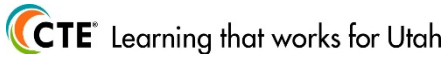


Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

FFA is the CTSO for students in the Agricultural Mechanics Systems Career Pathway. FFA brings relevance to the classroom through industry-based competitive events and community service.

Workforce Trends

According to the U.S. Department of Labor, the growing interest in worldwide standardization of agricultural equipment should result in increased employment of agricultural engineers. Job opportunities should result from the increasing demand for agricultural products, the continued efforts for more efficient agricultural production, and the increasing emphasis on the conservation of resources.

Student Testimonial

"The CTE classes I took in high school, such as agricultural systems and technology, animal science, and floriculture, have given me the basic skills, knowledge and abilities to allow me to obtain employment in any of those fields."

Colton Zilles

Career Cluster: Agriculture, Food & Natural Resources

Career Pathway: Agricultural Mechanics Systems

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | |
|--|--|
| 39.01.00.00.001 | College and Career Awareness |
| 30.02.00.00.101 | Agriculture, Food and Natural Resources |
| EXPLORER COURSES | |
| GENERAL EXPLORER COURSES | |
| 30.02.00.00.020 | Agricultural Biotechnology |
| 30.02.00.00.030 | Agricultural Science and Technology Application |
| 30.01.00.00.050 | Agricultural Science 1 |
| 30.02.00.00.050 | Biology-Agricultural Science |
| 32.02.00.00.110 | Business Communication 1 |
| 32.02.00.00.111 | Business Communication 2 |
| 40.05.00.00.020 | Environmental Technician |
| 37.01.00.00.150 | Leadership Principles 1 |
| RECOMMENDED EXPLORER COURSES | |
| 30.01.00.00.030 | Agricultural Systems Technology 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 30.00.10.00.040 | Agricultural Systems Technology 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| 30.01.00.00.001 | Agricultural Mechanics, Advanced |
| 30.01.00.00.020 | Agricultural Machinery Technology |
| 41.00.00.00.051 | CTE Internship – Agriculture, Food and Natural Resources |
| POSTSECONDARY: There are many options for education and training beyond high school. | |
| | |
| | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > Hydraulic Technician
- > Maintenance Service Tech.
- > Welder
- Assoc. or Technical Degree**
- > Agricultural Engineer Tech.
- > Diesel Mechanic
- > Equipment Dealer Technician
- Baccalaureate Degree**
- > Agricultural Engineer
- > Career and Technical Education Teacher
- > Welding Engineer

Utah Business and Industry Facts

Utah agriculturists produce crops and livestock worth over \$1.8 billion annually.

Students enrolled in high school agricultural courses are looking to join a \$22 billion industry in Utah and a \$992 billion industry nationwide.

(Utah Department of Agriculture and Food)

UtahFutures: College and Career Planning

Visit UtahFutures.org to explore occupations, search salary projections, access labor market information, investigate training options, and to create a plan.

CTE Credentials of Value

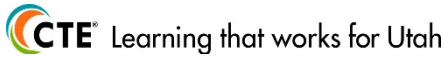
In 2017-2018, 112,867 CTE Skill Certifications were awarded to secondary students and 19,189 third-party certifications were earned by secondary students.

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In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

FFA is the CTSO for students in the Agricultural Production Systems Career Pathway. FFA brings relevance to the classroom through industry-based competitive events and community service.

Workforce Trends

According to the U.S. Department of Labor, 1 in 7 Americans work in agriculture-related jobs.

According to the Utah Farm Bureau Federation, more than 100,000 people are employed by agriculture and agribusiness in the state of Utah.

Student Testimonial

"My CTE classes and my leadership experience in 4-H and FFA have laid a strong foundation on which I can build upon. I have learned crucial values, including hard work, dedication, and responsibility. I plan to go to college to complete a teaching degree. I like the idea of 'paying it forward.' I have had a wonderful education experience and I hope to provide that for the future students I will teach."

