

Master of Science in Chemistry



The Western Illinois University Department of Chemistry offers work leading to the Master of Science (MS) degree through either a Thesis Plan or an Applied Chemistry Plan. The program is designed to prepare graduate students for continuation to the PhD level or other professional training, or for immediate employment in advanced positions in government, industry or education. The program accommodates individual career objectives for those with degrees in Chemistry and allied fields, and allows those with minors in Chemistry to pursue advanced work and placement in the field. The WIU department also provides inservice training to chemists and chemical educators who are not candidates for the MS degree. The Department of Chemistry has seen enormous growth in the past 30 years with many new applications in biotechnology, materials, medicine, nanotechnology, environmental health, alternative fuels and forensic science. New information is rapidly transferred from research laboratories to practical applications.

Admission Requirements

- The applicant should apply to the WIU School of Graduate Studies for admission to the degree program in Chemistry.
- Admission to graduate studies in the WIU Department of Chemistry requires a minimum of a Bachelor of Science degree in Chemistry or a related discipline.
- The applicant should have completed 18 semester hours (SH) of undergraduate coursework in areas of general, organic, analytical, inorganic and physical chemistry.
- Typical overall grade point averages for successful applicants are 2.75 overall or 3.0 for coursework in the last two years.
- Applicants must submit three letters of recommendation with their application.

Degree Requirements

The WIU Department of Chemistry offers work leading to an MS degree through either a Thesis Plan or an Applied Chemistry Plan. Either plan requires 32 SH for degree completion, including coursework in the areas of analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry. The department may require students to remedy deficiencies in their undergraduate preparation on the basis of preliminary diagnostic examinations.

Distinctive Features

- **Our students gain from individualized advisement and mentorship from our faculty**
Chemistry students get frequent one-on-one training and advisement through informal interactions with our faculty in the research labs. Chemistry research lends itself well to

mentorship. In our smaller department, the Chemistry faculty, on average, each mentor two or three graduate students every year. The faculty gets to know the students, including their goals and aspirations, on a personal level.

- **Students do science – They don't just learn about it**

Most of our faculty either presently hold or have recently held research grants funded by the National Science Foundation, National Cancer Institute, National Institutes of Health, Research Corporation, U.S. Department of Defense, U.S. Department of Energy, NASA, EPA, and/or research contracts from pharmaceutical companies or biotech industries. All of these research grants and contracts involve students as “doers and thinkers” in novel, cutting-edge research. Present projects involve development of new anti-cancer agents; development of new vaccines; development of new drug delivery systems; forensic analysis and toxicological studies of explosive residues; novel, new nanotechnology-encapsulation delivery systems; development of new food preservation methods; green chemistry methodologies; environmental impact of agricultural chemicals in drinking water; examination of herbal materials; the development of new methods of instrumental analysis; and many more.

- **Students get to travel**

Our students travel to state, regional, national and international conferences. These trips are funded by research grants. The students present their research data and meet chemists from across the U.S. and around the world.

Program Location:
Macomb

Contact Information

Questions about the program:

Department of Chemistry
Graduate Program Director
(309) 298-1538
wiu.edu/chemistry

General admission questions:

School of Graduate Studies
(309) 298-1806 or (877) WIU GRAD
Grad-Office@wiu.edu
wiu.edu/grad

Higher Values in Higher Education

Academic Excellence
Educational Opportunity
Personal Growth
Social Responsibility



**WESTERN
ILLINOIS
UNIVERSITY**

Our students have made 47 research presentations in the past few years at the national American Chemical Society and the national American Society of Biochemistry and Molecular Biology meetings in Boston, MA; Atlanta, GA; Chicago; New Orleans, LA; San Diego, CA; San Francisco, CA; and Washington, DC.

• Our students become published authors

Our students have been listed as coauthors with the Chemistry faculty in over 100 refereed journal articles during the past four years. Most of these have been in nationally or internationally known journals such as the *Journal of Organic Chemistry*, the *Journal of Inorganic Chemistry*, the *Journal of the American Chemical Society*, *Organic Letters*, *Applications in Biotechnology and Microbiology*, *Experimental Biology*, the *Journal of Agricultural and Food Chemistry* and many more.

Faculty Expertise

The WIU Department of Chemistry currently consists of 13 faculty holding doctoral degrees from distinguished universities around the world. All faculty are dedicated educators, skilled in fostering active student participation. They are also active researchers and have many research publications and presentations to their credit in the areas of their specialty. Graduate students in Chemistry will have an opportunity to work with faculty on research projects involving analytical chemistry, biochemistry, environmental chemistry, food chemistry, forensic chemistry, green chemistry, inorganic chemistry, material science, nanotechnology, organic chemistry, medicinal chemistry, physical chemistry, polymer chemistry or toxicological chemistry.

Facilities

Housed in Currens Hall, the department has electronic classrooms and many teaching/research laboratories. Students have access to the department's state-of-the-art equipment and facilities. The modern instrumentation available for teaching and research includes a walk-in cold room, GCs with autosample capability, an FPLC, an HPLC, a new state-of-the-art FT-NMR with an auto sampler, an FT-IR, a scanning UV-Vis, GC-MS spectrometers, SEM, a capillary electrophoresis, a temperature controlled scanning fluorometer and high-speed centrifuges.

Assistantship Opportunities

The WIU Department of Chemistry offers teaching and research assistantships on a competitive basis for qualified applicants. The graduate assistantships, which include a tuition waiver and monthly stipend, require 13 to 20 hours of employment per week in the teaching or research laboratories.



Western Illinois University is an Affirmative Action and Equal Opportunity employer with a strong commitment to diversity. In that spirit, we are particularly interested in receiving applications from a broad spectrum of people, including, but not limited to, minorities, women and individuals with disabilities. WIU has a non-discrimination policy that includes sex, race, color, sexual orientation, gender identity and gender expression, religion, age, marital status, national origin, disability and veteran status.

Internship Opportunities

Students in the Applied Plan program of study have received internships in state, regional, and federal crime labs; ethanol production plants; state health labs; USDA labs; pharmaceutical and biotech companies; polymer, materials, or food industries; as well as in community colleges and Chicago area high schools.

Career Opportunities

The MS degree in Chemistry will prepare students to work in modern, quality assurance laboratories, pharmaceutical company labs, biotech labs, or environmental and crime laboratories at the local, regional, state or federal level. The MS graduates can also work for other law enforcement agencies such as the Drug Enforcement Administration, Food and Drug Administration, Environmental Protection Agency, and Occupational Safety and Health Administration. The program also prepares students to work for private industries in their analytical, environmental, chemical synthesis or toxicology laboratories. In addition, the program provides the training for students to pursue PhD work in chemistry, forensic chemistry, forensic sciences, environmental sciences, industrial hygiene, medical chemistry or toxicology.



"The Chemistry Department at Western Illinois University provided me with the challenges and confidence to achieve the most difficult of goals and helped me land a position in a very competitive career field."

*— Mike Bowsher, MS
Research Scientist, Bristol Myers-Squibb*