



**FAMILY & CONSUMER SCIENCES**

**HEALTH SCIENCE**

**SKILLED & TECHNICAL SCIENCES**

**MARKETING**

**INFORMATION TECHNOLOGY**

**BUSINESS**

**AGRICULTURE**

**TECHNOLOGY & ENGINEERING**

# KEY to the information in the CAREER CHARTS\*

## Star Rating

The Utah Department of Workforces Services created the star rating system to rank jobs based on both outlook (90 percent on the number of annual openings projected for the occupation, and 10 percent on the growth rate) and wages (median annual wages for the occupation in Utah). "Five Star" jobs are those with the strongest employment outlook and high wages, with four, three, two and one star ratings applied as the rankings go down. Please note, however, that occupations are grouped by training level and so the wages for a "high paying" job that requires just short-term on-the-job training, will not match the wages of a "high paying" job that requires a college education. In addition, a five star rating does not necessarily mean that a job will be easy to find since that will depend on the number of qualified applicants available to fill openings. Think "demand vs. supply."

## Occupational Title & Description

Occupational titles and descriptions reflect information developed by the U. S. Department of Labor to use in the Occupational Information Network, also known as "O\*NET." (<http://online.onetcenter.org/>)

## Interest Code

Also known as "Holland codes," the interest codes assigned to occupations in the chart come from O\*NET. You may have taken an interest assessment to help you understand your personal career interest code, and that will help you find occupations that are suited to your interests. For more information on "Realistic (R)," "Investigative (I)," "Artistic (A)," "Social (S)," "Enterprising (E)," and "Conventional (C)" interest types (and combinations thereof), talk to your school counselor and complete the Interest Profiler in UtahFutures.

## Statewide Hourly Wages

The first amount listed in this column is for “inexperienced” workers and reflects the average wage of the bottom third of the people working in that occupation in Utah. The second amount in the column is the “median” wage, representing the middle wage in the full range of wages paid to workers in that occupation in Utah. Source of data: Utah Department of Workforce Services.

## Utah Job Openings

This column reflects the average number of annual openings (total of openings due to growth, plus net replacement, 2006-16) that are pro-

jected for the occupation, as well the total number of people in Utah projected to be employed in this occupation by the year 2018 (reflecting the size of that occupation in Utah). Source of data: Utah Department of Workforce Services.

*\*As a total group, the occupations reflected in this series of charts by Area of Study, reflect the large majority of the jobs in which people are employed in Utah.*

## Education/ Training Level

There are eleven levels of education and training defined by the U. S. Department of Labor to describe that level generally needed to qualify for employment. “Long-term” is training that lasts 12 months or more; “Moderate-term” lasts 1-12 months; and “Short-term” is under 0-1 month long. If you have questions about other terms used, talk to your counselor or consult the glossary in Utah-Futures. Source of Data: Utah Department of Workforce Services.

## Other

Other interesting or important facts about the occupation; e.g., “Licensed” indicates that this is an occupation for which you must be licensed to practice in the state of Utah. (Full list of licensed occupations in Utah can be found at: <http://jobs.utah.gov/opencms/wi/pubs/licensedoccup>.)

## Shaded Cells:

You may have noticed that some of the cells in “Wages,” “Job Openings” and “Training Level” are shaded. The shading indicates that this occupation meets the criterion for “High wage” (more than \$15.70/hour), “High Demand” (50 or more annual openings), and/or “High Skills” (training results in certification, licensure, or college degree), defined by the Utah State Office of Education.






## TECHNOLOGY & ENGINEERING

### Did you know?

Nationally, engineering is the second largest of all professions. In Utah, it is one of the fastest growing industries.

[Learn More >](#)

[www.utahcte.org/career/technology-engineering.php](http://www.utahcte.org/career/technology-engineering.php)

Star Rating	Occupational Title & Description	Interest Code	Statewide Hourly Wages Inexperienced Median	Utah Job Outlook Openings Total Emp. 2018	Education/ Training Level	Other
****	<b>Architect, Except Landscape and Naval</b> – Plans and designs structures for property owners.	AI	\$23.73 \$33.01	40 Openings 1,284 Total	Bachelor's Degree	Licensed Nontraditional for women
****	<b>Chemist</b> – Conducts chemical analyses to develop new products or expand chemical knowledge.	IRC	\$19.74 \$31.17	50 Openings 1,048 Total	Bachelor's Degree	
****	<b>Civil Engineering Technician</b> – Under the direction of engineering staff, helps plan and design construction of roads, bridges, etc.	RCI	\$15.56 \$20.67	30 Openings 721 Total	Associate Degree	Licensed Nontraditional for women
*****	<b>Civil Engineer</b> – Performs engineering duties in designing the construction of roads, airports, bridges, dams, etc.	RIC	\$25.97 \$36.44	140 Openings 3,644 Total	Bachelor's Degree	Licensed Nontraditional for women
 <p><b><i>Sherman Poppen, one of three people credited with the snowboard's invention, was an engineer. From its shape to its material composition, modern snowboards have an engineer's fingerprints all over them.</i></b></p>						
***	<b>Electrical Engineer</b> – Designs, develops, tests, or supervises the manufacturing and installation of electrical equipment.	IR	\$26.72 \$38.17	40 Openings 1,106 Total	Bachelor's Degree	Licensed Nontraditional for women
***	<b>Electrical and Electronic Engineering Technician</b> – Lays out, builds, tests, and modifies electronic components, equipment, and systems.	RI	\$15.56 \$23.39	40 Openings 1,685 Total	Associate Degree	Licensed Nontraditional for women

Star Rating	Occupational Title & Description	Interest Code	Statewide Hourly Wages Inexperienced Median	Utah Job Outlook Openings Total Emp. 2018	Education/ Training Level	Other
***	<b>Electronics Engineers, Except Computer</b> – Designs, develops, and tests electronic components and systems.	IR	\$31.55 \$42.26	40 Openings 1,292 Total	Bachelor's Degree	Licensed Nontraditional for women
***	<b>Industrial Engineering Technician</b> – Records and analyzes operations involved in production and maintenance to improve efficiency.	IRC	\$17.42 \$27.73	20 Openings 626 Total	Associate Degree	Licensed Nontraditional for women
*****	<b>Industrial Engineer</b> – Performs engineering duties to plan and implement production in industrial firms.	ICE	\$25.84 \$34.59	80 Openings 1,940 Total	Bachelor's Degree	Licensed Nontraditional for women
**	<b>Mechanical Engineering Technician</b> – Under the direction of a mechanical engineer, develops and tests machinery and equipment.	RI	\$16.31 \$22.23	10 Openings 504 Total	Associate Degree	Licensed Nontraditional for women
*****	<b>Mechanical Engineer</b> – Performs engineering duties to plan and design machines, engines, tools, and other mechanical equipment.	IRC	\$24.71 \$33.78	120 Openings 3,166 Total	Bachelor's Degree	Licensed Nontraditional for women

### A Sample of Related Postsecondary Programs of Study

- Civil Design
- Geographic Information Systems
- Manufacturing Engineering Technology
- Mechanical Engineering Technology
- Pre-Engineering
- Surveying

### Shaded Cells:

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### The Pathways

- Pre-Engineering (Utah Pre-Engineering Program)
- Project Lead the Way (National Pre-Engineering Program)

### Additional Resources

[www.utahtsa.org](http://www.utahtsa.org)

The Technology Student Association (TSA) is the student leadership organization for Technology and Engineering Education.

**UtahFUTURES.org**  
Career Information System

Access your SEOP and get detailed education and occupational information.