

Chemistry Major (CHE)

Chemistry is everywhere! Actually everything we see, hear, taste, touch, and smell has a firm basis in chemistry. The high quality of life that we experience today is due in no small part to many significant chemical discoveries over the past 150 years. Chemistry, as a pure science, seeks to describe and make comprehensible the nature and transformations of matter. As an applied science, it provides society with knowledge and tools to achieve its material purposes. By coupling creative thought and critical thinking skills with experimentation, the study of chemistry contributes to a liberal arts education. The courses in Chemistry are designed to emphasize the fundamental principles of the science, to reflect its interdisciplinary nature, and to develop experimental skill.

Because chemistry is the “central” science, a wide variety of opportunities awaits those with training in this field. The chemistry department offers a program meeting the needs of students pursuing a variety of study and career options in the chemical sciences. Included are students who anticipate careers as:

- Professional chemists in industrial research or as environmental chemists for the government or industry
- Healthcare professionals in the medical sciences, such as medicine, dentistry, nursing, pharmacy, physical therapy, or biomedical research
- Chemical engineers or materials scientists
- Secondary science teachers or college professors
- Individuals who desire knowledge of chemistry as part of their liberal arts experience; several graduates have chosen careers in the fields of law, religion, and business

The Department of Chemistry has “approved” status by the American Chemical Society. This prestigious recognition is granted to less than one-quarter of the nation’s colleges and universities. The ACS promotes excellence in chemistry education for undergraduate students through approval of baccalaureate chemistry programs.

Current students and graduates will:

- demonstrate a core of knowledge in inorganic, organic, biological, analytical, and physical chemistry
- demonstrate basic laboratory skills and the ability to select and utilize appropriate instrumentation to conduct scientific investigations and analyses (CHE and BCH)
- communicate competently, in the form of an oral presentation, the results of literature research and laboratory experimentation.

For more information about the Chemistry major leading to a teaching certification, please contact the Associate Dean of Undergraduate Education.

DEGREE TYPE: BACHELOR OF SCIENCE (BS)

PROGRAM CONTACT: PROFESSOR TODD HAMILTON

Students majoring in Chemistry must choose one track.

Program: Chemistry

Type: B.S.

Core Courses 25 hours

Traditional or Forensic Track 26 hours

Health Professional Track 48 hours

Core Courses

Required Course Selections

Electives

Allied Courses

Total 48-51

Core Courses

Item #	Title	Credit Hour(s)
CHE111	General Chemistry I	3
CHE111L	General Chemistry I Laboratory	1
CHE112	General Chemistry II	3
CHE113	General Chemistry II Lab	1
CHE201	Organic Chemistry I	3
CHE202	Organic Chemistry Lab I - Techniques and Synthesis	1
CHE309	Organic Chemistry II	3
CHE310	Organic Chemistry Lab II - Qualitative Analysis and Synthesis	1
CHE331	Physical Chemistry I	4
CHE341	Biochemistry	3
CHE450	Junior Seminar	1
CHE451	Senior Seminar	1

Traditional or Forensic Track

Select remaining courses from one track:

Item #	Title	Credit Hour(s)
	Traditional Track	26
	Forensic Track	26

Note: CHE100, CHE102, and CHE171 may not count toward the Chemistry major or minor.

Health Professional Track

Core Courses

Item #	Title	Credit Hour(s)
CHE111	General Chemistry I	3
CHE111L	General Chemistry I Laboratory	1
CHE112	General Chemistry II	3
CHE113	General Chemistry II Lab	1
CHE201	Organic Chemistry I	3
CHE202	Organic Chemistry Lab I - Techniques and Synthesis	1
CHE309	Organic Chemistry II	3
CHE310	Organic Chemistry Lab II - Qualitative Analysis and Synthesis	1
CHE341	Biochemistry	3
CHE450	Junior Seminar	1
CHE451	Senior Seminar	1

Required Course Selections

Select 14 hours from the following courses:

Item #	Title	Credit Hour(s)
CHE305	Analytical Chemistry	4
CHE327	Medicinal Chemistry	3
CHE342	Biochemistry Lab	1
CHE345	Survey of Physical Chemistry	3
CHE400	Advanced Inorganic Chemistry	3

Electives

Select six additional hours in CHE courses.

Allied Courses

Item #	Title	Credit Hour(s)
MAT125	Calculus I	3
PHY211	College Physics I	4
	Total credits:	48-51