A., Soochow University, Taiwan R.O.C.; M.S., Ed.D., Texas A&M University-Kingsville.

Tissot, Philippe
Associate Professor of Physics; Diploma, Swiss Federal Institute of Technology, Switzerland; Ph.D., Texas A&M University.

Turner, Jeffrey
Associate Professor of Marine Biology; M.S., Mercer University; M.S., University of Georgia; Ph.D., Odum School of Ecology.

Tyndall, Edward
Associate Professor of Media; B.A., M.F.A, University of North Carolina at Greensboro.

Um, Dugan
Associate Professor of Mechanical Engineering Technology; B.S., Pusan National University, Korea; M.S., KAIST, Korea; Ph.D., University of Wisconsin-Madison.

Valadez, Corinne
Professor of Literacy; B.S., M.S., Texas A&M University-Corpus Christi; Ph.D., Texas A&M University.

Venzon, Marcia
Instructor of Mathematics; B.S., University of Texas; M.S., Texas A&M University-Corpus Christi.

Waheeduzzaman, A.N.M.
Professor of Marketing and International Business; B.A., M.B.A., Dhaka University, Bangladesh; M.B.A., George Washington University; Ph.D., Kent State University.

Walker, Wendy
Professional Associate Professor of English; B.A., Otterbein College; M.A., University of Warwick; Ph.D., Ohio University.

Walker-Smith, Tammy
Clinical Assistant Professor of Nursing; B.A., Louisiana Tech University; A.D.N., Nursing Victoria College; M.H.A., Kennedy Western University; M.S.N., Texas A&M University-Corpus Christi.

Wallace, David
Professional Associate Professor of English; B.A., M.A., West Texas A&M University; Ph.D., University of Texas at Arlington.

Walther, Benjamin
Associate Professor of Marine Biology; B.A., B.S., University of Texas at Austin; Ph.D., Woods Hole Oceanographic Institution.

Warga, Edward
Assistant Librarian; B.A., Long Island University; M.S.L.S., University of North Texas.

Watson, Joshua C.
Professor of Counseling and Chair, Department of Counseling and Educational Psychology; B.A., University of Connecticut; M.Ed., Clemson University; Ph.D., University of North Carolina at Greensboro.

Webb, Heather E.
Associate Professor; B.S., Iowa State University; M.A., Southeastern Louisiana University; Ph.D., University of Mississippi.

Wetz, Michael
Professor of Marine Biology; B.S., Coastal Carolina University; M.S., Ph.D., Oregon State University.

Withers, Kim
Associate Professor of Life Sciences and Associate Research Scientist, Center for Coastal Studies; B.S., Texas A&M University-Corpus Christi; M.S., Northern Arizona State; Ph.D., Texas A&M University.

Wooster, Robert
Professor of History; B.A., M.A., Lamar University; Ph.D., University of Texas at Austin.

Xie, Feiqin
Associate Professor of Atmospheric Sciences; B.S., Lanzhou University, China; M.S., Peking University; Ph.D., University of Arizona.

Xie, Junfei
Assistant Professor of Computer Science; B.S., University of Electronic Science and Technology of China; M.S., Ph.D., University of North Texas.

Yadav, Mamta
Professional Assistant Professor of Computer Science; B.E., Institute of Engineering and Technology; M.S., Oklahoma City University; Ph.D., University of Oklahoma.

Yari, Masoud
Professional Assistant Professor of Computer Science; B.Sc., M.Sc., Isfahan University of Technology; Ph.D., Indiana University.

Yoskowitz, David W.
Professor of Economics; B.S., Bentley College; M.A., Ph.D., Texas Tech University.

Zaikman, Yuliana
Assistant Professor of Psychology; B.A., Illinois Wesleyan University; M.A., Ph.D., New Mexico State University.

Zebda, Awni M.
Professor of Accounting; B.Com., Ain Shams University, Egypt; Ph.D., Virginia Polytechnic Institute.