Kaitlin Hallam

Career Cluster: Agriculture, Food & Natural Resources

Career Pathway: Agricultural Production Systems

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | |
|--|--|
| 39.01.00.00.001 | College and Career Awareness |
| 30.02.00.00.101 | Agriculture, Food and Natural Resources |
| EXPLORER COURSES | |
| GENERAL EXPLORER COURSES | |
| 30.02.00.00.020 | Agricultural Biotechnology |
| 30.02.00.00.030 | Agricultural Science and Technology Application |
| 30.02.00.00.050 | Biology-Agricultural Science |
| 32.02.00.00.110 | Business Communication 1 |
| 32.02.00.00.111 | Business Communication 2 |
| 40.05.00.00.020 | Environmental Technician |
| 37.01.00.00.150 | Leadership Principles 1 |
| RECOMMENDED EXPLORER COURSES | |
| 30.01.00.00.050 | Agricultural Science 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 30.01.00.00.060 | Agricultural Sciences 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| 41.00.00.00.051 | CTE Internship – Agriculture, Food and Natural Resources |
| POSTSECONDARY: There are many options for education and training beyond high school. | |
| | |
| | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > Crop Scout
- > Pesticide Handler/Applicator
- > Storage and Hygiene Coord.
- Assoc. or Technical Degree**
- > Agricultural Engineer Tech.
- > Sales Representative
- > Slaughter/Processor
- Baccalaureate Degree**
- > Agricultural Inspectors
- > Career and Technical Education Teacher
- > Farm/Ranch Manager

Utah Business and Industry Facts

In Utah, there are 18,100 farms with 11 million acres in production. The poultry industry is huge with 7.5 million birds, layers, pullets, and turkeys. Utah is also home to 820,000 head of cattle and 1.3 million head of hogs. Utah Agriculture contributes more than 15 percent to the state's economy. (Utah Department of Agriculture and Food)

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CTE Credentials of Value

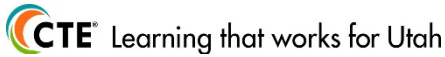
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In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

FFA is the CTSO for students in the Animal and Veterinary Science Career Pathway. FFA brings relevance to the classroom through industry-based competitive events and community service.

Workforce Trends

According to the U.S. Bureau of Labor Statistics, employment of veterinary assistants and laboratory animal caretakers is projected to grow 19 percent nationwide through the year 2028.

Student Testimonial

"I took many CTE classes in high school that were beneficial in preparation for my college education to become a veterinary technician. Biology, chemistry, animal science, and veterinary assisting helped me understand cells and how a body functions. I have a passion for animals and their well-being and want to pursue a career in agriculture."

Karlie Ault

Career Cluster: Agriculture, Food & Natural Resources

Career Pathway: Animal & Veterinary Science

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|--|--|--|
| 39.01.00.00.001 | College and Career Awareness | | |
| 30.02.00.00.101 | Agriculture, Food and Natural Resources | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 30.02.00.00.020 | Agricultural Biotechnology | | |
| 30.02.00.00.030 | Agricultural Science and Technology Application | | |
| 30.01.00.00.050 | Agricultural Science 1 | | |
| 30.02.00.00.050 | Biology-Agricultural Science | | |
| 32.02.00.00.110 | Business Communication 1 | | |
| 32.02.00.00.111 | Business Communication 2 | | |
| 37.01.00.00.150 | Leadership Principles 1 | | |
| RECOMMENDED EXPLORER COURSES | | CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 30.02.00.00.040 | Animal Science 1 | 30.02.00.00.095 | Veterinary Assistant 2 |
| 30.01.00.00.116 | Aquaculture | 30.01.00.00.007 | Guide Dog Training |
| 30.02.00.00.072 | Equine Science 1 | 30.02.00.00.001 | Animal Science 2 |
| 30.02.00.00.090 | Veterinary Assistant 1 | 30.02.00.00.074 | Equine Science 2 |
| | | 30.01.00.00.005 | Small and Companion Animal Science |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 41.00.00.00.051 | CTE Internship – Agriculture, Food and Natural Resources | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > Artificial Inseminator
- > Livestock Auctioneer
- > Shipping Coordinator
- Assoc. or Technical Degree**
- > Herdsman
- > Livestock Buyer
- > Veterinary Assistant/Technologist and Technician
- Baccalaureate Degree**
- > Animal Nutrition Specialist
- > Career and Technical Education Teacher
- > Farm/Ranch Manager

Utah Business and Industry Facts

Agriculture is a vital industry to Utah's economy. There are 18,100 farms in the state, totaling approximately 11 million acres, where Utah agriculturists produce crops and livestock worth \$1.8 billion annually.
(Utah Department of Agriculture and Food)

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CTE Credentials of Value

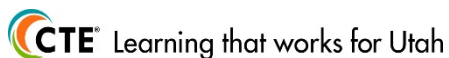
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In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 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 CTSO for students in the Food Science, Dietetics and Nutrition Career Pathway. FCCLA provides students with opportunities to attain the knowledge, skills, and leadership characteristics necessary to succeed in life and careers.

