



# Engineering Toolkit

THE TOP FIVE **UTAH** INDUSTRIES THAT OFFER HIGH DEMAND, HIGH WAGE JOBS ARE:

- CONSTRUCTION
- ENGINEERING
- HEALTH CARE
- INFORMATION TECHNOLOGY & COMPUTER SCIENCE
- MANUFACTURING

INFORMATION AND VIDEOS ARE INCLUDED IN THIS TOOLKIT FOR THE **ENGINEERING INDUSTRY**

# Engineering Fast Facts:

- ▶ Engineers use advanced mathematics and science to solve world problems.
- ▶ Engineers are involved in almost everything you eat, wear, and use.
- ▶ Engineers need to be creative as they work in teams to develop computer layouts and design plans to create new machines, structures, technological devices, medical equipment, cars, bridges, etc.
- ▶ There are numerous engineering specialties offered at Utah Universities, including automotive, mechanical, aerospace, chemical, biomedical, petroleum, computer, manufacturing, electrical, nuclear, civil, agriculture engineering, etc.
- ▶ An engineering student will typically seek a bachelor's degree and then a master's degree in an even more specialized field.
- ▶ Engineers work in teams to plan, analyze, improve, and develop solutions.
- ▶ Utah has five universities that offer a B.S. in engineering: University of Utah, Utah State University, Utah Valley University, Weber State University, and Brigham Young University. The University of Utah, Utah State, and BYU offer advanced engineering degrees.
- ▶ In Utah, a level 1 engineer starts about \$60,000 a year. As they move up the career ladder they make about \$125,000 a year.

# Hands-On, Minds-On Education

Utah State Office of Education | Career and Technical Education | Technology and Engineering Education



## CTE Pathways

### High School College Connection:

Architectural Design  
Electronics  
**Engineering**  
Mechanical Design  
Robotics

## Technology

### Certificate Programs:

Bridgerland ATC  
Davis ATC  
Dixie ATC  
Mountainland ATC  
Ogden-Weber ATC  
Southwest ATC  
Tooele ATC  
Uintah Basin ATC

## Engineering Technology

### Associate or Transfer Degrees:

Dixie State University  
Salt Lake Community College  
Snow College  
Southern Utah University  
Utah State University Eastern  
Utah Valley University  
Weber State University

## Engineering

### Four-Year Degrees:

Brigham Young University  
Southern Utah University  
University of Utah  
Utah State University  
Utah Valley University  
Weber State University

## Technician

## Career Options

## Engineer

More Hands-On

Architectural Drafter  
Test Technician  
Electronics Assembler  
Mechanical Drafter  
ASSEMBLY TECHNICIAN  
Welder  
Composites Technician  
CNC Machinist

Interior Designer  
LANDSCAPE DESIGNER  
Robotics Technician  
Engineering Technician  
QUALITY ASSURANCE TECHNICIAN  
Industrial Designer  
Technology & Engineering Educator

Aeronautical Engineer  
Electrical Engineer  
Architect  
Bioengineer  
Robotics Engineer  
Mechanical Engineer  
MANUFACTURING ENGINEER  
Mining Engineer  
Materials Engineer  
Civil Engineer  
Environmental Engineer  
Chemical Engineer

More Analytical

# Thinking of studying Engineering?

Take a look at what Engineers do!



# Discover Engineering

- ▶ Engineers are changing the world all of the time. They dream up creative, practical solutions and work with other smart, inspiring people to invent, design, and create things that matter.
- ▶ Here is a great website to use if you want to research engineering occupations: [DISCOVER engineering webpage](#)



A Message  
about  
ENGINEERING  
from the  
International  
space station:



# Using [UtahFutures.org](https://utahfutures.org) to explore EDUCATION & CAREER options in ENGINEERING

- ✓ Find information about the program of study that interests you.

[Choosing a Program of Study](#)

- ✓ Connect your program of study to schools that provide education and training (e.g. majors and minors).

[Degree Finder - Programs of Study Search](#)

- ✓ Connect your program of study to careers!

[Occupations Search](#)



[UTAHMAJORS.ORG](http://UTAHMAJORS.ORG)

Click the link above to be taken to a website where you can research a college major in Engineering!



# Exploring CAREERS in ENGINEERING



**Utah Department of Workforce Services  
Website:**

## [Utah Occupational Explorer Tool](#)

This tool can be used to easily explore, filter, and compare occupations in Utah and then view a detailed profile and list of current job openings for each one. There are 4 primary dimensions upon which occupations can be compared – demand, wages, growth, and education.



**United States Department of Labor –  
Bureau of Labor Statistics Website:**

## [Career Outlook Information](#)

Provides data on wages, projected job openings, and education and training required for the different career fields found in the United States.