

Internship and Career Services Industry Guide:

Engineering

Overview

Engineering is a career field that allows for both applications of science and mathematics to design, construct, maintain, and operate structures, machinery, material, and organizations. The engineering field consists of individuals that work in their specific disciplines, which includes biomedical, computer, electrical, energy, mechanical, and motorsports engineering.

What Can I Do With An Engineering Degree?

Students that pursue a degree in engineering can take multiple avenues when it come to finding a career. When looking at all of the skills one obtains throughout their studies, engineering majors have a wide range of fascinating and high-earning career paths available to them!

INDUSTRY	CAREERS	EMPLOYERS
Biomedical Engineering	Bioinstrumentation, biomaterials, biomechanics, clinical engineering, rehabilitation engineering, systems physiology, medical equipment and supplies manufacturing, postsecondary teachers, computational biology, bionanotechnology, medical imaging	Manufacturing facilities, universities, hospitals, medical institutions, research facilities, Medtronic, Stryker, Zimmer Biomet, Roche Diagnostics
Computer Engineering	Artificial intelligence, computer architecture, computer design, operating systems and networks, robotics, software applications, network & computer system administration	Universities, IT firms, research laboratories, federal government, manufacturing facilities, Google, Apple, Texas Instruments
Electrical Engineering	Integrated circuits and solid state devices, robotics, power systems, communication systems, electronics, electrical insulation, system engineering	Research laboratory, engineering services, manufacturing facilities, telecommunications, federal government, offices, General Electric, Shell Oil Company
Energy Engineering	Energy manager, photovoltaic engineering, energy systems, energy generation, storage, consumption and transmission, fuels engineering, and clean energy specialties.	Technical services, manufacturing facilities, offices, UPS, United States Department of Energy
Mechanical Engineering	Biomedical & engineering fluid mechanics, ground vehicle systems, heat transfer, thermodynamics, & energy systems, manufacturing, mechanical design, system dynamics & control, transportation systems	Worksites, offices, research laboratory, mechanics, manufacturing facilities, engineering services, architectural services, scientific research services, universities, NASA, GE Aviation, The Boeing Group

Motorsports Engineering

Race engineering, automotive performance parts designing, data acquisition engineering, aerodynamic engineering, automotive engineering, technical program manager

NASCAR, mechanics, car dealerships, auto shops, universities, Honda, GE Aviation

What Can I Do Now?

Be proactive: Try to find organizations and clubs that align with what you want to pursue. For example, there is the Engineering Club on Butler's campus, as well as the Society of Women Engineers (SWE) on IUPUI's campus. SWE is a global organization that will connect you with more opportunities to jobs and career events that relate to engineering.

Get involved & research: Try to attend career events, especially ones that revolve around STEM-oriented job opportunities. Look for internships that can widen your networks and connections that can be beneficial in the future. Working on faculty-led research, or your own research, is great exposure and experience.

Search relevant job boards: If you are looking for specialty career sites that cater specifically to engineering, try using www.engrtechcareers.com (ET Careers) and www.cco.purdue.edu (MyCCO) that are accessible to Butler's engineering students

Technical Skills Needed	Non-Technical Skills Needed
<u>Computer science fundamentals</u> -All engineering majors should devote some time to learning computer technology and language. Some common languages are Java, C++, and MATLAB.	<u>Leadership and management</u> -Leadership and management skills are extremely important if you want to succeed in any field that deals with team management. The good news is that leadership skills can be learned via training, observation, and practice.
<u>Data Modeling</u> -This skills allows for estimates of datasets for structures to identify useful patterns, see the correlation between data, data clusters to detect anomalies and regressions.	<u>Problem-solving</u> -Engineers are faced with situations in their work that require diligent problem-solving. Problem-solving is an engineering process in which where each solution is tested and modified.
<u>System Design</u> -Obtaining this skill will help understand how small components fit into a larger system of products and services. System design is backed by having good practice in areas such as gathering, version control, testing, modularity, and documentation.	<u>Communication</u> -Engineers need to practice communication skills if they want to excel at interactions with clients, colleagues, teammates, and management. This includes giving excellent presentations and non-ambiguous reports and emails.

Online Resources

[Careers in Engineering Guide \(onedayonejob.com\)](http://onedayonejob.com)

[Entry Level Engineering Jobs for College Students and Graduates \(careerrookie.com\)](http://careerrookie.com)

[Butlers Engineering Dual Degree Program](#)

[Bureau of Labor Statistics: Engineering \(bls.gov\)](http://bls.gov)

[What is Engineering? \(livescience.com\)](http://livescience.com)

[Entry Level Engineering Jobs \(indeed.com\)](http://indeed.com)

[Society of Women Engineers – IUPUI](#)

[The 10 Best Jobs For Engineering Majors \(zippia.com\)](http://zippia.com)