



UPPER IOWA UNIVERSITY

Established in 1857

Chemistry

The Chemistry major prepares students for careers in the field of chemistry, including work in laboratories, secondary education, forensics, and environmental studies. Additionally, it prepares students for further training at the graduate or professional level for careers involving research, higher education, and/or medicine.

Required Courses

CHEM 151: General Chemistry I
CHEM 152: General Chemistry II
CHEM 251: Organic Chemistry I
CHEM 252: Organic Chemistry II
CHEM 301: Physical Chemistry I
CHEM 302: Physical Chemistry II
CHEM 310: Quantitative Analysis
CHEM 391: Chemistry Research I
PHY 111: Introduction to Physics I
PHY 112: Introduction to Physics I Lab
PHY 113: Introduction to Physics II
PHY 114: Introduction to Physics II Lab
MATH 111: Pre-Calculus
MATH 120: Analytic Geometry and Calculus I
MATH 220: Analytic Geometry and Calculus II

Electives

In addition to the required courses, 12 hours must be completed from the following courses:

CHEM 305: Physical Chemistry Lab
CHEM 320: Advanced Organic Chemistry
CHEM 330: Biochemistry I
CHEM 331: Biochemistry II
CHEM 335: Biochemistry Lab
CHEM 361: Inorganic Chemistry
CHEM 471: Molecular Spectroscopy
CHEM 491: Chemistry Research II

Research

All chemistry majors are required to develop a proposal for a research project during their senior year. Working with their advisor, students conduct a literature review of their chosen subject and use the review materials to formulate their proposed research. This culminates in a written report and oral presentation to the science faculty. Interested students may then carry out their proposed research in the laboratory for elective credit. Some examples of research projects completed by students include:

- **Anita Erickson**

The Adverse Effects of Aspartame on E. coli Bacteria Cells

- **Tavis Garringer**

Complexes of d-block metals With Ethylenediamine

Classrooms & Equipment

- Two teaching laboratories — each equipped with fume hoods and capable of accommodating research
- FT-IR Spectrophotometer
- UV/Vis Spectrophotometer
- Two Gas Chromatographs
- Buchi Rotary Evaporator
- Vacuum Oven
- Digital pH/ion—conductivity meter
- Several digital electronic balances
- Microscale and macroscale glassware for experimentation

Career Opportunities

Recent Chemistry graduates are currently pursuing many graduate and professional options. Some have graduated with double majors in either Mathematics or Biology.

Here are a few examples of what some of our Chemistry graduates are doing:

Dr. Jeffery Butikofer
Upper Iowa University
Professor

Tavis Garringer
Palmer College of Chiropractic

Activities & Resources

- UIU Science and Environmental Club
- UIU Sororities and Fraternities
- UIU Student Government
- UIU Campus Events Council
- UIU Intercollegiate Athletics

Faculty

Dr. Jeffrey Butikofer,
Assistant Professor of Env. Science
B.S. Upper Iowa University
Ph.D. University of Wyoming

Dr. Scott Figdore,
Professor of Science
B.S. Penn State University
M.S., Ph.D. University of Wisconsin

Dr. Erik Olson,
Professor of Chemistry
B.A. Juanita College
Ph.D. Dartmouth College



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Office of Admissions

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