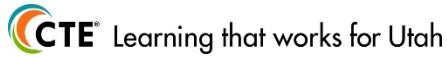


Utah Career and Technical Education Career Pathway

2019-2020 School Year



CTSO Information
 Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.

TSA is the CTSO for students in the CAD Architectural Design Career Pathway. TSA fosters personal growth, leadership, and opportunities in science, technology, engineering, and mathematics (STEM).

Workforce Trends
 Computer Aided Design (CAD) technologies have allowed architects to do more work without the help of drafters, making it easier to share the work with engineers, contractors, and clients.

Nationwide, employment of architects is projected to grow 4 percent through the year 2026. In Utah, projected growth is 2.6 percent.

Career Cluster: Architecture & Construction

Career Pathway: CAD Architectural Design

| CORE CODE | FOUNDATION COURSES (required) | CREDITS | |
|--|---|------------------------------------|--------------|
| 38.01.00.00.041 | CAD Architectural Design 1 | .50 | 1.50 credits |
| 38.01.00.00.042 | CAD Architectural Design 2 | .50 | |
| 38.01.00.00.043 | CAD Architectural Design 3 | .50 | |
| <i>Or choose the following course:</i> | | | |
| 38.01.00.00.330 | PLTW Civil Engineering and Architecture | 1.00 | |
| ELECTIVE COURSES | | | |
| 38.03.00.00.030 | Construction Technology | .50 | 1.00 credit |
| 38.03.00.00.010 | Engineering Technology | .50 | |
| 38.01.00.00.211 | Physics with Technology | 1.00 | |
| 41.00.00.00.050 | CTE Internship | .50 | |
| 41.00.00.00.030 | Workplace Skills | .50 | |
| | | 2.50 credits for completion | |

Foundation courses taken beyond the required credits can be used as elective credit.

Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.

CAD Architectural Design is:
 > High skill
 > High wage
 > High demand

Sample Occupations Requiring:
High School Diploma
 > Surveying and Mapping Tech

Certificate
 > N/A

Assoc. or Technical Degree
 > Architectural Drafter
 > Civil Drafter

Baccalaureate Degree
 > Architect
 > Architectural and Engineering Managers
 > Career and Technical Education Teacher
 > Civil Engineer
 > Landscape Architect
 > Secondary Education Teacher
 > Surveyor

Graduate or Prof. Degree
 > Architect

Student Testimonial
 “As a freshman in high school, I was unsure what career path I should focus on. Because of this, I ended up taking a wide variety of courses and finding a passion in designing house plans using the computer. I have chosen to focus on structural and architectural design technology. I believe I will find pride in being part of the building process and seeing my designs go from ideas on paper to a beautiful, custom finished product in my community.”
 Jaxon Schiess

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

There are a number of options for education and training beyond high school, depending on your career goals.

| | | | | |
|---|---------------------------|---|---------------------------------|--------------------------------------|
| 12th Grade | 1-Year Certificate | 2-Year Associate or Technical Degree | 4-Year Bachelor's Degree | More Graduate or Prof. Degree |
| Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain. In high school a variety of certificates can be earned. | | An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions. In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31). | | |

Utah Business and Industry Facts
 From commercial to residential, Utah is home to more than 900 architects and building designers.

According to the Utah Department of Workforce Services, business expansion will provide the majority of job openings in the coming decade.

In Utah, an architect must be licensed.

CTE Skill Certificates

Competency-based student assessments, measured by core standards and competencies, needed to be successful in the workforce.

In 2017-2018, 111,238 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

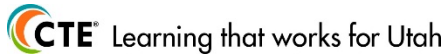
UtahFutures: College and Career Planning

Visit UtahFutures.org for salary projections, labor market demand, and training options.

In 2016-2017, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 86 percent.

Utah Career and Technical Education Career Pathway

2019-2020 School Year



CTSO Information
 Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.

FCCLA is the CTSSO for students in the Interior Design Career Pathway. FCCLA provides students with opportunities to attain the knowledge, skills, and leadership characteristics necessary to succeed in life and careers.

Workforce Trends
 Nationwide, employment of interior designers in specialized design services firms is projected to grow 4 percent through the year 2026. Economic expansion, growing homeowner wealth, and an increased interest in interior design will increase demand for interior designers.