Zeidan, Rabih
Associate Professor of Accounting and Associate Dean, College of Business; B.A., American University of Beirut, Lebanon; M.S., University of Houston-Clear Lake; Ph.D., University of Houston.

Zeng, Guang
Assistant Professor of Educational Administration; B.A., Jiangxi Normal University; M.A., University of Texas-Pan American; Ph.D., University of Pennsylvania.

Zhang, Hua
Associate Professor of Engineering; B.Eng., M.Eng., Human University, China; Ph.D., University of Regina, Canada.

Zhang, Lin
Assistant Professor of Marine Chemistry; B.S., Ocean University of China; M.S., University of Massachusetts; Ph.D., University of Rhode Island.

Zhang, Ning
Assistant Professor of Computer Science; B.S., Beijing Jiaotong University; M.S., Beijing University of Posts and Telecommunications; Ph.D., University of Waterloo.

Zhao, Meng
Associate Professor of Nursing; B.S.N., Shandong University; Ph.D., University of North Carolina at Chapel Hill.

Zhao, Qiuhong
Assistant Professor of Accounting; B.M., The Medical School of Tongji University; M.P.A., Indiana University at Bloomington; Ph.D., University of Colorado at Boulder.

Zimba, Paul
Professor and Director, Center for Coastal Studies; B.A., Wesleyan College; M.S., Old Dominion University; Ph.D., Mississippi State University.

Zimmer, G. Beate
Associate Professor of Mathematics; Diploma in Mathematics, Universitat Konstanz, Germany; Ph.D., University of Illinois.

Zoccolillo, Anthony
Professional Associate Professor of Psychology; B.A., Seton Hall; M.A., Jersey City State College; Ph.D., Capella University.

Zunker, Norma D.
Assistant Professor of Teacher Education; B.S., M.S., Ph.D., Texas A&M University-Corpus Christi.

Emeritus Faculty and Administrative Officers
Since 1994 Texas A&M University-Corpus Christi has awarded emeritus status to distinguished former faculty members and administrators in recognition of significant contributions to the University. Many emeritus faculty members and administrators continue to serve the University during their retirement.

Emeriti Faculty (http://academicaffairs.tamucc.edu/faculty_affairs/honorsandawards.html)

Regents Professors (http://academicaffairs.tamucc.edu/faculty_affairs/honorsandawards.html)

The Texas A&M University System Board of Regents
Board of Regents (https://www.tamus.edu/regents/bios/)

Administration
Administration (http://www.tamucc.edu/about/administration/officers.html)

Appendices
A: Glossary

Admission
The process of being brought into the University. A student is not considered for admission until all specified forms and fees have been received.

Census Date
The day, each term, on which official calculations are determined. For semesters it is the 12th class day, and for summer terms the 4th class day. Registration and Adds may not occur after this date.

Class Days
The days, Monday through Friday, during which the University is in session; not the days on which an individual class meets.

Degree Student
One admitted to a degree program.

Drop
The process of terminating enrollment in one or more classes while remaining enrolled for at least one class for the same semester. A fee is charged for dropping a class after the term has started.

Full Time
A degree-seeking undergraduate attempting 12 or more semester hours in a semester. A degree-seeking graduate student attempting 9 semester hours in a semester.

GPA
Grade Point Average. Please check elsewhere in this catalog for method of calculation.

Graduation
The ceremonial completion of a degree program. The degree is not awarded until all academic requirements are certified as completed. The student initiates application for graduation at point of registration for last term of study. Application must be processed for each attempt.

Graduate Student
A student who holds a baccalaureate degree and is enrolled in a graduate program of study.

Hold
A note placed in a student record which restricts a particular activity. Only the office which places a hold can remove it.

Late Registration
A period beginning with the first day of classes and ending on or before the census date during which registration may occur. Special permission may be required. A late registration fee is assessed.

Matriculation
The initial registration as a degree-seeking student toward a particular degree. A student matriculates once for each degree.

Non-Degree Student
One taking classes without the expectation of receiving a degree. A non-degree student is neither part time nor full time, and is not classified as freshman, sophomore, junior, or senior.

