

Chemistry

at Benedictine University

Why study chemistry at Benedictine?

When you choose to major in Chemistry at Benedictine University, you will:

- Have the confidence of studying in a program that is accredited by the American Chemical Society (ACS)
- Study under experienced faculty members, each with a doctoral degree in areas of analytical chemistry, clinical chemistry, inorganic chemistry, organic chemistry, physical chemistry and biochemistry
- Learn to understand matter, its properties, chemical and physical changes and the methodologies of the chemical laboratory
- Be able to use modern instruments, including ultraviolet, visible infrared, nuclear magnetic resonance, atomic absorption and fluorescence spectrophotometers, electrochemical work stations, gas chromatography, high performance liquid chromatography and ultracentrifuge equipment with computer interfacing for data acquisition, processing and control
- Gain the experience of performing research in a scientific laboratory, becoming involved in a project that results in your thesis
- Have access to the extensive facilities in the Birck Hall of Science and possibly those at such off campus sites as Nalco, BP Amoco, Argonne National Laboratory or the DuPage Crime Lab
- Be able to participate, along with other high-ability students, in our student affiliate chapter of the ACS, which has been designated several times as an outstanding chapter
- Have the option to become certified to teach chemistry at the high school level

What careers are available with a chemistry degree?

As a graduate of Benedictine, you will have gained not only the technical skills in chemistry but also the broader knowledge associated with a liberal education that will be useful in your career development. You will be prepared to enter graduate or professional school or for a position in industry such as quality control, service or product development technician. Other career options include chemical sales and marketing, chemical business management, science teaching, science journalism, criminology and forensic science, chemical analyst, science policy administrator and environmental and toxic substance investigator. Many of these and other careers require advanced study.

How does the program work?

When you choose to complete a Chemistry major, you will learn the topics of calculus (three courses) and an advanced mathematics elective. You will study university physics and the following areas of chemistry: general, organic, analytical and physical (two courses each with labs). You will develop knowledge in spectral analysis, chemical literature and chemical research, where you will report findings in a thesis and oral presentation.

Recommended Program

Bachelor of Science in Chemistry (Calculus I Math Placement)

FRESHMAN

Writing Colloquium	3
General Chemistry I and Lab	4
Calculus I and Lab	5
University Physics I and Lab	5
	17

Research Writing	3
General Chemistry II and Lab	4
Calculus II	4
University Physics II and Lab	5
	16

JUNIOR

Classical Thermodynamics and Lab	4
Inorganic Chemistry	3
Advanced Chemistry ** or College core	3
Core elective	3
Cultural Heritage (HUMN 230)	3
	16

Quantum and Statistical Mechanics and Lab ⁴	
Inorganic Synthesis Lab	1
Advanced Chemistry ** or College core	3
Core elective	3
Cultural Heritage (HUMN 240)	3
	14

SOPHOMORE

Speech Communication	3
Calculus III	4
Organic Chemistry I and Lab	4
Chemical Analysis I	4
	15

Organic Chemistry II and Lab	4
Chemical Analysis II and Lab	4
Advanced Math elective*	3
Research Literature	1
Cultural Heritage (HUMN 220)	3
	15

SENIOR

Research	2
Advanced Chemistry** or College core	3
Core elective	6
Cultural Heritage (HUMN 250)	3
	14

Research	2
Advanced Chemistry** or core elective	3
Core electives	6
Elective	3
	14

*MATH 260 or MATH 300

**Two advanced Chemistry courses are required

Recommended Program

Bachelor of Science in Chemistry (Introduction to Calculus Math Placement)

FRESHMAN

Writing Colloquium	3
General Chemistry I and Lab	4
Introduction to Calculus and Lab	5
Core elective	3
15	

Research Writing	3
General Chemistry II and Lab	4
Applications of Calculus	4
Core electives	6
17	

JUNIOR

Classical Thermodynamics and Lab	4
Chemical Analysis I and Lab	4
Advanced Math elective	3
Cultural Heritage (HUMN 230)	3
Advanced Chemistry** or core elective	3
17	

Quantum and Statistical Mechanics and Lab	4
Chemical Analysis II and Lab	4
Advanced Chemistry** or core elective	3
Core elective	3
Cultural Heritage (HUMN 240)	3
17	

SOPHOMORE

Speech Communication	3
Calculus II	4
Organic Chemistry I and Lab	4
University Physics I and Lab	5
16	

Organic Chemistry II and Lab	4
University Physics II and Lab	5
Calculus III	4
Research Literature	1
Cultural Heritage (HUMN 220)	3
17	

SENIOR

Inorganic Chemistry	3
Research	2
Advanced Chemistry** or core elective	3
Core elective	3
Cultural Heritage (HUMN 250)	3
14	

Inorganic Synthesis Lab	1
Research	2
Advanced Chemistry** or College elective	3
Core electives	6
12	

Variations of this program are available to fit the student's needs.

**MATH 260 or MATH 300*

***Two advanced Chemistry courses are required*