

Degree Type – Bachelor of Science (BS)
Degree Title – Chemistry with UTeach Certification (7-12)

Students receiving the BS Degree in Chemistry with Teacher Certification can continue their academic studies into masters or doctoral programs in Chemistry, can use the degree to find employment as a chemist, or can enter a career as a secondary school teacher of chemistry. The Chemistry degree is certified by the American Chemical Society.

STUDENT LEARNING OUTCOMES:

1. Graduates will demonstrate knowledge of current chemical and scientific theories and applications and the ability to communicate chemical knowledge in a variety of ways.
2. Graduates will have both broad knowledge and skills of critical thinking, high level problem solving and analytical reasoning in the chemical sciences.
3. Graduates will be prepared to conduct or participate in advanced research and the ability to use computers and scientific instrumentation to solve chemical problems.
4. Graduates will be prepared to search for employment or continue on to medical, dental or graduate school.
5. Graduates will demonstrate pedagogical content knowledge by successfully completing all state teacher certification requirements.

A – GENERAL EDUCATION CORE – 42 HOURS

Students must fulfill the General Education Core requirements. The courses listed below satisfy both degree requirements and General Education Core requirements.

Required**Mathematics – 3 hours**

MATH 2413 Calculus I (or MATH 2487 Honors) three-hour lecture

Life and Physical Science - 6 hours

CHEM 1311 General Chemistry I three-hour lecture

CHEM 1312 General Chemistry II three-hour lecture

Integrative and Experiential Learning – 2 hours

CHEM 1111 General Chemistry I Lab one-hour lab

CHEM 1112 General Chemistry II Lab one-hour lab

B – MAJOR REQUIREMENTS – 43 HOURS (31 advanced)

CHEM 2301 Analytical Chemistry
CHEM 2101 Analytical Chemistry Lab
CHEM 2323 Organic Chemistry I
CHEM 2123 Organic Chemistry I Lab
CHEM 2325 Organic Chemistry II
CHEM 2125 Organic Chemistry II Lab
CHEM 3301 Inorganic Chemistry
CHEM 3202 Inorganic Chemistry Lab
CHEM 3303 Biochemistry I
CHEM 3103 Biochemistry I Lab
CHEM 3304 Physical Chemistry I
CHEM 3104 Physical Chemistry I Lab
CHEM 3305 Physical Chemistry II
CHEM 3105 Physical Chemistry II Lab
CHEM 4101 Chemistry Seminar

CHEM 4201 Chemistry Problems I
CHEM 4304 Instrumental Analysis
CHEM 4104 Instrumental Analysis Lab
CHEM 4105 Chemistry Capstone
PHYS 3330 Functions and Modeling
PHYS 4392 Research Methods

C – SUPPORT COURSES – 16 HOURS (3 advanced)

MATH 2413 Calculus I (or MATH 2487 Honors) one-hour lecture
MATH 2414 Calculus II (or MATH 2488 Honors)
PHIL 3317 Perspectives on Mathematics and Science
PHYS 1401 General Physics I
PHYS 1402 General Physics II

D – UTEACH CERTIFICATION – 21 HOURS (19 advanced)

Area of Certification: Chemistry (7-12)

UTCH 1101 Inquiry Approaches to Teaching
UTCH 1102 Inquiry-Based Lesson Design
UTCH 3301 Knowing and Learning in Mathematics and Science
UTCH 3302 Classroom Interactions
UTCH 3303 Project-Based Instruction
UTCH 4601 Apprentice Teaching
UTCH 4101 Apprentice Teaching Seminar
READ 4305 Content Area Literacy

TOTAL CREDIT HOURS FOR GRADUATION – 122 HOURS**TOTAL ADVANCED HOURS – 53 HOURS****ADMISSION, PROGRESSION, AND GRADUATION REQUIREMENTS, if applicable:****Progression requirements**

Admission to the College of Education is required for participation in Apprentice Teaching and Seminar (UTCH 4101, 4601). Students unable to be admitted to UTCH 4601 and UTCH 4101 will be required to substitute 5 advanced hours, as recommended by advisor.

Graduation requirements

In addition to the graduation requirements listed in the UTRGV 2015-2017 Undergraduate Catalog, demonstration of proficiency in a language other than English is required at the undergraduate level equivalent to a minimum of six credit hours. Proficiency can be demonstrated by a college credit exam, a placement test approved through the UTRGV Department of Writing and Language Studies, and/or up to six credit hours of college-level language coursework.