Bachelors of Science in Chemical Engineering

To prepare its graduates to succeed in graduate/professional school as well as in industry, the School of Chemical Engineering at Purdue emphasizes a healthy blend of theoretical and applied coursework. Incoming engineering students enter Purdue in the First-Year Engineering (FYE) Program. Once the required FYE coursework is completed, students may enter the School of Chemical Engineering to pursue a Bachelor of Science in Chemical Engineering (B.S.Ch.E). This is designed to be an eight semester degree program (including the FYE requirements), helping students become well rounded and effective in a range of technical disciplines of societal importance. This is accomplished in part by completion of coursework from three main areas.

**Science:**
- Mathematics
- Chemistry
- Physics

**Engineering:**
- English Composition
- Communication
- Core Electives

**General Education:**
- Chemical Engineering Core
- ChE Elective Courses
- Engineering Elective Courses

**Applying what you have learned**

It is important for chemical engineering student to gain practical work experience during their academic careers. At Purdue there are two primary ways to do this:

**Cooperative Education Program (Co-Op):**

This is a five-year program in which the students gain real work experience in coordination with their academic studies. Semesters are alternated between on campus studies and semesters of work in the field (including summers). An information session about the Co-Op Program is held in January of the freshman year. Students interested in pursuing this opportunity then participate in an interview process with potential host companies. If accepted, students begin their work experience either the summer following the freshman year, or the fall semester of the sophomore year.

**Internships:**

Internship experiences are very strongly recommended for students who do not participate in the Co-Op program. These experiences generally take place over the summer, but can also be done during an academic semester depending on the student’s preference and academic performance. The Undergraduate Office is often contacted by companies concerning internship positions. This information is made available to students through the undergraduate program website. The College of Engineering hosts a large recruiting event, the Industrial Roundtable, early each fall semester. Many of the companies participating are looking for interns. At the University level, the Purdue Center for Career Opportunities is the primary resource for companies interested in employing Purdue students.

**Honors Options**

Optional honors programs are available for students who demonstrate exceptional academic ability. Participation in these programs offer highly-motivated, academically-talented students a broader, more enriched academic experience.

**Honors College Option:**

The Honors College selection process for beginning students is by invitation only. Current students can apply to the Honors College if they have a Purdue 3.5 GPA or above and 4 semesters of study remaining before graduation. Students pursuing this option are required to complete 24 credit hours of honors coursework; 5 credits of Honors courses, 10 credits of elective honors courses and 9 credits of ChE Honors courses consisting of two semesters of research resulting in the submission and defense of an honors thesis and completion of an advanced chemical engineering elective (CHE 540 Transport Phenomena).

**Chemical Engineering Dept. Honors Option:**

Students may apply for the CHE Departmental Honors program during their junior year. Students must have a 3.5 GPA. Students with work with a faculty advisor to complete 9 credit hours; two semesters of research resulting in the submission and defense of an honors thesis; and completion of an advanced chemical engineering elective (CHE 540 Transport Phenomena).

**Research Experience**

This is an independent study course that allows students to get involved in the state of the art research being conducted by the Chemical Engineering Faculty at Purdue. These projects are planned by mutual consent of students and faculty and usually extend over multiple semesters for up to 6 credit hours that apply toward graduation requirements.

**Engineering Projects In Community Service (EPICS)**

EPICS is an engineering focused service learning program in which teams of undergraduates design, build, and deploy real systems to solve engineering-based problems for local community service and education organizations. This is a unique opportunity for students to use the material they are learning in their courses to benefit the community. Participants receive academic credit that can apply toward graduation requirements.

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"NO ONE WILL HAVE MORE IMPACT THAN A CHEMICAL ENGINEER IN ADDRESSING SOCIETY’S GRAND CHALLENGES AND ADVANCING OUR QUALITY OF LIFE."

ARVIND VARMA
Head of Purdue Chemical Engineering
Chemical Engineering is among the broadest of all majors. Graduates with a degree in chemical engineering can work as engineers, scientists, managers, financiers, doctors, educators, lawyers and government officials. To be effective in these different environments, chemical engineers must have well-developed problem-solving, communication and teamwork skills in addition to their technical skills. Their work complements that of electrical engineers, civil engineers, biomedical engineers, aeronautical engineers, nuclear engineers, materials science engineers, and mechanical engineers, physicists, chemists and biologists.

Chemical engineers rely on their knowledge of mathematics and science - particularly chemistry - to convert ideas into products and processes to solve technical problems in industry and society. While the chemist studies basic chemical reactions, the chemical engineer applies the results of chemical research to transform laboratory processes into efficient, full-scale processes or facilities. Where others see problems, we see opportunities.