

CHEMICAL ENGINEERING

What can I do with this major?

AREAS

ANY ENGINEERING DISCIPLINE

Research and Development
Design
Production
Operations
Management
Teaching
Consulting
Sales and Marketing
Law
Manufacturing
Healthcare

EMPLOYERS

Engineering companies
Consulting companies
Industry
Local, state and federal government
Colleges and universities

STRATEGIES

Obtain relevant experience through co-ops or internships for industry-related career.
Develop strong verbal, written, teamwork and problem-solving skills.
Pursue Master of Science (MS), Master of Engineering (ME), or Master of Business Administration (MBA) degrees for increased opportunities in technical management.
Obtain Ph.D. for teaching and research careers.
Learn federal, state and local government job application procedures.
Pursue Professional Engineering licensure.

CHEMICAL and BIOMOLECULAR

Bulk and Fine Chemicals
Consumer Products
Biotechnology and Pharmaceuticals
Electronics
Environmental Safety and Health
Fuels and Energy Conversion
Materials
Process Design

Private and national research laboratories
Industries including:
Agricultural chemicals, industrial bulk and fine chemicals, plastics, biotechnology, pharmaceutical, cosmetics, textiles, petroleum, food processing, energy, environmental, automotive, pulp and paper, rubber and rubber products, electronics, consumer products
Federal government:
Department of Energy
Environmental Protection Agency
Nuclear Regulatory Commission
Department of Agriculture

Discipline combines chemistry, physics, biology and engineering to solve problems involving the use or production of chemicals and biological systems to develop new materials and processes and to increase efficiency and lower cost.

Pursue a strong foundation in fundamentals in lower division classes as well as specialized knowledge for specific career opportunities in upper division classes.
Develop exceptional communication and interpersonal skills for work on multidisciplinary teams. Attention to detail is crucial.
Pursue experimental design, data interpretation, and problem solving competence through coursework and research with professors.
Seek internship or co-op experiences in the chemical engineering field.
Join professional associations such as American Institute of Chemical Engineers to maintain current knowledge of opportunities in the field.
Prepare for professional license via review classes.

GENERAL INFORMATION

- Utilize Sloan Career Cornerstone Center's website to learn more about opportunities in engineering.
- A bachelor's degree provides a wide range of career opportunities in industry, business and government.
- Bachelor's degree is good background for pursuing technical graduate degrees as well as professional degrees in Engineering, Business Administration, Medicine or Law.
- Graduate degrees offer more opportunities for career advancement, college or university teaching positions.
- Related work experience obtained through co-op, internships, part-time or summer jobs is extremely beneficial.
- Develop excellent verbal and written communications skills including presentation and technical report writing. Learn to work well on a team to maximize collaborations with other engineers and those outside of the profession.
- Develop computer expertise within field.
- Engineers need to think in scientific and mathematical terms and exhibit the abilities to study data, sort out important facts, solve problems and think logically. Creativity is useful.
- Other helpful traits include intellectual curiosity, technical aptitude, perseverance and a basic understanding of the economic and environmental context in which engineering is practiced.
- Because of rapid changes in most engineering fields, both continued education and keeping abreast of new developments are very important.
- Join relevant professional associations, attend meetings, participate in design competitions and stay up-to-date on research/publications.
- All states and the District of Columbia require registration of engineers whose work may affect the life, health or safety of the public.
- Professional or technical societies confer certification in some areas.
- Research Fundamentals of Engineering (FE) exam requirements, as this exam is typically the first step in becoming a Professional Engineer (PE).
- Professional Engineer (PE) licensing guidelines vary by state. Check with the National Council of Examiners for Engineering and Surveying (NCEES) for links to state boards.
- Become familiar with the federal job application and employment procedures.

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