Where do Chemical Engineering majors go?

According to the 2015 Graduating Student Survey (with an 80.4% response rate for undergraduates in the department):

- 86.7% of graduates were employed or going to graduate school.
  - 73.4% were employed.
  - 13.3% had secure plans to attend grad school.

Examples of organizations that have hired Chemical Engineering majors in recent years:

Graduate schools that Chemical Engineering majors have attended in recent years:

- Massachusetts Institute of Technology
- University of Southern California
- University of California, Berkeley
- Georgia Institute of Technology
- Yale University
- Carnegie Mellon
- Columbia University

What can you do with a degree in Chemical Engineering?

Chemical engineers are engaged in development and production of diverse, high-value products, as well as in basic chemicals production. Specialty chemicals and high performance materials are needed for aerospace, automotive, biomedical, electronic, environmental, and military applications. Examples include ultra-strong fibers, fabrics, adhesives and composites for vehicles; bio-compatible materials for implants and prosthetics; gels for medical applications; and pharmaceuticals. Chemical engineers also play key roles in the development and production of systems and devices, such as chemical sensors; controlled release technologies for medical, personal care and agricultural products; and medical diagnostic devices. Organizations that recruit at Columbia include Boeing, ConEd, L’Oréal, and Unilever.

- **Manufacturing**: Conduct R&D to invent and improve technologies and materials required to package, manufacture, and develop consumer products. Manage supply chains.
- **Energy/Utilities**: Optimize existing formulas in Oil & Gas through R&D. Identify, evaluate and control hazardous materials and facilities waste management.
• **Business/Consulting:** Develop recommendations to optimize supply chain and improve processes. Expedite technological adaptation and ensure regulatory compliance.

• **Federal/State/Local Government:** Enforce environmental and industrial hygiene safety policies and/or clean-up of hazardous sites. Research health and economic effects of legislative policies.

• **Academia:** Teach in colleges and universities or conduct research.

• **Research Firms or Laboratories:** Conduct field research and data collection.

• Use CCE’s Engineering Industry pages to learn more about these, and other fields.

**What do employers want?**

In addition to your technical skills, which might include ArcGIS Desktop, Cantera, MATLAB, MathCAD, ChemSketch, AutoCAD, and SIMULINK, top skills/qualities sought by employers include:

1. Ability to work in a team structure
2. Ability to make decisions and solve problems
3. Ability to verbally communicate with persons inside and outside the organization
4. Ability to plan, organize, and prioritize work
5. Ability to obtain and process information
6. Ability to analyze quantitative data
7. Technical knowledge related to the job
8. Proficiency with computer software programs
9. Ability to create and/or edit written reports
10. Ability to sell or influence others

*Source: National Association of Colleges and Employers, 2015 Job Outlook*

Your major can demonstrate relevant coursework and knowledge to a prospective employer, but your studies aren’t the only aspect of your experience that employers are evaluating. They select people who they believe can do the job (have the right skills), want the job (have demonstrated an interest in the field), and are a personality fit for the team and organization.

**What value do Chemical Engineering majors bring?**

According to Chemical Engineering Department at Columbia, the curriculum helps you to develop the ability to:

• Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, political, ethical, health and safety, manufacturability, and sustainability.
• Function on multidisciplinary teams and communicate effectively.
• Identify, formulate, and solve engineering problems.
• Understand professional and ethical responsibility and the impact of engineering solutions in a global, economic, environmental, and societal context.
• Use the techniques, skills, and modern engineering tools necessary for engineering practice.
• Apply knowledge of mathematics, science, and engineering.
• Design/conduct experiments, as well as analyze and interpret data.

**What if I’m an International Student?**

For international students at Columbia under student visas, selecting your major can play a significant role if you plan to work in the US after completion of your degree. STEM (Science, Technology, Engineering, Mathematics) students can receive a 24-month extension of optional practical training after the initial period of authorized post-completion OPT. Students with questions about this should visit the International Student & Scholars Office (ISSO), view ISSO’s Work Opportunities for Students in F-1 Status site ([columbia.edu/cu/issos/visa/F-1/index.html](http://columbia.edu/cu/issos/visa/F-1/index.html)) and view CCE’s International Students webpage at [careereducation.columbia.edu/students/International-Students](http://careereducation.columbia.edu/students/International-Students).