Pre/Co Requisite
A requirement that must be completed before/at the same time a course may be attempted.

Registration
Reserving space in a course (a process called tallying) followed by payment of all tuition and fees: it is a two-part process. Registration is not completed until payment has occurred.

Restricted Course
One for which admission is limited to a particular classification of student. A student who has been enrolled in error can be removed administratively.
Transcript
A record of a student’s academic history at the University. It is prepared by the Office of the University Registrar. Please check with that office for preparation schedule and fees.

Withdrawal
The process of dropping all classes for a given term. A check-out process is involved, and the student is not associated with the University until the student seeks reinstatement for a subsequent term.

B: Lower-Division Transfer Courses: Common Courses
Texas Common Course Numbering System (TCCNS)
The Texas Common Course Numbering System (TCCNS) (http://www.tccns.org/) is a cooperative effort among Texas community colleges and universities to facilitate transfer of freshman- and sophomore-level general academic courses.

The TCCNS provides a shared, uniform set of course designations for students and their advisors to use in determining both course equivalency and degree applicability of transfer credit on a statewide basis. When students transfer between two participating TCCNS institutions, a course taken at the sending institution transfers as the course carrying, or cross-referenced with, the same TCCNS designation at the receiving institution.

In the common course numbering system, each course is identified by a four-letter “rubric” (i.e., prefix or department abbreviation) and a four-digit number. The first digit of the number reflects the academic level of the course (1 and 2 are lower-division courses) and the second digit reflects the semester-credit-hour value of the course. The third and fourth digits establish course sequencing and/or distinguish this course from others of the same level, credit value, and rubric. Texas A&M University-Corpus Christi uses this format as the basis for numbering most lower-division courses.

Table of Common Courses
The following table identifies selected TCCNS courses and the equivalent lower-division Texas A&M University-Corpus Christi courses. The equivalency table is updated periodically.

Students attending community colleges or universities that are participating TCCNS institutions may use the table as a guide in selecting courses that will transfer to Texas A&M University-Corpus Christi. Students should become familiar with the requirements of the University Core Curriculum Program (p. 556) and with degree requirements so that they may select appropriate transfer courses. (A list of core curriculum transfer courses is provided later in this chapter.)

Some college-level courses that are not equivalent to courses at the University may transfer for credit. The Office of Recruitment and Admissions can provide information about the transferability of particular courses.

<table>
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<th>TCCNS Courses</th>
<th>Texas A&amp;M University-Corpus Christi Course Numbers &amp; Titles</th>
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<tr>
<td>SPCH 2333 Discussion &amp; Small Group Communication</td>
<td>COMM 2333 Small Group Communication</td>
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**Lower-Division Core Curriculum Transfer Courses**

The core curriculum requirements are discussed in the “University Core Curriculum Program (p. 556)” section of this catalog. The following table lists lower-division Texas A&M University-Corpus Christi core curriculum courses for which there are transfer equivalents. The approved core curriculum transfer courses are identified by their common course numbers and titles.

Transfer students also have several other means of meeting the core curriculum requirements. See “General Education Requirement” in the section entitled “Undergraduate Programs (p. 43)” for details.

**Texas A&M University-Corpus Christi Core Courses**

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<tr>
<td>SPCH 1311 Intro to Speech Communication</td>
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**U.S. History (6 sem. hrs.)**

| HIST 1301 U.S. History to 1865 |
| HIST 1301 U.S. History to 1865 |
| HIST 1302 U.S. History Since 1865 |
| HIST 1302 U.S. History Since 1865 1 |

**Political Science (6 sem. hrs.)**

| GOVT 2305 U.S. Government and Politics |
| GOVT 2305 U.S. Government and Politics |
| POLS 2306 State and Local Government |
| GOVT 2306 Amer. Govt. I (Federal) |

