CHEMISTRY (B.S.)

The major is generally oriented toward preparing students to become professional scientists. At the same time, the curriculum is rigorous, yet flexible enough to prepare students for immediate employment, graduate study, or work in an allied profession. From introductory through advanced courses, students have access to departmental instrumentation and facilities. The faculty values a hands-on approach to chemical education. The major is structured to provide a strong foundation and to allow for faculty-directed independent research or interdisciplinary study.

Students considering a major in Chemistry should consult a member of the faculty for advice on the sequence of courses, as the courses in related fields described below are prerequisites for upper-level Chemistry courses.

A version of this degree with careful selection of upper level electives is approved by the Committee on Professional Training of the American Chemical Society (ACS). Completion of this program leads to a B.S. in Chemistry with American Chemical Society Certification.

Integrative Studies Requirements

40 credits minimum

Code	Title	Credits	Completed
Major Requirements (64 credits)			_____
Core Courses (32)			_____
INCHEM-111	General Chemistry	4	_____
CHEM-112	Gen Chemistry II	4	_____
CHEM-221	Organic Chemistry I	4	_____
CHEM-222	Organic Chemistry II	4	_____
CHEM-340	Physical Chemistry	4	_____
CHEM-350	Analytical Chemistry	4	_____
CHEM-360	Inorganic Chemistry	4	_____
CHEM-370	Biochemistry	4	_____
Upper-Level Chemistry Courses (12 Credits)			_____
Select **two** of the following:		8	_____
CHEM-325	Synthesis & Characterization		_____
CHEM-345	Empirical Physical Chemistry		_____
CHEM-355	Experimental Chemical Analysis		_____
Select ONE additional Chemistry courses at the 300/400 level		4	_____
Related Field Courses (20 Credits)			_____
INBIO-110	Cells and Molecules	4	_____
MATH-211	Calculus I	4	_____
MATH-212	Calculus II	4	_____
INPHYS-141	College Physics I	4	_____
or INPHYS-241	University Physics I		_____
PHYS-142	College Physics II	4	_____
or PHYS-242	University Physics II		_____
Total Credits		**64**	_____

Electives

Select additional courses to reach a total of 120 credits.

Degree Requirements

120 credits
40 credits at the upper-level

Upon completion of the Chemistry B.S. degree, students will be able to:

- Understand a broad range of knowledge in analytical, biochemical, inorganic, organic, and physical chemistry.
- Apply their knowledge and critical thinking skills to the solution of theoretical and practical problems in chemistry.
- Understand the basic theory and use of modern instrumentation. Specifically, to be able to demonstrate the ability to acquire, interpret, and analyze data using instrumental methods.
- Demonstrate laboratory skills appropriate to the study of chemistry, including the ability to perform quantitative or qualitative chemical measurements.
- Demonstrate laboratory skills appropriate to the study of chemistry, including the ability to perform basic synthetic reactions.
- Demonstrate laboratory skills appropriate to the study of chemistry, including the ability to maintain a laboratory notebook.
- Demonstrate laboratory skills appropriate to the study of chemistry, including the ability to work safely in a laboratory setting.
- Prepare effective written scientific reports and oral presentations assisted by the use of computer technology (word processing, spreadsheets, chemical structure drawing programs, and chemical information retrieval services).
- Understand the importance of chemistry as it applies to industrial, economic, environmental, and social issues, and maintain an interest in the study and practice of chemistry.
- Be successful in pursuing graduate studies or employment in chemistry or a chemically-related field.