

Undergraduate FAQ

FRONTPAGE_NO_TRANSLATION_AVAILABLE Undergraduate Frequently Asked Questions

How do I get research experience?

This information is available at <http://chem.ou.edu/Research/Undergraduate-Research.html>

How do I declare or change my major?

The application for admission to OU asks each applicant to choose their intended major. However, students often change their major after they begin their studies. To declare Chemistry or Biochemistry as a major (or to change to another Arts & Sciences major), students should go to the Arts & Sciences Student Services Office in the Ellison Hall lobby and fill out a 'Change of Major' form.

Students changing majors to another college within OU should contact that college to get information on their procedure for declaring a major.

How much credit can I get for Independent Study, Chem 3990 and Chem 4990?

You can apply a total of 12 hours of independent study to your graduation requirements, 6 hours from each course. Chem 3990 is S/U graded, while Chem 4990 is letter graded. Typically, a student performing research for independent study credit can expect to spend 5-7 hours/week in the lab for each hour of credit.

What are Capstones, and how are they different?

Capstones are courses that require students to draw upon all their studies in their major field. Chem 4913 is the Senior Thesis capstone, and typically requires 3 semesters of research prior to enrollment. This is the best capstone if you are planning on attending a graduate program in Chemistry or Biochemistry. Chem 4923 is a varying topic lecture course involving tests, quizzes, and written reports. And Chem 4933 is the Biochemistry capstone, which is a lecture course with lab component.

What scholarships are available?

All OU students should check with the Financial Aid Office (<http://www.finaid.ou.edu>) to see what university scholarships, loans, grants, etc. are available. Another good source of scholarship information is <http://www.fastweb.com>.

The Chemistry & Biochemistry Department does have a few merit-based undergraduate awards available each year. These range in value from a few hundred dollars up to about \$1200. Nominations are solicited from departmental faculty.

How do I get advised and enroll in my classes?

Please refer to the following page: <http://chem.ou.edu/Undergraduate-Advising.html>

What are the different areas of chemistry?

Many areas and sub-disciplines of chemistry and biochemistry overlap each other and other fields outside of chemistry and biochemistry as well. Multiple examples of such overlaps can be found in the department of chemistry and biochemistry at the University of Oklahoma. Nonetheless, primary sub-discipline labels are still attached to many of the faculty in consideration of their broadly identified "current primary region of interest" and/or their primary area of didactic concentration during their graduate and/or postdoctoral studies.

- Analytical Chemistry: Analytical Chemistry is a discipline within chemistry and biochemistry which is substantially focused upon the identification, determination, and quantitation of various bio/chemical substances and/or classes of substances. Thus, analytical chemists are generally more concerned with chemical and physical properties of matter that will allow the distinguishment of such species. Likewise, analytical chemists are more broadly concerned with the instrumentation and procedures employed in the identification and measurement of chemicals. Many individuals would more strongly associate analytical chemists, as opposed to chemists of other sub-disciplines, with the applied areas of electrochemistry, spectroscopy, separations, and equilibrium/kinetics.

- Biochemistry: Biochemistry is a study of the chemistry of life. The discipline includes a study of the structure of proteins and other macromolecules and how they are formed and organized into what we see as parts of the body, organs, organelles and cells. Proteins are multifunctional and an important part of Biochemistry is devoted to an understanding of how they work, including a study of metabolism as it relates to the utilization of nutrient to create energy or build molecules needed by the body. The structure of other macromolecules such as lipids and complex carbohydrates and how they are made and work is also studied. The storage and transmission of genetic and other information is also considered. Finally, the discipline includes a study of how the above processes are regulated. Closely related to this is a study of how cells and organisms grow, differentiate and reproduce. Underpinning all of the above are the tenets learned

in Physical, Organic, and Inorganic Chemistry. In addition, it is impossible to describe the study of the above without a working knowledge of Analytical Chemistry.

- Chemical Education: Next to parents, educators have the greatest influence on a young person's development. They are not only teachers but also role models and mentors. Teachers of chemistry--whether in colleges, high schools, middle schools, community colleges, or graduate schools--say helping shape the lives and minds of students is the most satisfying aspect of their work. It is the reason they have chosen teaching as the career in which to practice their knowledge of chemistry.

- Inorganic Chemistry: Inorganic chemistry is concerned with the structure, properties, and reactions of all compounds not derived from hydrocarbons. It has applications in every aspect of the chemical industry, including catalysis, materials science, pigments, surfactants, coatings, medicine, fuel, and agriculture. Inorganic chemists are employed in fields as diverse as the mining and microchip industries, environmental science, and education. Their work is based on understanding the behavior and the analogues for inorganic elements, and how these materials can be modified, separated or used often in product applications.

- Organic Chemistry: Organic chemistry is the branch of chemistry that deals with the structure, properties, and reactions of compounds that contain carbon. It is a highly creative science. Chemists in general and organic chemists in particular can create new molecules never before proposed which, if carefully designed, may have important properties for the betterment of the human experience. The very foundations of biochemistry, biotechnology, and medicine are built on organic compounds and their role in life processes. Most all of the modern, high tech materials are composed, at least in part, of organic compounds.

- Physical Chemistry: Physical chemistry is concerned generally with the structure, energy, and transformation of matter, placing special emphasis on the principles of quantum mechanics, thermodynamics, statistical mechanics, and kinetics. Physical chemists are focused on understanding the physical properties of atoms and molecules, the way chemical reactions work, and finding out what these properties reveal. Their work involves analyzing materials, developing methods to test and characterize the properties of materials, developing theories about these properties, and discovering the potential use of the materials.

What careers are available?

Careers range from hands-on lab work to medical related fields to working in business with various companies. It is impossible to briefly describe all the job opportunities available. Students are encouraged to check the following websites for more information:

- ACS Chemical Career Descriptions
- Jobspectrum.org (a career site for Chemists run by the ACS): <http://www.jobspectrum.org/>
- Chemjobs.net: <http://www.chemjobs.net>

Students can also visit <http://www.monster.com> and enter "chemistry" in the search criteria. This will list all the jobs that contain "chemistry" in the job title or the job description. A recent search resulted in over 4,500 results nationwide.

What are the differences in the degrees offered by the department?

Please refer to the following page: <http://chem.ou.edu/Undergraduate-Program-Overview.html>

How can I participate in Study Abroad?

There are several international study programs available for interested majors. Students interested in studying abroad should contact the International Programs Office (325-1693; Old Science Hall, rm 223; <http://www.ou.edu/intprog/>). OU has reciprocal exchanges set up with over 100 schools in over 40 countries.

I took a course at another school. How do I transfer it to OU?

All courses must be transferred through the OU Office of Admissions and Records.

Office of Admissions
1000 Asp Avenue room 127
Norman OK 73019-4076
phone: 405-325-2252; fax: 405-325-7124
email: admrec@ou.edu.

If the course has not already been reviewed for credit at OU, you can have it reviewed by the appropriate university department to determine if there is an equivalent OU course.

Some of the transfer equivalencies from other Oklahoma schools (and a few out-of-state schools) can be viewed online here:

<http://admissions.ou.edu/tetables.htm>

