

# CHEMISTRY BACHELOR OF ARTS

## Program Overview

The chemistry major provides a solid foundation of scientific knowledge and experimental skills in a setting that emphasizes current developments in chemistry and experience with modern instruments and laboratory techniques. A chemistry degree prepares students for graduate school in chemistry and related fields such as biochemistry, molecular biology, medicinal chemistry, and pharmaceutical, forensic and environmental science. The major also prepares students for careers in governmental laboratories and industry. Many of Drake's chemistry alumni (<http://www.drake.edu/chemistry/about/ouralumni/>) have earned graduate degrees in chemistry, physics or medicine while many others have taken rewarding jobs in industry, government and academic institutions.

The Chemistry department believes that undergraduate research plays a major role in developing critical thinking, practical expertise and independence and helps create a sense of community among faculty and students. Participation in a research project is a requirement for a chemistry degree. The chemistry faculty has research expertise in analytical chemistry, biochemistry, inorganic chemistry, organic chemistry and physical chemistry.

## B.A. Degree Requirements

The Bachelor of Arts program is designed for students who need undergraduate training in chemistry in preparation for professional careers other than chemistry. The Bachelor of Science program is also open to those students.

Code	Title	Hours
CHEM 001	GENERAL CHEMISTRY I	3
CHEM 002	GENERAL CHEMISTRY II	3
CHEM 003	GENERAL CHEMISTRY I LAB	1
CHEM 004	GENERAL CHEMISTRY II LAB	1
CHEM 008	INTRODUCTION TO INSTRUMENTS AND RESEARCH METHODS I	1
CHEM 061	INTERMEDIATE INORGANIC CHEMISTRY	3
CHEM 081	ANALYTICAL METHODS	4
CHEM 097	ORGANIC CHEMISTRY I	3
CHEM 098	ORGANIC CHEMISTRY I LAB	1
CHEM 108	ORGANIC CHEMISTRY II	3
CHEM 110	ORGANIC CHEMISTRY II LAB	1
<b>Requirements I</b>		
Select one of the following:		4
CHEM 161	BIOPHYSICAL CHEMISTRY	
CHEM 165	THERMODYNAMICS AND KINETICS	
CHEM 182	INSTRUMENTAL METHODS OF ANALYSIS	
<b>Requirements II</b>		
Select four credits from the following: <sup>1</sup>		4
CHEM 130	BIOCHEMISTRY I: FUNDAMENTALS	
CHEM 131	BIOCHEMISTRY I: FUNDAMENTALS LAB	
CHEM 155	ORGANIC REACTIONS AND APPLICATIONS	
CHEM 161	BIOPHYSICAL CHEMISTRY	

CHEM 165	THERMODYNAMICS AND KINETICS	
CHEM 180	EXPLORATIONS IN INORGANIC CHEMISTRY	
CHEM 182	INSTRUMENTAL METHODS OF ANALYSIS	
CHEM 190	INTEGRATED CHEMISTRY TOPICS	
Advanced course with a strong chemical component <sup>2</sup>		
CHEM 195	SEMINAR I	1
CHEM 198	SEMINAR II	1
PHY 011	GENERAL PHYSICS I (with lab)	4
MATH 050	CALCULUS I <sup>3</sup>	3
<b>Total Hours</b>		<b>41</b>

<sup>1</sup> For students who double-major in chemistry and another discipline, the advanced class must be selected from outside the students' second major's requirements. For example, for students who double-major in physics and chemistry, the advanced class should not be a physics major requirement, although it can be a physics major elective.

<sup>2</sup> As approved by the chemistry department.

<sup>3</sup> B.A. chemistry majors must take one semester of physics and MATH 050 CALCULUS I, unless you choose CHEM 166 QUANTUM-MECHANICAL EXPLORATION, for which Calculus up to and including MATH 100 CALCULUS III is recommended.

In addition to programmatic requirements, students are responsible for satisfying all requirements of the Drake Curriculum (<https://catalog.drake.edu/undergraduate/academic-information/drake-curriculum/>), including Areas of Inquiry (AOI)

Student must also satisfy university graduation requirements (<https://catalog.drake.edu/undergraduate/academic-information/graduation-requirements/>) for all undergraduate students..