



Chemistry at Drexel

Chemistry is often referred to as the “central science” because it influences all physical, biological, and atmospheric sciences. The U.S. chemical industry spends about \$20 billion on research annually — more than any other industry. Drexel’s Department of Chemistry offers a BS degree certified by the American Chemical Society Committee on Professional Training and a BA degree for those interested in following their undergraduate educations in chemistry with professional school, such as law or medicine.

Drexel Co-op for Chemistry

A key part of the program is Drexel’s prestigious co-operative education program, in which students alternate periods of classroom study with periods of professional work experience. Chemistry students can participate in the following:

- Three Co-op Option (Five Years): includes three six-month periods of full-time employment

A Few Drexel Co-op Position Titles

- Analytical Chemist
- Medicinal Chemist
- Process Development Chemist
- Quality Control Technician

Employers

Here are some of the companies that have hired Drexel students as co-op or full-time employees:

- DuPont
- GlaxoSmithKline
- Keystone Foods LLC
- Pfizer Global Manufacturing
- Rohm and Haas Company

Potential Careers

Materials Scientist. Studies the structures and chemical properties of materials such as ceramics, metals, and polymers to develop new products or improve existing products. May work on improving manufacturing processes.

Medicinal Chemist. Applies a knowledge of chemical compounds to the development of new drugs and other medical uses.

Quality Control Specialist. Specifies ingredients, temperatures, and mixing times for production; tests samples of raw materials or finished products to ensure that they meet industry and government standards, including regulations governing pollution; and monitors automated processes to ensure proper product yield. Ensures that operations comply with standards and specifications, conducts inspections of finished products, and designs tests.

Courses You'll Really Enjoy

Analytical Chemistry. Provides an introduction into statistics (particularly development and use of analytic calibration curves), basic electronics, principles of spectroscopic methods of analysis, including the interaction of light matter, and basic instrument design.

Chemical Information Retrieval. Examines methods of retrieving printed information — via standard tabulations, journals, and abstracts — using both hard-copy and electronic sources. Includes techniques for online searching of databases such as Chemical Abstracts, Beilstein, and crystallographic depositories.

Computational Methods. Covers the classical wave equation, the quantum hypothesis, the Pauli principle, determination of molecular conformations, modeling of molecules through potential energy functions, and the calculation of molecular orbitals from linear combinations of atomic orbitals.

Molecular Symmetry and Group Theory. Applies the principles of simple group theory to molecular structure and to electronic and motional properties of molecules, including crystal field and molecular orbital methods.

Qualitative Organic Chemistry. Covers identification of pure organic compounds, physical constants, solubilities by semi-micro techniques, infrared and nuclear magnetic resonance spectroscopy, and separation and identification of mixtures.

Learn More: University Catalog

A list of required courses for the Chemistry major is available online at www.drexel.edu/catalog.

Accelerated Degree Options

Accelerated degree programs, such as the BS/MD, BS/PhD in Engineering, BS/JD, and BS/MBA, enable academically qualified students to earn both a bachelor's and an advanced degree, graduating sooner than they would in traditional programs. Eligible students can be admitted to an accelerated degree program in one of two ways: apply as an incoming freshman through Undergraduate Admissions or apply to the Office of Graduate Studies after completing a minimum of 90 credits. To learn more about accelerated degree options, visit www.drexel.edu/em/ug/accelerated.

For More Information

Undergraduate Admissions
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