Clinical Laboratory Science, Post-Baccalaureate Certificate

Program Description
The Clinical Laboratory Science Certification and Post-Baccalaureate CLS Courses

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 requires professional certification that is regulated both from within the profession and, in some states, by law. Clinical Laboratory Science at Texas A&M University-Corpus Christi is approved through the National Accrediting Agency for Clinical Laboratory Science. In addition to the coursework for the baccalaureate degree, professional certification as a clinical laboratory scientist requires the completion of post-baccalaureate courses. A student who has a baccalaureate degree in Biology, Biomedical Sciences, Chemistry, or Microbiology, or who is completing the requirements for such a degree, may obtain one of three post-baccalaureate certifications in clinical laboratory science: generalist, clinical chemist, or medical microbiologist. To apply for certification in any area, a student must complete those Pre-Clinical Laboratory Science Option courses required for certification in that area. Complete information may be obtained from the clinical laboratory science program director.

To apply for clinical laboratory science certification examinations, a student must earn a “C” or better in all CLSC courses. Application for certification programs should be made directly to the clinical laboratory sciences office. An interview and reference letters may be required. Contact a clinical laboratory science faculty mentor for additional information.

Program Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CLSC 3102</td>
<td>Essentials Laboratory for Clinical Laboratory Science</td>
<td>1</td>
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<tr>
<td>CLSC 3200</td>
<td>Essentials for Applied Laboratory Sciences</td>
<td>2</td>
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<tr>
<td>CLSC 4120</td>
<td>Hemostasis</td>
<td>1</td>
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<tr>
<td>CLSC 4182</td>
<td>Seminar – Clinical Correlations</td>
<td>1</td>
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<td>CLSC 4200</td>
<td>Professional Skills for Clinical Laboratory Scientists</td>
<td>2</td>
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<tr>
<td>CLSC 4280</td>
<td>Introduction to the Clinical Laboratory Profession</td>
<td>2</td>
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<tr>
<td>CLSC 4297</td>
<td>Professional Practicum I</td>
<td>2</td>
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<tr>
<td>CLSC 4325</td>
<td>Clinical Chemistry I</td>
<td>3</td>
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<tr>
<td>CLSC 4326</td>
<td>Clinical Chemistry II</td>
<td>3</td>
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<tr>
<td>CLSC 4370</td>
<td>Clinical Microbiology I</td>
<td>3</td>
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<tr>
<td>CLSC 4371</td>
<td>Clinical Microbiology II</td>
<td>3</td>
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<tr>
<td>CLSC 4382</td>
<td>Advanced Medical Laboratory Procedures</td>
<td>3</td>
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<td>CLSC 4420</td>
<td>Hematology</td>
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<td>CLSC 4430</td>
<td>Clinical Immunology</td>
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<tr>
<td>CLSC 4598</td>
<td>Professional Practicum II</td>
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<td>CLSC 4959</td>
<td>Professional Practicum III</td>
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<td>Total Hours</td>
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Course Sequencing
Certificate Coordinator: Jean Sparks, PhD, MLS(ASCP)

Students should take the courses in the following sequence to complete in the most timely manner:

First Year
Fall
- CLSC 3200 Essentials for Applied Laboratory Sciences 2
- CLSC 3102 Essentials Laboratory for Clinical Laboratory Science 1
- CLSC 4420 Hemostasis 4
- CLSC 4430 Clinical Immunology 4
- CLSC 4370 Clinical Microbiology I 3
- CLSC 4325 Clinical Chemistry I 3
- CLSC 4420 Hemostasis 1
- CLSC 4326 Clinical Chemistry II 3
- CLSC 4371 Clinical Microbiology II 3
- CLSC 4382 Advanced Medical Laboratory Procedures 3
- CLSC 4280 Introduction to the Clinical Laboratory Profession 2
- CLSC 4297 Professional Practicum I 2

Spring
- CLSC 4120 Hemostasis 1
- CLSC 4320 Clinical Chemistry II 3
- CLSC 4370 Clinical Microbiology I 3
- CLSC 4382 Advanced Medical Laboratory Procedures 3
- CLSC 4382 Advanced Medical Laboratory Procedures 3
- CLSC 4182 Seminar – Clinical Correlations 1

Summer
- CLSC 4200 Professional Skills for Clinical Laboratory Scientists 2
- CLSC 4598 Professional Practicum II 5
- CLSC 4599 Professional Practicum III 5
- CLSC 4182 Seminar – Clinical Correlations 1

Total Hours 44

Students seeking the CLS certificate must have completed a BS degree and have taken Genetics, Biochemistry, and Immunology.

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.