

**Degree Type – Bachelor of Science (BS)**  
**Degree Title – Chemistry**

*Students receiving the BS Degree in Chemistry (Broadfield Major) can continue their academic studies into masters or doctoral programs in Chemistry or can use the degree to find employment as a chemist. This degree can also be combined with teacher certification work to enter a career as a secondary school teacher of chemistry. The Chemistry (Broadfield Major) 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.

**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 Sciences – 6 hours**

CHEM 1311 General Chemistry I

CHEM 1312 General Chemistry II

**Integrative and Experiential Learning – 2 hours**

CHEM 1111 General Chemistry I Lab

CHEM 1112 General Chemistry II Lab

**B – MAJOR REQUIREMENTS – 37 HOURS (25 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

**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)  
MATH 3341 Differential Equations  
PHYS 1401 General Physics I  
PHYS 1402 General Physics II

**D – TECHNICAL ELECTIVES – 20 HOURS (20 advanced)**

*Complete 6 advanced hours in CHEM, and complete 14 advanced hours in one of the following areas: CHEM, BIOL, PHYS, MATH, or ENGR.*

**E – FREE ELECTIVES – 5 HOURS****TOTAL CREDIT HOURS FOR GRADUATION – 120 HOURS****TOTAL ADVANCED HOURS – 48 HOURS****ADMISSION, PROGRESSION, AND GRADUATION REQUIREMENTS, if applicable:****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.