**Natural Science (6 sem. hrs.) Select two from:**

| BIOL 1308 Science for Life I (Non-Majors Biology) |
| BIOL 13083 Biology for Non-Science Majors (lecture) |
| BIOL 1406 Biology I |
| BIOL 1406 General Biology I |
| BIOL 1407 Biology II |
| BIOL 1407 General Biology II |
| BIOL 2401 Anatomy and Physiology I |
| BIOL 2401 Anatomy & Physiology I |
| BIOL 2402 Anatomy and Physiology II |
| BIOL 2402 Anatomy & Physiology II |
| BIOL 2420 Principles of Microbiology |
| BIOL 2420 Microbiology for Non-Science Majors |
| CHEM 1305 Introductory Chemistry I |
| CHEM 1305 Introductory Chemistry I |
| CHEM 1411 General Chemistry I |
| CHEM 1411 General Chemistry I |
| CHEM 1412 General Chemistry II |
| CHEM 1412 General Chemistry II |
| ENVR 1401 Environmental Science I Introduction to Environmental Science |
| ENVR 1401 Environmental Science I Introduction to Environmental Science |
| GEOL 1303 Essentials of Geology |
| GEOL 1303 Physical Geology |
| GEOL 1403 Physical Geology |
| GEOL 1404 Historical Geology |
| GEOL 1404 Historical Geology |
| GISC 1301 Physical Geography |
| GEOG 1301 Physical Geography |
PHYS 1303 Introduction to Astronomy: Stars and Galaxies
PHYS 1304 Introduction to Astronomy: Solar System
PHYS 1401 General Physics I
PHYS 1402 General Physics II
PHYS 2425 University Physics I
PHYS 2426 University Physics II

Mathematics (3 sem. hrs.) Select one from:
MATH 1314 College Algebra
MATH 1324 Mathematics for Business & Social Sciences

MATH 1325 Calculus For Business & Social Sciences
MATH 1442 Statistics for Life
MATH 1332 Contemporary Mathematics

MATH 1332 Contemporary Mathematics
MATH 2413 Calculus I
PHIL 2303 Introduction to Logic and Critical Thinking

Social/Behavioral Sciences (3 sem. hrs.) Select one from:
ECON 1301 Introduction to Economics
ECON 2301 Macroeconomics Principles
ECON 2302 Microeconomics Principles
PSYC 2301 General Psychology

SOCI 1301 Introduction to Sociology

Language, Philosophy, & Culture (3 sem. hrs.) Select one from:
ENGL 2332 Literature of the Western World: From the Classics to the Renaissance
ENGL 2333 Literature of the Western World: From the Enlightenment to the Present

ENGL 2321 British Literature
ENGL 2326 American Literature

Any one of the following will also fulfill the literature requirement:
ENGL 2322 British Literature I
ENGL 2323 British Literature II
ENGL 2327 American Literature I
ENGL 2328 American Literature II

ENGL 2316 Literature and Culture
PHIL 1301 Introduction to Philosophy
PHIL 2306 Introduction to Ethics

Creative Arts (3 sem. hrs.) Select one from:
ARTS 1301 Art and Society
ARTS 1303 Art History Survey I
MUSA 1305 Film and Culture

COMM 2366 Introduction to Film or DRAM 2366 Development of the Motion Picture

MUSA 1306 Understanding and Enjoying Music
MUSA 1307 Elements of Musical Style

THEA 1310 The Art of the Theatre
DRAM 1310 Introduction to Theatre

Component Area Option (6 sem. hrs.)

To satisfy the 6 semester hour Component Area Option students may select any Core courses that are not already being used to satisfy another Core requirement. In addition, students are able to use lab hours, from 4-hour Core courses, for up to 3 hours of the Component Area Option. Students may take MATH 2414 Calculus II (4 sch) to satisfy 4 hours of the Component Area Option. MATH 2414 Calculus II (4 sch) is not included in the Mathematics Component Area, and will only satisfy the Component Area Option. The Core includes 42 hours. Some degree plans, however, require the selection of Core courses that may lead up to 3 additional hours (for example, courses with credit labs). Those 3 additional hours may be applied to the Component Area Option.

