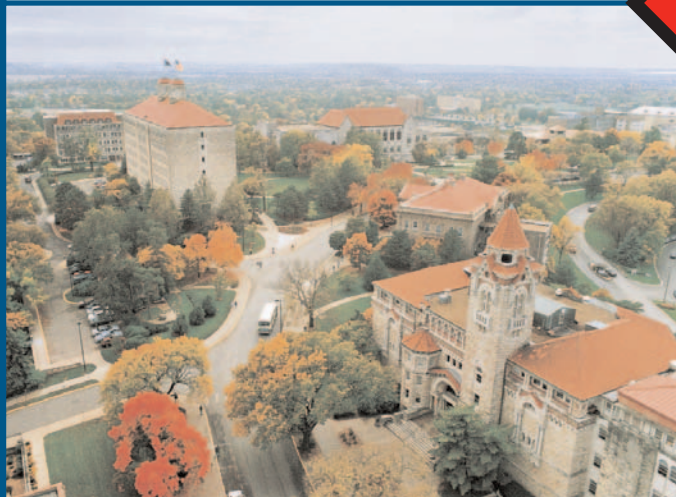




The University of KANSAS

Undergraduate Study

Chemical and Petroleum Engineering



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*A department of the
School of Engineering*
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If you would like information on other majors at KU, contact the University of Kansas, Office of Admissions and Scholarships, KU Visitor Center, 1502 Iowa St., Lawrence, KS 66045-7576. Telephone (785) 864-3911; fax: (785) 864-5017. E-mail: adm@ku.edu Web site: www.admissions.ku.edu

The University of Kansas prohibits discrimination on the basis of race, color, religion, sex, national origin, age, ancestry, disability, veteran status, sexual orientation, marital status, and parental status.



Color photos, from left: KU's main campus is in Lawrence, Kansas. Graduates walk down the Hill at commencement. KU Medical Center is in Kansas City, Kansas. Photos by KU University Relations staff: David McKinney, Doug Koch, and Sharon Hartbauer.

With so many chemical and petroleum engineering programs in the country, why should I choose KU?

► **THE CHEMICAL AND PETROLEUM ENGINEERING PROGRAM.** Chemical and petroleum engineering at the University of Kansas gives you a strong emphasis on fundamental principles, problem solving, and design. Flexibility is built into the curriculum so that you can explore such areas as environmental science, drug delivery, geology, biochemistry, and business as you study for a degree.

► **THE FACULTY.** Chemical and petroleum engineering faculty members are committed to both research and teaching. Several faculty members are fellows of the American Institute of Chemical Engineers or distinguished members of the Society of Petroleum Engineers. Chemical and petroleum engineering faculty members have received every major teaching award at KU.

► **ENGINEERING DESIGN.** KU students are taught by faculty members who have extensive industrial experience, so graduates of the Department of Chemical and Petroleum Engineering are exceptionally well prepared in engineering design. For example, chemical engineering students from KU routinely win top honors in design contests sponsored by the American Institute of Chemical Engineers.

► **KU ENRICHMENT.** KU's faculty and variety of courses have attracted national attention. In your department and across campus, you will meet people whose diverse traditions and cultures will broaden your experiences. KU has more than 350 student organizations, and a wide variety of student activities will make your undergraduate years rewarding. Concerts and shows in KU's Lied Center Series bring many of the finest national and international performers to campus.

Is study in chemical or petroleum engineering for me? To find out, ask yourself: Do I like chemistry? Would I like to use it in a practical way? Do I earn good grades in math and like to use it to solve problems economically and efficiently? Am I interested in using energy and technology in ways that protect the environment and make the world safer? Do I want a broad education that can be a stepping stone to a career in industry, law, medicine, or business?

What degrees are offered?
The Department of Chemical and Petroleum Engineering offers Bachelor of Science (B.S.) degrees in both chemical and petroleum engineering. Master of Science (M.S.) and doctoral degrees also are available to students who want to continue their studies at the graduate level.

Chemical engineering.
If you major in chemical engineering, you will learn the fundamental principles that underlie the production of pharmaceuticals, composite materials, synthetic fuels, polymers, synthetic fibers, fabrics, and other chemicals.

