

Occupations in Engineering

Did you know that:

- An **electrical engineer** designed your cell phone?
- A **software engineer** developed your favorite computer game?
- A **mechanical engineer** designed the blow dryer and curling/flat iron you use?
- A **design engineer** designed the packaging for the lip gloss you use?
- A **materials engineer** developed the fabric for the clothes you wear?
- An **agricultural engineer** developed the nutrient-rich foods you eat?
- A **petroleum engineer** developed the gasoline to power your car?
- A **structural engineer** designed your high school to be earthquake proof?
- A **biomedical engineer** designed the hip and knee replacement used in a person you may know?
- An **environmental engineer** developed the recycling methods used to prevent damage to the earth?

There are a variety of engineering specialties beyond what is mentioned above. What type of engineering interests you? Learn more about engineers and how they are affecting our world by visiting the websites below.

[Society of Women Engineers](http://www.societyofwomenengineers.org)

www.societyofwomenengineers.org

[Engineer Girl](http://www.engineergirl.org)

www.engineergirl.org

[Engineer Your Life](http://www.engineeryourlife.org)

www.engineeryourlife.org

[Discover Engineering](http://www.discoverengineering.org)

www.discoverengineering.org

Break free of the traditions and barriers that limit your choices.
What's stopping you? Be different! Try something new!
Is a nontraditional career in your future?

Engineering

A NONTRADITIONAL CAREER PATH FOR WOMEN



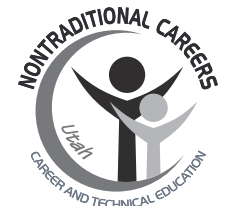
Talk to your school counselor
about a nontraditional career in engineering.

Break free of the barriers that limit your career choices.

www.UtahCTE.org



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Larry K. Shumway, Ed.D., State Superintendent of Public Instruction
Mary Shumway, State Director of Career and Technical Education



TECHNOLOGY AND ENGINEERING EDUCATION

Nontraditional Careers

Did you know a nontraditional career is any occupation in which women or men comprise 25 percent or less of its total employment?

Women in nontraditional occupations earn more money than those in female-oriented fields.

Choosing a nontraditional career path can mean:

- > Greater job satisfaction.
- > Higher wages and better benefits.
- > Great advancement opportunities.
- > Economic self-sufficiency.
- > Broader job opportunities.
- > Freedom to pursue a career related to your interests and abilities.

BREAK with tradition and explore a nontraditional career!

Engineering as a Career

Engineers improve many things, including the cars we drive, the roads we drive on, the tools and equipment we use, the quality of our water, the safety of food products, and the development of medical devices. They analyze the impact of the products they develop or the systems they design on the environment and on the people using them. They develop new materials that both improve the performance of products and take advantage of advances in technology.

Career and Technical Education Pathways

High school is a great time to try out a wide range of Career Pathways by enrolling in Career and Technical Education (CTE) courses. As an added bonus, you will be developing work-related skills that can be put to immediate and profitable use.

CTE provides courses and Pathways consistent with industry training and certification, thus providing depth and meaning for both visual and hands-on learning and education that can be applied in today's job market.

Through participation in CTE, Technology and Engineering Education can guide you as you take courses in an Engineering Pathway.

By taking Technology and Engineering Education courses, you will learn how to understand, design, produce, use, and manage the human-made world in order to contribute to and function in a technological society. You will also gain an important foundation of knowledge and skills necessary for continuing your education in engineering.

Employment

Nationally, engineering is the second largest of all professions. In 2008, engineers held approximately 1.6 million jobs.¹

Starting salaries are significantly higher than those of college graduates in many other fields. An associate degree is required for a technician, and a bachelor's or master's degree is required for a specialty in any other engineering discipline. Although a bachelor's degree is required for most entry-level jobs, continuing education is critical to keep abreast of the latest technology.

In Utah, an engineer must be licensed.

Working Conditions

Engineers work in every industry. For example, they may work in an office building, laboratory, industrial plant, construction site, hospital, or at a university. They may travel to jobs far away or stay close to home.

Engineering is a hands-on occupation that involves collaborating with engineering team members. Engineering involves doing things, applying theories, working with technicians, building prototypes, and supervising production. Engineering is a very hands-on career.

20 percent of engineering undergraduates are women.²

Outlook

Due to the expansion of jobs in the technical fields and the increasing number of engineers who are retiring, the number of job openings in technology and engineering continues to increase.

In Utah, the annual growth rate for all engineering occupations combined is expected to be 3.3 percent through the year 2016, with employment totaling 17,950.³

UtahFutures

Log on to UtahFutures.org to learn more about a career in engineering. From the home page, click on the "occupations" option to find an occupation that interests you and link to the description for that occupation. (Refer to the sample list of occupations on the back of this page.) Check out employment opportunities, working conditions, outlook, skills and abilities, and wages for your selected occupation.

Is a nontraditional career in your future?

¹ U.S. Bureau of Labor Statistics

² National Engineers Week Foundation

³ Utah Department of Workforce Services