

**Big
ideas.**
Real-world thinking.



**MINNESOTA STATE
UNIVERSITY**
MANKATO

CHEMISTRY *College of Science, Engineering and Technology*

WHAT DEGREES AND PROGRAMS DO WE OFFER?

- BS degree in Biochemistry certified by ASBMB
- BA degree in Biochemistry
- BA degree in Chemistry
- BS degree in Chemistry certified by ACS
- BS degree in Chemistry Teaching
- Minor in Chemistry

CAREER OPPORTUNITIES: WHAT CAN BE DONE WITH THIS DEGREE?

Career opportunities include teaching, analysis, research and development (R & D), sales/marketing, and related fields.

There is a shortage of qualified chemistry and science teachers.

The work of analysts, researchers and sales/marketing professionals is needed by business and industry, as well as government agencies. Chemists work in the pharmaceutical industry, forensic or crime laboratories, agricultural industry, petroleum industry, and environmental agencies.

Many graduates choose to continue their education in graduate schools, obtaining a master or doctoral degree. Other students use chemistry as an entry into professions such as medicine, pharmacy, or dentistry.

EXAMINING THE QUALITY OF OUR PROGRAM

The program is BS-ACS certified by the American Chemical Society. The Biochemistry BS is certified by the American Society for Biochemistry and Molecular Biology.

Faculty credentials

All faculty have terminal degrees. All classes are taught by faculty.

Alumni successes

Students graduating from our program are successful as researchers, professors, doctors, dentists, pharmacists, teachers, and business owners.

Other special programs

The Department hosts the Leonard A. Ford lectureship each year. This program brings an internationally known chemist to the campus for a series of lectures.

STUDENT EXPERIENCE/ PROGRAM REQUIREMENTS

Faculty/student ratio

For all courses, around 1:30, but for upper level courses within the major, class size is typically 1:15.

Specialized equipment/facilities

Major instruments available include: high speed and ultra-centrifuges, liquid scintillation counter, nuclear magnetic resonance spectrometer, gas chromatographs, mass spectrometer, high pressure liquid chromatograph, infrared spectrometer, UV-visible spectrometer and atomic absorption instruments.

Unique program components: internships, research, etc.

Students are required to complete Chemistry 495–Senior Seminar (Chemistry majors), or Chem 494–Biochemistry Capstone Experience (Biochemistry majors). In these courses, students present research results to faculty members and peers. Students are strongly encouraged to take part in research experiences available in the department or through internships with the department's research and industrial partners. Many students who present research at regional or national meetings receive some financial support from the department for travel.

Scholarships available

Several scholarships are available to students in this department. These include:

- Chemistry Department Scholarship
- Leonard A. Ford Chemistry Scholarship
- Winston Grundmeier Chemistry Scholarship
- Robert Henney Memorial Scholarship
- Marie Payne Graham Memorial Scholarship
- McCarty Memorial Scholarship
- Stenzel Scholarship

As well as several college scholarships.

Clubs and organizations

Students are welcome to join the ACS – Student Affiliates or ASBMB Undergraduate Student Affiliate. These clubs hosts a variety of events from picnics and socials to offering tutoring services.

HOW DO I PREPARE FOR THIS PROGRAM?

Students should enroll in as many science (particularly chemistry and physics) and mathematics courses as feasible while in high school. Students must also be able to communicate effectively – so English, writing and speech courses are also recommended. Students without adequate science or mathematics have an opportunity to enroll in introductory and preparatory classes at Minnesota State Mankato.

FOR MORE INFORMATION PLEASE CONTACT

Department of Chemistry and Geology

Minnesota State University, Mankato
241 Ford Hall
Mankato, MN 56001

Phone

507-389-1963 (V)
800-627-3529 or 711 (MRS/TTY)

Email

christine.cords@mnsu.edu

You are encouraged to visit the campus.

To arrange for a visit, please call:

Office of Admissions: 507-389-1822

Toll-Free: 800-722-0544

SAMPLE FOUR-YEAR CURRICULUM (for the BS degree in Chemistry certified by ACS)

First Year (Fall)	First Year (Spring)
CHEM 201 General Chemistry I (5) MATH 121 Calculus I (4) ENG 101 Composition (3) General Education (3)	CHEM 202 General Chemistry II (5) MATH 122 Calculus II (4) General Education Goal Area 1B (3) General Education (3)
Second Year (Fall)	Second Year (Spring)
CHEM 322 Organic Chemistry I (4) CHEM 305 Analytical Chemistry (4) PHYS 211 Principles of Physics I (4) OR PHYS 221 General Physics I (4) General Education (2-4) General Education (2-4)	CHEM 324 Organic Chemistry II (3) CHEM 325 Organic Chemistry II Lab (1) CHEM 340 Quantitative Skills for Chemistry & Biochemistry I (1) CHEM 341 Quantitative Skills for Chemistry & Biochemistry II (1) PHYS 212 Principles of Physics II (4) OR PHYS 223 General Physics III (3) & PHYS 233 Gen. Physics Lab III (1) General Education (2-4) General Education (2-4) General Education (2-4)
Third Year (Fall)	Third Year (Spring)
CHEM 381W Introduction to Research (2) CHEM 440 Physical Chemistry I (3) CHEM 450 Physical Chemistry I Lab (1) Restricted Elective in MATH (4) General Education (2-4) General Education (2-4) General Education (2-4)	CHEM 441 Physical Chemistry II (3) CHEM 451 Physical Chemistry II Lab (1) CHEM 360 Principles of Biochemistry (4) General Education (2-4) General Education (2-4) General Education (2-4)
Fourth Year (Fall)	Fourth Year (Spring)
CHEM 316 Descriptive Inorganic Main Group Chemistry (3) OR CHEM 317 Transition Metal Chemistry (3) Unrestricted Elective in CHEM (4) General Education (2-4) General Education (2-4) General Education (2-4)	CHEM 495 Senior Seminar (1) Unrestricted Elective in CHEM (2-4) Unrestricted Elective in CHEM (2-4) Unrestricted Elective in CHEM (2-4) Unrestricted Elective in CHEM (2-4) General Education (3)

For additional information about course requirements, please visit <http://www.mnsu.edu/supersite/academics/bulletins/>

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