Note: Additional courses that are not included in the above list may fulfill specific Texas A&M University-Corpus Christi core curriculum requirements. For more information on transfer equivalencies, please contact either the Director of Transfer Admission Services at 361-825-5692 or the Department of Undergraduate Studies at 361-825-5931.

C: Drug and Alcohol Abuse Prevention Program

Texas A&M University-Corpus Christi is committed to a campus-wide plan to educate students and employees about alcohol and drug issues, discourage the irresponsible use of alcoholic beverages, and prohibit the unlawful use, possession or distribution of controlled substances. The University will act to ensure compliance with all local, state, and federal laws, System policies and University rules and procedures dealing with controlled substances, illicit drugs, and the use of alcohol. The Code of Conduct provides information on alcohol and drug rules and university...
sanctions. To review the Student Code of Conduct online, go to http://judicialaffairs.tamucc.edu.

To implement an effective drug and alcohol abuse prevention plan, the University will use both formal and informal channels of communication to:

1. disseminate the standards of conduct that govern student and employee behavior;
2. communicate legal sanctions, as well as university disciplinary sanctions that can result from violations, and
3. distribute information about the health risk associated with use and abuse.

The campus will make available referrals to local treatment centers and counsels programs. These referrals will be made within a supportive, confidential, and non-punitive environment under the auspices of the University Health Center, Counseling Center, and/or Human Resources.

**Alcohol and Drug Rules**

The University prohibits the use or possession of alcoholic beverages on campus by any individual under the age of 21. Failure to comply with this rule violates state law and the rules governing student conduct and will subject the individual to disciplinary action.

Students of lawful age under Texas Statutes may possess and/or consume alcoholic beverages in the privacy of their rooms or apartments in campus residence facilities. However, residence hall occupants and their guests must comply with state and local statutes concerning possession, sale, and consumption of alcoholic beverages. Any use of alcoholic beverages should be in moderation. Therefore, bulk quantities of alcohol (kegs, cases, party balls, etc.) are not allowed on campus or in residence facilities. Loud or disruptive behavior, interference with the cleanliness of residence facilities, or drinking habits that are harmful to the health or education of an individual or those around him/her are reasons for appropriate disciplinary action by the University.

With limited exceptions, the possession of open containers and the consumption of beer, wine, and/or distilled spirits is prohibited in all public areas of the campus. For the purposes of this rule, residence hall balconies and patios are considered public areas. Although students of lawful age may possess and consume alcoholic beverages in the privacy of their rooms or apartments, all alcoholic beverages transported through public areas on the University grounds and in residence facilities must be unopened and concealed.

All members of the University community are expected to abide by state and federal laws pertaining to controlled substances and illicit drugs. Standards of conduct strictly prohibit the unlawful manufacture, distribution, possession or use of controlled substances, illicit drugs or drug paraphernalia on University property, at University-sponsored activities, and/or while on active duty. Individuals may use prescription medications that are medically necessary and prescribed by a licensed physician.

While the University has limited jurisdiction when alcoholic beverages and illegal drugs are consumed off-campus, members of the University community are encouraged to consider these regulations as a guideline for responsible and lawful behavior. Any recognized student organization that plans to include alcohol at an official function off-campus must obtain permission from Student Activities under the University risk management guidelines. Failure to comply with this requirement will be reason for appropriate disciplinary action by the University.

**University Sanctions**

Students suspected or found in violation of University drug or alcohol rules and regulations will be notified in writing to appear for a hearing with a judicial affairs officer. Procedures for hearings are outlined in the Student Code of Conduct.

A student found responsible for violating the rules and regulations will be subject to sanctions commensurate with the offenses and any aggravating and mitigating circumstances. Disciplinary actions in cases involving alcohol and drug-related violations result in sanctions up to and including suspension or expulsion from the University and referral for prosecution. Any disciplinary action imposed by the University may precede and be in addition to any penalty imposed by an off-campus authority. Students will be advised of available alcohol and drug counseling at the University Counseling Center and/or referred to a community organization. The University Counseling Center and the University Health Center can provide assistance and referral to appropriate community agencies.