You will learn how to design processes that produce these chemical products economically and with minimal adverse effects on the environment. Chemical engineering majors may choose premedical,

biomedical, or environmental specializations.

Petroleum engineering.
If you are interested in studying how we find and extract petroleum and natural gas, you should major in petroleum engineering.

A focus of KU's petroleum engineering program is reservoir engineering—the science of improving the productivity of oil and gas reservoirs. Reservoir engineers are concerned with getting optimum production from oil and gas wells.

Can I double major?
You can combine a B.S. in chemical or petroleum engineering with a B.S. or B.A. from another department at the University of Kansas, but you may have to spend some extra time in school to complete all the necessary course



Chemical engineering student Liz Morel displays a molecular model that will help increase knowledge of molecular design and polymer solubility in a cancer research project. Photo by Aaron Paden, KU University Relations.

work. If you want to combine degrees from two departments, consult with advisers in both departments as early as possible. Good planning will minimize the extra time you must spend in college.

Can I get a scholarship?
The Department of Chemical and Petroleum Engineering and the School of Engineering administer generous scholarship programs. Nearly half of our students receive scholarship support. Simply apply to KU with either chemical engineering or petroleum engineering as your major, and you will be considered automatically.

For information about scholarships based on academic merit, diversity, major, and residence, write or call the University of Kansas, Office of Admissions and Scholarships, KU Visitor Center, 1502 Iowa St., Lawrence, KS 66045-7576, (785) 864-3911, www.admissions.ku.edu.

For information about grants, loans, and other need-based financial aid, write or call KU's Office of Student Financial Aid, Strong Hall, 1450 Jayhawk Blvd., Room 50, Lawrence, KS 66045-7535, (785) 864-4700, www.financialaid.ku.edu.



Eaton Hall and Learned Hall

Aaron Padgett/KU University Relations

Your first year's schedule in chemical or petroleum engineering may look like this:

First semester	Hours
ENGL 101 Composition	3
MATH 121 Calculus I	5
CHEM 184 Foundations of Chemistry I	5
C&PE 111 Introduction to the Profession	2
TOTAL	15
Second semester	Hours
ENGL 102 Composition and Literature	3
CHEM 188 Foundations of Chemistry II	5
MATH 122 Calculus II	5
C&PE 211 Introduction to Computers in Engineering	3
TOTAL	16

How do I get into the School of Engineering?

First-year students may enter School of Engineering programs, such as chemical engineering or petroleum engineering; however, admission is competitive. To be considered, you must have graduated in the top half of your high school class and have a minimum mathematics score of 22 on the ACT examination (or a mathematics score of 540 on the SAT examination). Meeting these minimum requirements will not guarantee admission. Take a standard college-preparatory curriculum in high school, one that includes courses in chemistry, physics, English, and mathematics.

What will my course load be like? If you major in chemical engineering, you will have to accumulate at least 132 credit hours to graduate, about 60 of which must be in courses offered by the department. You also must take courses in the basic sciences, advanced

chemistry, and mathematics. If you choose one of the premedical, biomedical, and environmental options, you will take essentially the same courses with certain specified variations.

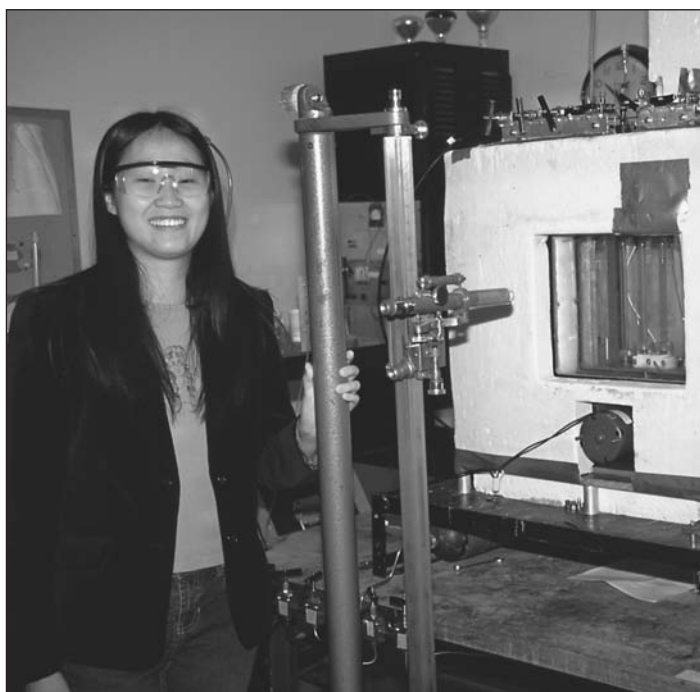
As a petroleum engineering major, you must accumulate at least 132 credit hours to graduate, about 47 of which are chemical and petroleum engineering courses. You also must take courses in the basic sciences and mathematics.