Workforce Trends

According to the U.S. Department of Labor, dietitians and nutritionists held 70,900 jobs nationwide in 2018. Employment of dietitians and nutritionists is projected to increase 11 percent nationwide through the year 2028.

In Utah, a dietitian and a nutritionist must be licensed.

Student Testimonial

“Participating in a CTE Internship helped me to experience the reality of being a dietitian. I participated in a number of activities, including recipe construction, consultations, and food preparation. I learned of the mandatory jobs and skills one must have, the schooling and preparation required.”

Melissa DeFriez

Career Cluster: Agriculture, Food & Natural Resources

Career Pathway: Food Science, Dietetics & Nutrition

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | |
|--|--|
| 39.01.00.00.001 | College and Career Awareness |
| 34.01.00.00.230 | FCS Exploration |
| EXPLORER COURSES | |
| GENERAL EXPLORER COURSES | |
| 34.01.00.00.197 | Human Development |
| 36.01.00.00.110 | Medical Anatomy and Physiology |
| RECOMMENDED EXPLORER COURSES | |
| 34.01.00.00.150 | Food and Nutrition 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 34.01.00.00.160 | Food and Nutrition 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| TBD | Dietetics |
| 34.01.00.00.180 | Food Science |
| 34.01.00.00.185 | Foundations of Nutrition |
| 41.00.00.00.051 | CTE Internship – Agriculture, Food and Natural Resources |
| POSTSECONDARY: There are many options for education and training beyond high school. | |
| | |
| | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

Certificate

- > Food Protections Manager
- > Food Inspector Assistant
- > Food Sanitation Coordinator

Assoc. or Technical Degree

- > Research and Development Technician

Baccalaureate Degree

- > Career and Technical Education Teacher
- > Dietitian/Nutritionist
- > Food Scientist
- > Nutrition Education Specialist
- > Research Technician

Utah Business and Industry Facts

From hospitals to care facilities to grocery stores to schools, businesses and organizations in Utah utilize the expertise of dietitians and nutritionists.

According to the Utah Department of Workforce Services, there 790 licensed dietitians and nutritionists in the state. By the year 2026, the average annual growth rate for this occupation is projected to increase 3.0 percent.

UtahFutures: College and Career Planning

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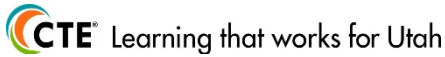
CTE Credentials of Value

In 2017-2018, 112,867 CTE Skill Certifications were awarded to secondary students and 19,189 third-party certifications were earned by secondary students.

In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah’s statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

FFA is the CTSSO for students in the Natural Resource Science Career Pathway. FFA brings relevance to the classroom through industry-based competitive events and community service.

Workforce Trends

With the multitude of natural resources in Utah there are a vast number of career opportunities within eight federal and state divisions.

Student Testimonial

"I enrolled in all of the CTE courses in the Natural Resource Science Pathway. The courses added depth to my understanding. Summer Ag enhanced my practical knowledge in the field. All of this together helped me along my planned path to reach my personal and occupational goals."

Cache Bisel

Career Cluster: Agriculture, Food & Natural Resources

Career Pathway: Natural Resource Science

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

JUNIOR HIGH / MIDDLE SCHOOL COURSES

| | |
|-----------------|--|
| 39.01.00.00.001 | College and Career Awareness |
| 30.02.00.00.101 | Agriculture, Food and Natural Resources |

EXPLORER COURSES

GENERAL EXPLORER COURSES

| | |
|-----------------|---|
| 30.02.00.00.020 | Agricultural Biotechnology |
| 30.02.00.00.030 | Agricultural Science and Technology Application |
| 30.01.00.00.050 | Agricultural Science 1 |
| 30.02.00.00.050 | Biology-Agricultural Science |
| 32.02.00.00.110 | Business Communication 1 |
| 32.02.00.00.111 | Business Communication 2 |
| 37.01.00.00.150 | Leadership Principles 1 |