Advisors and faculty members have the responsibility to supervise student activities on all trips. Faculty members should inform students that actions violating state laws, local regulations, and University rules regarding alcohol and drugs will not be permitted on any University trip. Students who violate these guidelines regarding alcohol and drug use on field trips will be subject to disciplinary action.

**Health Risks**

Alcohol abuse can cause many health-related problems. Approximately 150,000 deaths annually are directly related to alcohol abuse and/or alcoholism. Alcohol abuse can lead to alcoholism, premature death through overdose, and complications involving the brain, heart, liver, and many other body organs. Alcohol abuse is a prime contributor to suicide, homicide, motor vehicle deaths, and other accidental causes of death. Alcohol abuse also causes liver disease, gastritis, and anemia.

Alcohol abuse interferes with psychological functions, causes interpersonal difficulties, and is involved in many cases of child abuse. Alcohol abuse also disrupts occupational effectiveness and causes legal and financial problems. Alcohol used in any amount by a pregnant woman can cause birth defects.

The abuse of illicit drugs can result in a wide range of health problems. In general, illicit drug use can result in drug addiction, death by overdose, death from withdrawal, seizures, heart problems, infections (i.e., HIV/AIDS, hepatitis), liver disease, and chronic brain dysfunctions. Other problems associated with illicit drug use include psychological dysfunctions such as memory loss, thought disorders (i.e., hallucinations, paranoia, psychosis), and psychological dependency. Additional effects include occupational, social, and family problems as well as a reduction in motivation. Drug use by a pregnant woman may cause addiction or health complications in her unborn child.

**Campus Resources**

A&M-Corpus Christi offers a variety of programs to promote healthy lifestyles and substance-free alternatives. Students can become involved with the planning of drug and alcohol education programs by contacting Student Engagement & Success at 361-825-4284.

University Counseling Center - The University Counseling Center offers students individual counseling, educational programming and support.

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University Counseling Center - The University Counseling Center offers students individual counseling, educational programming and support.
groups focused on alcohol and other drug use, abuse and addiction. An Alcohol Education Program for Minors is also available for minors cited/charged with alcohol-related offenses (MIP, DUI, and Public Intoxication). For more information, call 361-825-2703 or visit the web site at http://counseling.tamucc.edu.

University Health Center - The University Health Center can provide information about the health risks of drug and alcohol abuse, as well as general medical care for students. For more information, call 361-825-2601.

I-TEAM - I-TEAM Peer Educators strive to educate the campus community and promote healthy behaviors related to alcohol and drugs. The group facilitates a host of activities year round. Call 361-825-4284 for more information.

University Police Department - The University Police Department educates the University community about drug and alcohol issues as well as enforces local, state and federal law. For more information, call 361-825-4444.

Annual Security Report - This report includes statistics for the previous three years concerning reported crimes that occurred on campus; in certain off-campus buildings or property owned or controlled by A&M-Corpus Christi; and on public property within, or immediately adjacent to and accessible from, the campus. The report also includes institutional policies concerning campus security, such as policies concerning sexual assault, and other matters. Obtain a copy of this report by contacting the University Police Department 361-825-4444 or by accessing the following web site: https://police.tamucc.edu/cleryact/campusSecurityAct.html.

The Biennial Review of the Drug and Alcohol Abuse Prevention Program is conducted to determine program effectiveness and consistency of policy enforcement. Obtain a copy of this report at http://iadapt.tamucc.edu.

