

# 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.