RECOMMENDED EXPLORER COURSES

| | |
|-----------------|--|
| 30.01.00.00.116 | Aquaculture |
| 30.03.00.00.001 | Natural Resource Science 1 |

CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course.

| | |
|-----------------|---|
| 30.03.00.00.010 | Natural Resources Science 2 |
|-----------------|---|

COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway.

| | |
|-----------------|--|
| 41.00.00.00.051 | CTE Internship – Agriculture, Food and Natural Resources |
|-----------------|--|

POSTSECONDARY: There are many options for education and training beyond high school.

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

Certificate

- > Firefighter
- > Heavy Equipment Operator
- > Pesticide Handler/Applicator

Assoc. or Technical Degree

- > Arborist
- > Fisheries Technician
- > Forestry Technician

Baccalaureate Degree

- > Career and Technical Education Teacher
- > Conservation Officer/Scientist
- > Wildlife Biologist

Utah Business and Industry Facts

Utah has a wealth of natural resources, which includes five national parks, seven national monuments, six national forests, two national recreation areas, 43 state parks, 1 national historic site, and millions of acres of Bureau of Land Management (BLM)—administered deserts and range land.

UtahFutures: College and Career Planning

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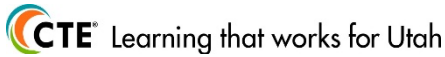
CTE Credentials of Value

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Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

FFA is the CTSO for students in the Plant Science Career Pathway. FFA brings relevance to the classroom through industry-based competitive events and community service.

Workforce Trends

According to the U.S. Department of Labor, employment of conservation scientists and foresters is projected to grow 3 percent nationwide through the year 2028.

Nationwide, employment of landscape architects is projected to grow 4 percent through the year 2028.

Student Testimonial

"I took my first agriculture class, which everyone assumes is strictly about farm animals, and it introduced me to plant biology. The classes took place mostly in the school greenhouse, where I learned to grow plants and flowers from seeds. This is where I found my passion."

Madysen Smith

Career Cluster: Agriculture, Food & Natural Resources

Career Pathway: Plant Science

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

JUNIOR HIGH / MIDDLE SCHOOL COURSES

| | |
|-----------------|--|
| 39.01.00.00.001 | College and Career Awareness |
| 30.02.00.00.101 | Agriculture, Food and Natural Resources |

EXPLORER COURSES

GENERAL EXPLORER COURSES

| | |
|-----------------|---|
| 30.02.00.00.020 | Agricultural Biotechnology |
| 30.02.00.00.030 | Agricultural Science and Technology Application |
| 30.01.00.00.050 | Agricultural Science 1 |
| 30.02.00.00.050 | Biology-Agricultural Science |
| 32.02.00.00.110 | Business Communication 1 |
| 32.02.00.00.111 | Business Communication 2 |
| 37.01.00.00.150 | Leadership Principles 1 |

RECOMMENDED EXPLORER COURSES

| | |
|-----------------|--|
| 30.02.00.00.080 | Plant and Soil Science 1 |
|-----------------|--|

CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course.

COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway.

| | | | |
|-----------------|--|-----------------|---------------------------------------|
| 30.01.00.00.152 | Floriculture | 30.01.00.00.154 | Greenhouse Management |
| 30.01.00.00.150 | Floriculture and Green House Mgmt. | 30.01.00.00.160 | Landscape Management |
| 30.01.00.00.072 | Landscape Architecture, Intro | | |
| 30.01.00.00.165 | Nursery Operation | | |
| 30.02.00.00.010 | Plant and Soil Science 2 | | |
| 30.01.00.00.095 | Sustainable Urban Agriculture | | |

| | |
|-----------------|--|
| 41.00.00.00.051 | CTE Internship – Agriculture, Food and Natural Resources |
|-----------------|--|

POSTSECONDARY: There are many options for education and training beyond high school.

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

Certificate

- > Crop Scout
- > Irrigation Specialist
- > Pesticide Handler/Applicator

Assoc. or Technical Degree

- > Arborist
- > Landscape Technician
- > Turf Manager

Baccalaureate Degree

- > Career and Technical Education Teacher
- > Crop Advisor
- > Landscape Designer/Architect

Utah Business and Industry Facts

In Utah, the value of crops including nursery and greenhouse crops is \$575 million. Hay and forage has the highest values of sales at \$297 million.