Career Cluster: Architecture & Construction

Career Pathway: Interior Design

| CORE CODE | FOUNDATION COURSES (required) | CREDITS | |
|------------------------------------|--------------------------------------|---------|--------------|
| 34.01.00.00.210 | Interior Design 1 | .50 | 1.00 credit |
| 34.01.00.00.215 | Interior Design 2 * | .50 | |
| ELECTIVE COURSES | | | |
| 38.01.00.00.041 | CAD Architectural Design 1 * | .50 | 2.00 credits |
| 38.01.00.00.042 | CAD Architectural Design 2 * | .50 | |
| 40.13.00.00.020 | Design and Visual Communications * | .50 | |
| 34.01.00.00.090 | Designer Sewing 1 | .50 | |
| 34.01.00.00.080 | Designer Sewing 3 * | .50 | |
| 32.02.00.00.220 | Entrepreneurship | .50 | |
| 40.10.00.00.130 | Furniture Design and Manufacturing * | .50 | |
| 34.01.00.00.010 | Interior Design 3 | .50 | |
| 41.00.00.00.050 | CTE Internship | .50 | |
| 41.00.00.00.030 | Workplace Skills | .50 | |
| 3.00 credits for completion | | | |

* Course can be taken up to 1.00 credit.

Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.

Interior Design is:
 > High skill
 > High wage

Sample Occupations Requiring:

High School Diploma
 > Interior Design Assistant
 > Merchandise Displayer and Window Trimmer
 > Sales Associate

Certificate
 > N/A

Assoc. or Technical Degree
 > Photo Stylist

Baccalaureate Degree
 > Architect
 > Career and Technical Education Teacher
 > Interior Designer
 > Sales Manager
 > Set and Exhibit Designer

Graduate or Prof. Degree
 > Interior Design Professor
 > Textile Scientist

Student Testimonial

“The most influential decision I made during high school was to participate in a CTE Internship. The path towards interior design began with my quick start into the field through my internship. Because my decision was made during high school I didn't have to waste thousands of dollars in tuition trying to decide on a major. My high school education helped me in pursuing such a rigorous program.”

Paige Kirschbaum

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

There are a number of options for education and training beyond high school, depending on your career goals.

| 12th Grade | 1-Year Certificate | 2-Year Associate or Technical Degree | 4-Year Bachelor's Degree | More Graduate or Prof. Degree |
|---|--------------------|---|--------------------------|-------------------------------|
| Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain. In high school a variety of certificates can be earned. | | An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions. In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31). | | |

Utah Business and Industry Facts

According to the Utah Department of Workforce Services, there are 1,651 architectural and engineering services firms in Utah and 476 specialized design services firms.

CTE Skill Certificates

Competency-based student assessments, measured by core standards and competencies, needed to be successful in the workforce.

In 2017-2018, 111,238 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

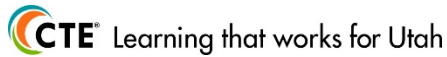
UtahFutures: College and Career Planning

Visit UtahFutures.org for salary projections, labor market demand, and training options.

In 2016-2017, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 86 percent.

Utah Career and Technical Education Career Pathway

2019-2020 School Year



CTSO Information
 Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.

SkillsUSA is the CTSO for students in the Carpentry Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.

Workforce Trends
 As construction continues to increase, in the public and private sector, demand for skilled carpenters will increase. Those individuals with the proper training and skills will have abundant job opportunities to choose from. Nationwide, employment of carpenters is projected to increase 8 percent through the year 2026.

Career Cluster: Architecture & Construction

Career Pathway: Construction & Structural Systems: Carpentry

| CORE CODE | FOUNDATION COURSES (required) | CREDITS | |
|------------------------------------|--------------------------------|---------|--------------|
| 40.08.00.00.010 | Carpentry 1 | 1.00 | 2.00 credits |
| 40.08.00.00.015 | Carpentry 2 | 1.00 | |
| ELECTIVE COURSES | | | |
| 38.01.00.00.041 | CAD Architectural Design 1 * | .50 | 1.00 credit |
| 38.01.00.00.042 | CAD Architectural Design 2 * | .50 | |
| 38.01.00.00.051 | CAD Mechanical Design 1 * | .50 | |
| 40.08.00.00.035 | Construction Trades Foundation | .50 | |
| 41.00.00.00.050 | CTE Internship | .50 | |
| 41.00.00.00.030 | Workplace Skills | .50 | |
| 3.00 credits for completion | | | |

* Course can be taken up to 1.00 credit.

Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.

Carpentry is:
 > High skill
 > High wage
 > High demand

Sample Occupations Requiring:
High School Diploma
 > Cabinetmaker and bench carpenter
 > Woodworkers

Certificate
 > N/A

Assoc. or Technical Degree
 > Carpenter

Baccalaureate Degree
 > Career and Technical Education Teacher
 > Construction Manager
 > Secondary Education Teacher

Graduate or Prof. Degree
 > Construction Manager

Student Testimonial
 "The CTE classes I have taken have led me to see that I am interested in a career in construction. With the CTE classes I have taken I have learned many skills needed to go farther in my career. I have learned that I like framing, shingling, and now I found out I like doing the finish mud on sheet rock. Once I finish my schooling I will be able to get a job that I will enjoy and that I can improve throughout my life."
 Tyler Stettler

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

There are a number of options for education and training beyond high school, depending on your career goals.

| | | | | |
|---|---------------------------|---|---------------------------------|--------------------------------------|
| 12th Grade | 1-Year Certificate | 2-Year Associate or Technical Degree | 4-Year Bachelor's Degree | More Graduate or Prof. Degree |
| Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain. In high school a variety of certificates can be earned. | | An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions. In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31). | | |

Utah Business and Industry Facts

According to the Utah Department of Workforce Services, there are 10,467 construction companies in Utah that employ 93,584 workers.

In Utah, a construction manager and a building inspector must be licensed.

CTE Skill Certificates

Competency-based student assessments, measured by core standards and competencies, needed to be successful in the workforce.

In 2017-2018, 111,238 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

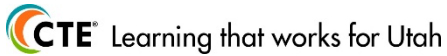
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In 2016-2017, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 86 percent.

Utah Career and Technical Education Career Pathway

2019-2020 School Year



CTSO Information
 Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.

SkillsUSA is the CTSO for students in the Electrical Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.

Workforce Trends
 As the population and economy grow, more electricians will be needed to install and maintain electrical devices and wiring in homes, offices, and other structures. Job opportunities are expected to be excellent, largely arising from the need to replace electricians who leave the occupation permanently.

Career Cluster: Architecture & Construction

Career Pathway: Construction & Structural Systems: Electrical

| CORE CODE | FOUNDATION COURSES (required) | CREDITS | |
|------------------------------------|--------------------------------|---------|--------------|
| 40.08.00.00.050 | Electrician 1 | 1.00 | 2.00 credits |
| 40.08.00.00.055 | Electrician 2 | 1.00 | |
| ELECTIVE COURSES | | | |
| 38.01.00.00.041 | CAD Architectural Design 1 * | .50 | 1.00 credit |
| 38.01.00.00.042 | CAD Architectural Design 2 * | .50 | |
| 38.01.00.00.051 | CAD Mechanical Design 1 * | .50 | |
| 40.08.00.00.035 | Construction Trades Foundation | .50 | |
| 38.01.00.00.021 | Electronics 1 * | .50 | |
| 38.01.00.00.022 | Electronics 2 | .50 | |
| 38.01.00.00.023 | Electronics 3 | .50 | |
| 41.00.00.00.050 | CTE Internship | .50 | |
| 41.00.00.00.030 | Workplace Skills | .50 | |
| 3.00 credits for completion | | | |

* Course can be taken up to 1.00 credit.

Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.

Electrical is:

- > High skill
- > High wage
- > High demand

Sample Occupations Requiring:

High School Diploma

- > Electrical Equipment Assembler
- > Electrician
- > Electrician Helper

Certificate

- > Electrical and Electronics Engineering Technician

Assoc. or Technical Degree

- > Electrical Drafter

Baccalaureate Degree

- > Career and Technical Education Teacher
- > Electrical Engineer
- > Secondary Education Teacher

Graduate or Prof. Degree

- > Electrical Engineer

Student Testimonial

“I have an occupational goal of becoming a journeyman electrician. I am currently working in this field and have two years of on-the-job training. The CTE courses I took in high school helped me with real life and they gave me skills that are useful in the real-world.”

