



WESTERN ILLINOIS UNIVERSITY

Biochemistry

Department of Chemistry, College of Arts & Sciences

Major Program

The Department of Chemistry offers an option leading to the Bachelor of Science in Biochemistry. Biochemistry is the study of the chemistry of living systems. As such, it fits between the traditional fields of chemistry and biology, and biochemists must be well-trained in both fields.

Biochemistry includes the study of chemical processes involved in the formation and breakdown of substances which make up living systems as well as the processes involved in movement, transmission of signals, and reproduction of organisms. An understanding of biochemical processes has contributed to the production of new drugs and agricultural products using recombinant DNA technology.

Biochemistry is one of the newest branches of chemistry. It has seen enormous growth in the past 30 years with applications in biotechnology. Most biochemical knowledge has been generated by individuals who are still living. The study of biochemistry leads to an appreciation for the diversity of living systems as well as the similarity of the metabolic processes occurring in those diverse organisms. Biochemical knowledge is also having profound influence on areas as diverse as medicine and agriculture. As the mechanisms by which diseases destroy living systems are explained, new medical treatments can be developed. New varieties of plants are being produced which resist pests and can resist weed killers. New information is rapidly being transferred from the research laboratory to practical application.

The Department of Chemistry is certified by the American Chemical Society in the areas of chemistry and biochemistry. The ACS, with over 120,000 members, is the largest scientific society in the country. In addition to certification of undergraduate programs, it publishes many primary chemical journals such as *Chemical Abstracts*. Of the country's 2,000 undergraduate chemistry programs, fewer than 500 meet ACS certification requirements.

Faculty

Courses in the department are taught by faculty holding doctoral degrees from distinguished universities around the world such as the University of Mysore (India), Kansas State University, Texas A&M University, Texas Tech University, Lucknow University (India), University of Victoria (Canada), and University of Loyola. All are dedicated educators, skilled in fostering active student participation. They are also active researchers and have to their credit many research publications and presentations in the areas of their specialties.

Scholarships

The department offers nine scholarships for Chemistry majors. Four scholarships are named for the Maurice Peterson Foundation and four are named for distinguished faculty in the department—the Norbert Goeckner Scholarship is awarded annually to a Chemistry major (undergraduate or graduate), with preference given to a Burmese student (if there is no eligible Burmese student, the award will be open to all Chemistry majors); the Dr. and Mrs. R. L. Hardin Scholarship is awarded to a junior Chemistry major; the F. H. Currens Award is given to an outstanding senior Chemistry major; and the Dr. Ben Hughes Scholarship is awarded annually to a Chemistry education major. The Department of Chemistry also awards an Incoming Freshman Award to an entering freshman Chemistry major and selects a department scholar from outstanding seniors in the department. Detailed information on scholarships is available from the department, (309) 298-1538; and Western's Scholarship office, (309) 298-2001; or on the Web at wiu.edu/Scholarship or wiu.edu/Chemistry.

HIGHER VALUES IN HIGHER EDUCATION

Honors in Chemistry

To be eligible for the Centennial Honors College, entering freshmen must have an ACT composite score of at least 28 OR have a 26 or 27 composite ACT and be in the top 15% of their graduating class OR have an ACT composite score of at least 24 and be in the top 10% of their high school graduating class. Transfer students with at least 12 semester hours and up to 59 semester hours of undergraduate courses are admitted with a grade point average of at least 3.3 OR 3.4 for 60 semester hours or more. To find out more, visit wiu.edu/Honors.

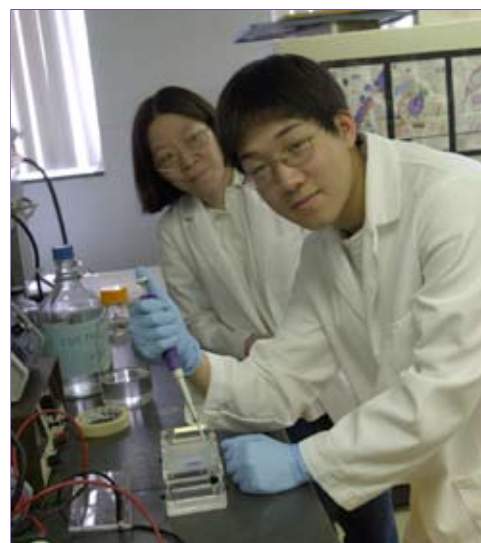
General honors seminars in the humanities, sciences, and social sciences provide students with opportunities to explore key academic issues with distinguished faculty members. In the Chemistry department, honors students take courses for honors credits and, as seniors, prepare an honors thesis under the direction of a department faculty member.

Student Activities

For students interested in chemistry, the department offers the Chemistry Club, an association affiliated with the American Chemical Society.

Special Opportunities

The department offers small classes with accessible faculty and personalized advising in Currens Hall. The department offers electronic classrooms and numerous teaching/research laboratories, as well as a Physical Sciences Library that subscribes to more than 60 journals and online literature searching through the Chemical Abstract Service. Undergraduates have access to the department's state-of-the-art equipment and facilities, which are augmented by the existence of a graduate program. The modern instrumentation available for teaching and research includes FPLC, HPLC, FT-NMR, FT-IR, UV-Vis, and GC-MS spectrometers; capillary electrophoresis; and a high-speed centrifuge.



After College

Individuals trained as biochemists have a variety of employment opportunities available. Those choosing not to pursue advanced training in graduate or medical school generally find employment working in an industrial, governmental, or hospital laboratory setting. Industries hiring biochemists include, but are not limited to, pharmaceuticals, forensic laboratories, foods, and the emerging biotechnology industry. Most studies predict a shortage of chemists of all types, making job markets excellent for many years to come.

For More Information

The department welcomes visitors. Call the Department of Chemistry at (309) 298-1538 or e-mail the adviser: JL-Sandrik@wiu.edu. You can also learn more about the department by visiting wiu.edu/chemistry.

For Your General Outlook

Required courses include Inorganic Chemistry I, II, & III (12 SH); Organic Chemistry I & II (9 SH); Analytical Techniques (3 SH); Physical Chemistry (4 SH); Biochemistry (4 SH); Advanced Biochemistry (4 SH); Biochemistry topic (4 SH); Senior Research (3 SH); Calculus I & II (9 SH); Physics (8 to 10 SH); a Biology minor (16 to 20 SH); and Computer Science (3 SH).

Campus Visits

The Admissions Reception Center (Sherman Hall 115) is open most weekdays from 8:00 AM to 4:30 PM when the University is in session. Group information sessions are available at 10:00 AM and 1:00 PM, and campus tours are conducted at 11:00 AM and 2:00 PM daily. Individual appointments with an admissions counselor, advisers/faculty, or a financial aid adviser may be arranged during the week. The Admissions Reception Center is open from 9:30 AM to 1:00 PM most Saturdays when the University is in session. A group information session is available at 10:00 AM, and a campus tour is conducted at 11:00 AM. An individual appointment with an admissions counselor may be arranged. You may schedule your visit or tour online at admissions.wiu.edu by selecting "Visit Campus." You may also schedule a visit, tour, or individual appointment by calling toll free (877) PICKWIU [742-5948] or (309) 298-3157, or by e-mailing admissions@wiu.edu.

wiu.edu/chemistry

Department of Chemistry

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