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CTE Credentials of Value

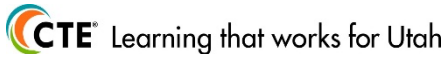
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Utah Career and Technical Education Career Pathway

2020-2021 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 CTSSO for students in the Architectural Design (CAD) 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.

According to the U.S. Department of Labor, employment of architects is projected to grow 8 percent nationwide through the year 2028. In Utah, projected growth is 2.6 percent through the year 2026.

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

Career Cluster: Architecture & Construction

Career Pathway: Architectural Design (CAD)

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | |
|--|--|
| 39.01.00.00.001 | College and Career Awareness |
| 38.03.00.00.030 | Construction Technology |
| 38.03.00.00.001 | Exploring Technology |
| SUPPORTING COURSES | |
| Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | |
| 07.08.00.00.100 | Secondary Math 2 |
| EXPLORER COURSES | |
| GENERAL EXPLORER COURSES | |
| 40.08.00.00.010 | Carpentry 1 |
| 40.08.00.00.050 | Electrician 1 |
| 40.08.00.00.035 | Construction Trades Foundation |
| 40.08.00.00.100 | Plumbing 1 |
| RECOMMENDED EXPLORER COURSES | |
| 38.01.00.00.041 | CAD Architectural Design 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 38.01.00.00.042 | CAD Architectural Design 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| 38.01.00.00.043 | CAD Architectural Design 3 |
| 41.00.00.00.052 | CTE Internship – Architecture and Construction |
| POSTSECONDARY: There are many options for education and training beyond high school. | |
| | |
| | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > N/A
- Assoc. or Technical Degree**
- > Architectural Drafter
- > Civil Drafter
- Baccalaureate Degree**
- > Architect
- > Architectural and Engineering Manager
- > Career and Technical Education Teacher
- > Civil Engineer
- > Landscape Architect
- > Secondary Education Teacher
- > Surveyor

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.

UtahFutures: College and Career Planning

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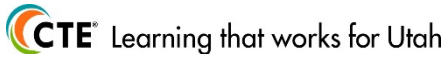
CTE Credentials of Value

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In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 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 Construction & Structural Systems 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.

According to the U.S. Department of Labor, employment of construction and extraction occupations is projected to grow 10 percent nationwide through the year 2028.

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 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

Career Cluster: Architecture & Construction

Career Pathway: Construction & Structural Systems

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|---|--|---|-------------------------------|
| 39.01.00.00.001 | College and Career Awareness | | |
| 38.03.00.00.030 | Construction Technology | | |
| 38.03.00.00.001 | Exploring Technology | | |
| SUPPORTING COURSES | | | |
| Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | | |
| 70.40.01.3020 | Math 1050 | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 40.09.00.00.050 | HVACR | | |
| 40.10.00.00.090 | Sheetmetal | | |
| RECOMMENDED EXPLORER COURSES | | | |
| TBD | Construction Management 1 | | |
| 38.03.00.00.030 | Construction Technology | | |
| 40.08.00.00.035 | Construction Trades Foundation | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| Choose a track within the Construction & Structural Systems Career Pathway | | | |
| 40.08.00.00.010 | Carpentry 1 | 40.08.00.00.015 | Carpentry 2 |
| TBD | Construction Management 2 | | TBD |
| 40.08.00.00.050 | Electrician 1 | 40.08.00.00.055 | Electrician 2 |
| 40.08.00.00.100 | Plumbing 1 | 40.08.00.00.105 | Plumbing 2 |
| 41.00.00.00.052 | CTE Internship – Architecture and Construction | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| | | | |
| | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

Certificate

- > Electrical and Electronics Engineering Technician
- > Pipefitter (Journey Level)
- > Plumber (Journey Level)

Assoc. or Technical Degree

- > Carpenter
- > Electrical Drafter

Baccalaureate Degree

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

Utah Business and Industry Facts

In Utah, the following occupations must be licensed:

- > construction manager and a building inspector
- > electrician
- > plumber, pipefitter, and steamfitter

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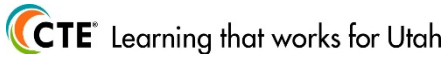
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Utah Career and Technical Education Career Pathway

2020-2021 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

According to the U.S. Department of Labor, employment of interior designers is projected to grow 4 percent nationwide through the year 2028. Economic expansion, growing homeowner wealth, and an increased interest in interior design will increase demand for interior designers.