What courses will I be taking? As a first-year student, you will be required to take courses in English composition, mathematics, and chemistry. For your major, you will take such courses as Introduction to the Profession and Introduction to Computers in Engineering.

Why is there a tuition differential for engineering courses? As an engineering student, you will pay a tuition differential for the engineering courses you take in addition

to regular tuition and fees. The fee helps the School of Engineering and the Department of Chemical and Petroleum Engineering maintain and operate its laboratory equipment and computers. The fee also allows students to have

access to computers loaded with specialized software they will need to complete their engineering course work. During a four-year course of study, you will pay an average of \$260 in engineering fees each semester. Because you will take more



Lai Wah Cheng studied methods for improving industrial operations, such as the removal of hazardous pollutants from water.

Chip Howat/Courtesy of KU Chemical and Petroleum Engineering



Chemical engineering undergraduate research participation students Joel Abrahamson and Aaron Hilding prepare to load a sample into a plasma etching chamber.

Karen Nordheden/Courtesy of KU Chemical and Petroleum Engineering

engineering courses as an upper-level student, the total amount of tuition differential you pay will increase as you advance toward your degree.

What kind of job will I be prepared for? You probably will work developing, designing, operating, and managing the equipment and processes that produce many of the materials we use daily. You could specialize in plant operation, research, process development, equipment and process design, or management.

With a petroleum engineering degree, you could take a job with major oil companies, as well as independent operators, in drilling, production, well completion, secondary or tertiary recovery, reservoir engineering, or field production engineering. There are jobs in transporting petroleum and evaluating oil and gas fields.

Where can I get more information? For more information about a major, advising, or scholarships, write or call the University of Kansas, Department of Chemical and Petroleum Engineering, Learned Hall, 1530 West 15th St., Room 4132, Lawrence, KS 66045-7609, (785) 864-4965, e-mail: cpe@ku.edu. Or visit our Web site: www.cpe.engr.ku.edu.

What if my interests change after I come to KU? Maybe you are interested in one of the other engineering departments: aerospace engineering; civil, architectural, and environmental engineering; mechanical engineering; electrical engineering and computer science; or engineering physics. With careful planning, you can delay choosing a specific engineering major for a year.

The KU difference. The 2005 Fiske Guide to Colleges gives KU four stars for academics, social life, and overall quality of university life. Only a handful of state universities received higher marks for academics. The Fiske Guide calls KU one of the top 20 public university best buys for "remarkable educational opportunities at a relatively modest cost."

Each year, more than 60 Undergraduate Research Awards are available to students for original research projects supervised by KU faculty members. Students compete to receive \$500 to fund research during the academic year and at least \$1,300 for summer research projects.

KU is home to one of the top public-university library systems in the nation. Holdings

presently include more than 3.8 million cataloged volumes; 350,000 maps and aerial photographs; 32,000 current subscriptions; thousands of manuscripts, photographic, and archival pieces; many sets of microform materials and sound recordings; and a growing collection of electronic media. Visit www.lib.ku.edu for information.

The new Student Recreation Fitness Center features an indoor climbing wall, gymnasiums, a martial arts center, racquetball/squash courts, a walking track, and facilities for basketball, badminton, handball, football, soccer, and rugby. Visit www.recreation.ku.edu for information.

There are also sports for spectators and participants with exciting Big 12 athletics and intramurals.



Two students operate the distillation column in the Chemical Engineering Unit Operations Laboratory.

R. Steve Dick/KU University Relations