D: Hazing

Hazing is strictly prohibited and the University will investigate any claim of hazing and take appropriate action. Hazing is defined as:

Any intentional, knowing, or reckless act, occurring on or off the campus of an educational institution, by one person alone or acting with other, directed against a student, that endangers the mental or physical health or safety of a student for the purpose of pledging, being initiated into, affiliating with, holding office in, or maintaining membership in an organization. The term includes, but is not limited to:

- Any type of physical brutality, such as whipping, beating, striking, branding, electronic shocking, placing of a harmful substance on the body, or similar activity.
- Any type of physical activity, such as sleep deprivation, exposure to the elements, and confinement in a small space, calisthenics, or other activity that subjects the student to an unreasonable risk of harm or that adversely affects the mental or physical health or safety of the student.
- Any activity involving consumption of a food, liquid, alcoholic beverage, liquor, drug, or other substance that subjects the student to an unreasonable risk of harm or that adversely affects the mental or physical health or safety of the student.
- Any activity that intimidates or threatens the student with ostracism, that subjects the student to extreme mental stress, shame, or humiliation, that adversely affects the mental health or dignity of the student or discourages the student from entering or remaining registered in an educational institution, or that may reasonably be expected to cause a student to leave the organization or the institutions rather than submit to acts described in this subdivision.
- Any activity that induces, causes, or requires the student to perform a duty or task that involves a violation of the Texas Education Code Sec. 37.152 and 37.153.

The intent of the act or the consent or cooperation of the hazing recipient will not constitute a defense. The University may charge an individual and/or the officers of a recognized organization with responsibility for the hazing act(s) both on or off-campus. Hazing is also a violation of Texas state law. See the Texas Education Code, sections 37.151 and 51.936 at www.stophazing.org/texas/ (http://www.stophazing.org/texas/).

In summary, a person may be found guilty of criminal conduct for hazing, encouraging hazing, permitting hazing, or having knowledge of the planning of hazing incidents and failing to report in writing his/her knowledge to the Dean of Students or other appropriate institutional official.

Texas law provides any person reporting a specific hazing incident to the Dean of Students or other appropriate institutional official is immune from civil and criminal liability unless the report is in bad faith or malicious.

For additional information on hazing, students may refer to the Student Code of Conduct, which can be found online at judicialaffairs.tamucc.edu (http://www.judicialaffairs.tamucc.edu), or contact the Student Conduct & Community Standards directly.

E. Student Travel Rule

1. Overview

Texas A&M University-Corpus Christi is supportive of student travel and recognizes that the safety of its students is of the utmost importance. The requirements outlined below apply to student travel that is more than 25 miles from campus to an activity that is organized, sponsored and/or funded by the University or by an organization properly registered at the University. Students traveling on behalf of the University must obtain prior approval from the appropriate department. This rule applies to travel by car, truck, van, bus and airplane. It must be read in conjunction with University Procedure 13.04.99.C1.01, Student Travel Procedures.

2. Travel Safety Guidelines

During travel situations specified above, students must abide by the following safety guidelines.

1. Drivers and passengers must abide by all federal and state laws. In accordance with State law, drivers and passengers must use seat belts or other available safety restraints.
2. Drivers must possess a valid driver’s license that is appropriate for the classification of vehicle being driven.
3. Drivers, occupants, and their luggage should not exceed the vehicle manufacturer’s recommended capacity.
4. Operator fatigue should be considered when selecting drivers. On lengthy trips, alternate drivers should be used to avoid fatigue.

3. Vehicle Options

Listed below are the basic means of travel available to students:
1. Rental Vehicles: Students traveling using a rental vehicle must comply and abide with all University and rental provider rules, regulations, and stipulations.

2. Vans: Fifteen (15) passenger vans may be used; however, only (9) occupants, including the driver, may ride in the van. Nothing may be loaded on top of the van, and all cargo should be loaded evenly. Cargo limit must meet safety requirements. It is preferred that a University employee drive the van.

3. Personal Vehicles: The driver must have adequate motor vehicle insurance and the vehicle must meet all state safety and registration requirements.

4. Commercial Carrier (airplane, bus, train, etc.) Students traveling by commercial transportation must comply with all rules specific to the carrier. This includes laws and regulations regarding carry-on luggage and weight restrictions.

4. Additional Standards
   This rule is considered to be a minimum standard. Departments, units, and/or student organizations may mandate additional standards as deemed necessary to address the unique requirements associated with a particular type of student travel.
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