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

Career Cluster: Architecture & Construction

Career Pathway: Interior Design

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | |
|--|--|
| 39.01.00.00.001 | College and Career Awareness |
| 34.01.00.00.230 | FCS Exploration |
| SUPPORTING COURSES | |
| Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | |
| 32.02.00.00.220 | Entrepreneurship |
| EXPLORER COURSES | |
| GENERAL EXPLORER COURSES | |
| 32.02.00.00.110 | Business Communication 1 |
| 38.01.00.00.041 | CAD Architectural Design 1 |
| 40.10.00.00.040 | Digital Graphics Art |
| 37.01.00.00.165 | Marketing 1 |
| RECOMMENDED EXPLORER COURSES | |
| 34.01.00.00.210 | Interior Design 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 34.01.00.00.215 | Interior Design 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| 34.01.00.00.010 | Interior Design 3 |
| 34.01.00.00.080 | Sewing and Textile Design 3 |
| 41.00.00.00.052 | CTE Internship – Architecture and Construction |
| POSTSECONDARY: There are many options for education and training beyond high school. | |
| | |
| | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- 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

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.

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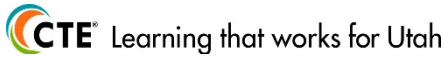
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Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

Workforce Trends

Technological improvements in the industry mean greater efficiencies in the workplace. Growth is expected to stem from businesses, schools, and radio and television stations seeking new equipment to improve their audio and video capabilities.

According to the U.S. Department of Labor, employment of broadcast and sound engineering technicians is projected to increase 8 percent nationwide through the year 2028.

Student Testimonial

“The CTE courses have helped me focus, get experience, and gain an understanding of the dedication and work required to obtain my goal. These classes have also helped me make the right choice to continue my education.”

Marian Vega

Career Cluster: Arts, Audio/Visual Technology & Communications

Career Pathway: Broadcasting & Digital Media

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|---|---|---|
| 39.01.00.00.001 | College and Career Awareness | | |
| SUPPORTING COURSES | Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | |
| 02.03.00.00.050 | Drama | 02.03.00.00.030 | Music Theater |
| 02.01.00.00.045 | Drawing 1 | 02.01.00.00.100 | Painting |
| 02.01.00.00.052 | Film Making | 02.01.00.00.110 | Photography |
| 37.01.00.00.165 | Marketing | | |
| EXPLORER COURSES | | | |
| RECOMMENDED EXPLORER COURSES | | | |
| 35.02.00.00.070 | 3D Graphics | 40.10.00.00.046 | Digital Print Design |
| 35.02.00.00.075 | 3D Animation | 35.02.00.00.045 | Game Development Fundamentals 1 |
| 35.02.00.00.014 | AR/VR | 38.03.00.00.040 | Information and Communications Technology |
| 35.02.00.00.035 | Computer Science Principles 1 | 40.10.00.00.048 | Screen Printing Technology |
| 35.02.00.00.030 | Computer Programming 1 | 35.02.00.00.060 | Web Development 1 |
| 40.10.00.00.040 | Digital Graphic Art, Intro | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| 35.02.00.00.010 | Digital Media 1 | 35.02.00.00.011 | Digital Media 2 |
| 40.01.00.00.040 | Radio Broadcasting/Digital Audio 1 | 40.01.00.00.045 | Radio Broadcasting/Digital Audio 2 |
| 40.01.00.00.005 | TV Broadcasting 1 | 40.01.00.00.010 | TV Broadcasting 2 |
| 40.01.00.00.030 | Video Production 1 | 40.01.00.00.035 | Video Production 2 |
| 41.00.00.00.053 | CTE Internship – Arts/Visual Technology and Communications | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| <p>In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> | | | |

Sample Occupations Requiring:

Certificate

- > Video Editor
- > Sound Engineering Technician

Assoc. or Technical Degree

- > Audio Video Equipment Technician
- > Broadcast Technician
- > Communication Equipment Mechanic
- > Radio, Cellular, and Tower Equipment Installers and Repairers
- > Radio Broadcaster
- > Sound Engineering Technician

Baccalaureate Degree

- > Announcer
- > Camera Operator
- > Career and Technical Education Teacher
- > Film and Video Editor
- > Producer and Director

Utah Business and Industry Facts

According to the Utah Department of Workforce Services, the broadcasting industry in Utah employs 2,091 workers.

