

# Florida Institute of Technology– Career Management Services

## Career Profile: Chemical Engineering

Chemical engineers apply the principles of chemistry to solve problems involving the production or use of chemicals and other products. They design equipment and processes for large-scale chemical manufacturing, plan and test methods of manufacturing products and treating byproducts, and supervise production. Chemical engineers also work in a variety of manufacturing industries other than chemical manufacturing, such as those producing energy, electronics, food, clothing, and paper. In addition, they work in healthcare, biotechnology, and business services. Chemical engineers apply principles of physics, mathematics, and mechanical and electrical engineering, as well as chemistry. Some may specialize in a particular chemical process, such as oxidation or polymerization. Others specialize in a particular field, such as nanomaterials, or in the development of specific products. They must be aware of all aspects of chemical manufacturing and how the manufacturing process affects the environment and the safety of workers and consumers.



Some career options include Absorption & Adsorption Engineer, Chemical Plant Technician, Petroleum Engineer, Biomedical Engineer, Chemical Design Engineer and Chemical Test Engineer.

Most engineers work in office buildings, laboratories, or industrial plants. Others may spend time outdoors at construction sites and oil and gas exploration and production sites. Many engineers work a standard 40-hour week. At times, deadlines or design standards may bring extra pressure to a job, requiring engineers to work longer hours.

Engineers typically enter the occupation with a bachelor's degree in an engineering specialty, but some basic research positions may require a graduate degree. Engineers offering their services directly to the public must be licensed. Continuing education to keep current with rapidly changing technology is important for engineers.

Engineers who are licensed are called professional engineers (PE). This licensure generally requires a degree from an ABET-accredited engineering program, 4 years of relevant work experience, and successful completion of a State examination. The initial Fundamentals of Engineering (FE) examination can be taken upon graduation. Engineers who pass this examination commonly are called engineers in training (EIT) or engineer interns (EI).

The average salary offer for a new graduate with a bachelor's degree in Chemical Engineering is \$64,641. The average starting salary for a master's degree in Chemical Engineering is \$68,868. At the doctorate level the average starting salary is \$80,857.

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**For more information on a career in Chemical Engineering contact the Career Management Services Office or your academic advisor.**

Sources: Occupational Outlook Handbook, Bureau of Labor Statistics [www.bls.gov/oco](http://www.bls.gov/oco)  
National Association of Colleges and Employers Salary Survey: Winter 2011



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