Jason Manning

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

There are a number of options for education and training beyond high school, depending on your career goals.

| 12th Grade | 1-Year Certificate | 2-Year Associate or Technical Degree | 4-Year Bachelor's Degree | More Graduate or Prof. Degree |
|---|--------------------|---|--------------------------|-------------------------------|
| Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain. In high school a variety of certificates can be earned. | | An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions. In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31). | | |

Utah Business and Industry Facts

According to the Utah Department of Workforce Services, the median salary for an electrician is \$52,600, which is roughly the same nationwide.

Employment of electricians fluctuates with the overall economy.

In Utah, an electrician must be licensed.

CTE Skill Certificates

Competency-based student assessments, measured by core standards and competencies, needed to be successful in the workforce.

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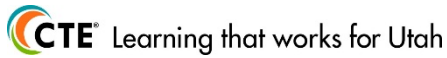
UtahFutures: College and Career Planning

Visit UtahFutures.org for salary projections, labor market demand, and training options.

In 2016-2017, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 86 percent.

Utah Career and Technical Education Career Pathway

2019-2020 School Year



CTSO Information
 Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.

SkillsUSA is the CTSO for students in the Plumbing Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.

Workforce Trends
 Demand for plumbers will stem from new construction and renovation, repair and maintenance of existing buildings.

Career Cluster: Architecture & Construction

Career Pathway: Construction & Structural Systems: Plumbing

| CORE CODE | FOUNDATION COURSES (required) | CREDITS | |
|------------------------------------|--------------------------------|---------|--------------|
| 40.08.00.00.100 | Plumbing 1 | 1.00 | 2.00 credits |
| 40.08.00.00.105 | Plumbing 2 | 1.00 | |
| ELECTIVE COURSES | | | |
| 38.01.00.00.041 | CAD Architectural Design 1 * | .50 | 1.00 credit |
| 38.01.00.00.042 | CAD Architectural Design 2 * | .50 | |
| 38.01.00.00.051 | CAD Mechanical Design 1 * | .50 | |
| 40.08.00.00.010 | Carpentry 1 | 1.00 | |
| 40.08.00.00.035 | Construction Trades Foundation | .50 | |
| 40.08.00.00.050 | Electrician 1 | 1.00 | |
| 38.01.00.00.021 | Electronics 1 * | .50 | |
| 41.00.00.00.050 | CTE Internship | .50 | |
| 41.00.00.00.030 | Workplace Skills | .50 | |
| 3.00 credits for completion | | | |

* Course can be taken up to 1.00 credit.

Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.

Plumbing is:

- > High skill
- > High wage
- > High demand

Sample Occupations Requiring:

High School Diploma

- > Plumber/Pipefitter Helper
- > Steamfitter

Certificate

- > Pipefitter (Journey Level)
- > Plumber (Journey Level)

Assoc. or Technical Degree

- > N/A

Baccalaureate Degree

- > Career and Technical Education Teacher

Graduate or Prof. Degree

- > N/A

Student Testimonial

“The way I figured out the career path I wanted to take was back in 7th grade. I had a CTE class and learned that I liked to work with my hands. I decided to take a plumbing class. I learned that plumbing is not just about fixing clogged drains and toilets and putting in appliances, but also working on the drainage systems for a house. I plan to go to college for this trade.”

Cameron Cheney

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

There are a number of options for education and training beyond high school, depending on your career goals.

| 12th Grade | 1-Year Certificate | 2-Year Associate or Technical Degree | 4-Year Bachelor's Degree | More Graduate or Prof. Degree |
|---|--------------------|---|--------------------------|-------------------------------|
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Utah Business and Industry Facts

According to the Utah Department of Workforce Services, workers with knowledge of Building Information Modeling (BIM) should have the best job opportunities, as integrated building-planning abilities increase in demand.

In Utah, a plumber, pipefitter, and steamfitter must be licensed.

CTE Skill Certificates

Competency-based student assessments, measured by core standards and competencies, needed to be successful in the workforce.

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