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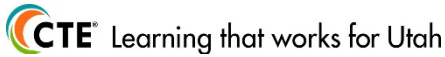
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Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

Students who participate in the Graphic Design, and Communications Career Pathway choose among the following CTOS, depending upon what is available at their school:

FBLA | SkillsUSA | TSA

Workforce Trends

Digital media is the field of the future and is rapidly growing. Because our global economy is driven by technology digital media is one of the most in-demand fields. With 3.9 billion Internet users worldwide and 1.94 billion websites, the demand for individuals skilled in digital media is high.

Student Testimonial

"To reach my goal of becoming a graphic designer and animator, I will need to gain both an education and extensive experience. I have begun my experience and education by taking multiple CTE classes while still in high school, that will prepare me for the fields of graphic design and animation. The CTE classes have given me the preparation and foundation for college that I will need to stay one step ahead in order to succeed."

Lauren Yancey

Career Cluster: Arts, Audio/Visual Technology & Communications

Career Pathway: Graphic Design & Communications

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|---|---|---|------------------------------------|
| 39.01.00.00.001 | College and Career Awareness | | |
| SUPPORTING COURSES | Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | |
| 02.01.00.00.045 | Drawing 1 | | |
| 20.10.00.00.100 | Painting | | |
| 20.10.00.00.110 | Photography | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 40.10.00.00.046 | Digital Print Design | | |
| 38.03.00.00.040 | Information and Communications Technology | | |
| 40.10.00.00.048 | Screen Printing Technology | | |
| RECOMMENDED EXPLORER COURSES | | | |
| 40.13.00.00.001 | Commercial Arts 1 | | |
| 40.10.00.00.040 | Graphics 1 | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| 40.13.00.00.020 | Commercial Arts 2 | 40.12.00.00.030 | Commercial Arts 3 |
| 40.13.00.00.012 | Commercial Photo 1 | 40.13.00.00.015 | Commercial Photo 2 |
| 40.13.00.00.042 | Graphics 2 | 40.10.00.00.044 | Graphics 3 |
| 41.00.00.00.053 | CTE Internship – Arts/Visual Technology and Communications | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
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In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > Commercial Photographer
- Assoc. or Technical Degree**
- > Web Developer
- Baccalaureate Degree**
- > Art Director
- > Camera Operator
- > Career and Technical Education Teacher
- > Commercial Designer
- > Fashion Designer
- > Graphic Designer
- > Multimedia Animator
- > Multimedia Artist
- > Multimedia Artist and Animator
- > Software Developer
- > Web Administrator

Utah Business and Industry Facts

"The talent pool of computer engineers, digital artists and animators in Utah is astounding," said WildWorks CEO Clark Stacey. "The workforce talent here is perennially refreshed not only by in-state colleges and universities, but by seasoned professionals fleeing the congestion and high cost of living in other hub cities like San Francisco and Seattle."
Silicon Slopes Magazine, Spring 2017

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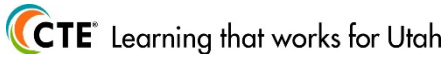
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Utah Career and Technical Education Career Pathway

2020-2021 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 Fashion, Apparel and Textiles Career Pathway. FCCLA provides students with opportunities to attain the knowledge, skills, and leadership characteristics necessary to succeed in life and careers.

Workforce Trends

Employment growth for fashion designers will stem from a growing population demanding more clothing, footwear, and accessories. The best job opportunities will be in design firms that design mass market clothing sold in department stores and retail chain stores, such as apparel wholesale firms.

Student Testimonial

"The information I learned from the CTE classes provided me with a knowledge base about the theories and application of fashion design. I found it exciting and motivating to be able to take classes in high school that fulfilled my passions. It not only satisfied my desire to learn about this field but the CTE classes also has made me more knowledgeable and more prepared for college and employment in my field of study."

