



WESTERN ILLINOIS UNIVERSITY

# Chemistry with Teacher Certification in Science

Department of Chemistry, College of Arts & Sciences

## Why Chemistry with Teacher Certification?

Chemistry is the science of the composition, structure, properties, and reactions of matter, especially of atomic and molecular systems. It is the basis of the technology for large-scale production of chemicals and chemical materials that are vital to modern society. Well-prepared middle school and high school chemistry teachers provide the important first step in helping prepare those interested in pursuing chemistry as a career. They are also often the first and last teachers who help educate the general public regarding the important role of chemistry in our technological world.

## Major Program of Study

Students combine a study of chemistry, physics, the Earth and space sciences, and the life sciences with a study of teaching foundations and various field and clinical experiences as they complete this major. Successful completion of this program leads toward a Bachelor of Science in Chemistry as well as Illinois teacher certification for grades 6-12. The specific certification allows completers to teach all areas of the sciences within the regular curriculum as well as honors and advanced placement chemistry and physical science courses. The culminating experience for this program is typically a 12-week student teaching experience at the high school level. The student may also choose a 16-week student teaching experience with eight weeks at the middle school level and eight weeks at the high school level pending their career choices.

Students wanting to teach chemistry as a career should take four years of mathematics, four years of English, and at least one year of chemistry in high school as preparation for college. If available, a year of physics is also recommended.

## 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

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](http://wiu.edu/Scholarship).

## Chemistry at Western

The department offers small classes with accessible faculty and personalized advising in Currens Hall. There are three 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

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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 Spectrometer; capillary electrophoresis; and a high-speed centrifuge.

### Honors in Chemistry

To be eligible for the Illinois 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 (SH) and up to 59 SH of undergraduate courses are admitted with a GPA of at least 3.3 OR 3.4 for 60 SH or more. To find out more, visit [wiu.edu/Honors](http://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

Chemistry students in the teacher certification program participate in a number of activities through their program, including judging science fairs, coordinating events for Science Olympiad, and attending the WIU Secondary Science Education Conference as well as assisting with the annual Chemistry and Physics Show. They are also strongly encouraged to participate in professional organizations such as the Illinois Science Teachers Association, National Science Teachers Association, and the Education Division of the American Chemical Society. In addition, students may participate in the Chemistry Club, an association affiliated with the American Chemical Society. Also, a wide variety of student activities and organizations are available to all Western students. Learn more at <http://osa.wiu.edu>.

### After College

Middle and high school teachers are in great demand. Science teachers are a Designated Teacher Shortage Area in the State of Illinois ([www.isbe.net/research/htmls/teacher\\_shortage.htm](http://www.isbe.net/research/htmls/teacher_shortage.htm)) as they are in many states. Teachers with an expertise in chemistry are in particularly high demand. The demand for highly qualified science teachers is anticipated to increase by 15% or more (America's Career InfoNet) by the year 2016.

### For Your General Outlook

Required courses include Inorganic Chemistry I, II & III (12 SH); Organic Chemistry I & II (9 SH); Analytical Techniques (3 SH); Analytical Chemistry (5 SH); Physical Chemistry (4 SH); Science in Context (3 SH); Scientific Techniques and Issues (3 SH); Physics (11 SH); Biology (8 SH); Geology (8 SH); Senior Project Laboratory (3 SH); Education – Secondary Science Teaching Methods (3 SH); Education and Interdisciplinary Studies (13 SH); Calculus I & II (9 SH); Special Education and/or Psychology (4 SH); and Student Teaching (12 SH).

### Leslie F. Malpass Library

The library and its five branches house more than one million cataloged volumes, 3,300 current journal subscriptions, and 25 foreign and domestic newspapers. In addition, the library provides computer access to resources worldwide, including 800 other Illinois libraries with more than 22 million volumes. When necessary, the interlibrary loan program can have materials in students' hands within a day or two.

### For More Information

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

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