Drexel University Undergraduate Programs

Chemical Engineering

Chemical Engineering at Drexel

Chemical engineering combines math, physics, chemistry, biology, and engineering to solve a wide range of industrial problems in a safe and economical fashion. Chemical engineers work in a variety of industries such as chemical processing, biotechnology, design and construction, electronics, advanced materials, environmental, safety and health, and food and beverage. The Chemical Engineering program at Drexel gives students a unique academic experience — with opportunities such as Drexel Co-op and advanced research — and a strong foundation of scientific principles, teamwork methods, and communication skills for identifying and solving chemical engineering problems.

Drexel Co-op for Chemical Engineering

A key part of the major is Drexel's prestigious co-operative education program, in which students alternate periods of classroom study with periods of professional work experience. Chemical Engineering students can choose from the following:

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

A Few Drexel Co-op Position Titles

- Process Engineer
- Manufacturing Engineer
- Project Engineer
- Design Engineer
- Systems Researcher

Employers

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

- E.I. DuPont de Nemours & Co.
- Merck & Co., Inc.
- Exxon Mobil Corporation
- Johnson & Johnson
- Rohm & Haas

Potential Careers

Chemical Engineer. Solves problems involving the production or use of chemicals and biochemicals by applying the principles of chemistry. Designs equipment and processes for chemical manufacturing, plans and tests methods of manufacturing products and treating by-products, and supervises production. Works in manufacturing industries, health care, biotechnology, and business services.

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Agricultural Engineer. Applies engineering technology and science to agriculture and the efficient use of biological resources. Designs agricultural machinery and equipment, along with agricultural structures. Some specialize in areas such as machinery design and power systems, structures and environment engineering, and food and bioprocess engineering.

Chemist. Searches for new knowledge about chemicals. Discovers and develops new and improved synthetic fibers, paints, adhesives, drugs, electronic components, and myriad other products. Develops processes such as improved oil refining and petrochemical processing that reduce pollution and save energy.

Courses You'll Really Enjoy

Material Balances. Covers elementary principles of chemical engineering, use of stoichiometry and material balances to analyze chemical processing operations, and application to specific commercial processes.

Process Thermodynamics. Within the context of processes previously introduced, covers application of first and second laws to engineering processes, thermodynamic analysis of processes, and behavior of reacting and non-reacting homogeneous and heterogeneous mixtures.

Statistics and Design of Experiments. Provides statistical treatment of engineering data, including application of statistical techniques to process model formulation, statistical designs of engineering experiments, and analysis of probabilistic systems.

Learn More: University Catalog
A list of required courses for the Chemical Engineering 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 Graduate Studies Office after completing a minimum of 90 credits. To learn more about accelerated degree options, visit **www.drexel.edu/em/ug/accelerated**.

For More Information

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