Tyllar Hubbard

Career Cluster: Arts, Audio/Visual Technology & Communications

Career Pathway: Fashion Apparel & Textiles

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|---|---|-----------------|---|
| 39.01.00.00.001 | College and Career Awareness | | |
| 34.01.00.00.230 | FCS Exploration | | |
| SUPPORTING COURSES Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | | |
| 32.02.00.00.220 | Entrepreneurship | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 40.10.00.00.040 | Digital Graphics Art | | |
| 40.10.00.00.048 | Screen Printing Technology | | |
| RECOMMENDED EXPLORER COURSES | | | |
| 34.01.00.00.060 | Sports and Outdoor Design and Development 1 | 34.01.00.00.090 | Sewing and Textile Design 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 34.01.00.00.092 | Sports and Outdoor Design and Development 2 | 34.01.00.00.092 | Sewing and Textile Design 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 34.01.00.00.140 | Fashion Design Studio | | |
| 34.01.00.00.145 | Fashion Merchandising | | |
| 34.01.00.00.147 | Fashion Merchandising, Advanced | | |
| 34.01.00.00.080 | Sewing and Textile Design 3 | | |
| TBD | Textile Technology | | |
| 41.00.00.00.053 | CTE Internship – Arts/Visual Technology and Communications | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
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In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > Graphic Designer
- Assoc. or Technical Degree**
- > Fashion Design and Merchandising
- Baccalaureate Degree**
- > Career and Technical Education Teacher
- > Fashion Designer
- > Fashion Illustrator
- > Textile Scientist

Utah Business and Industry Facts

From theater and dance to music and acting numerous performing arts companies call Utah home, employing individuals in fashion design, fashion merchandising, costuming, technical apparel design, and custom dressmaking.

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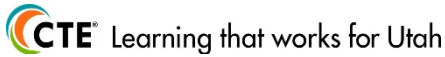
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Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

FBLA is the CTSO for students in the Accounting and Finance Career Pathway. FBLA provides students with opportunities for leadership, community involvement, and career development.

Workforce Trends

Accountants, those with a CPA, continue to be in demand in both public and private industry audit and tax specialties. Demand is especially high in the tax and healthcare areas.

In Utah, the average annual employment growth rate for accountants and auditors is 6 percent nationwide through the year 2028.

Student Testimonial

"Because of my CTE Internship, I am going to be more prepared when I go into the field of accounting. I will be able to understand and apply it to real hands-on learning experiences. To be taught and learn some of the basics of QuickBooks and apply it by doing real accounting for business and people has been an amazing learning experience."

Brayden Austin

Career Cluster: Business, Finance & Marketing

Career Pathway: Accounting & Finance

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|--|-----------------|--------------------------|
| 39.01.00.00.001 | College and Career Awareness | | |
| 32.02.00.00.170 | Digital Literacy | | |
| 32.02.00.00.070 | Exploring Business and Marketing | | |
| 32.02.00.00.300 | Keyboarding | | |
| 32.02.00.00.370 | Word Processing | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 32.02.00.00.130 | Business Law | 32.02.00.00.200 | Economics |
| 32.01.00.00.001 | Business Math and Personal Finance | 37.01.00.00.220 | Real Estate |
| 32.02.00.00.110 | Communications 1 | 37.01.00.00.240 | Retailing |
| 32.02.00.00.111 | Communications 2 | 37.01.00.00.260 | Sports and Entertainment |
| 37.01.00.00.025 | Customer Service | 35.02.00.00.060 | Web Development 1 |
| 40.10.00.00.040 | Digital Graphic Arts, Intro | | |
| RECOMMENDED EXPLORER COURSES | | | |
| 32.02.00.00.010 | Accounting 1 | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 32.02.00.00.020 | Accounting 2 | | |
| 32.02.00.00.030 | Accounting, Advanced | | |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 32.02.00.00.260 | Business and Marketing Capstone | | |
| 41.00.00.00.054 | CTE Internship – Business, Finance and Marketing | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
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| | | | |

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Sample Occupations Requiring:

- Certificate**
- > N/A
- Assoc. or Technical Degree**
- > N/A
- Baccalaureate Degree**
- > Accountant
- > Auditor
- > Career and Technical Education Teacher
- > Financial Manager
- > Loan Officer
- > Tax Examiner

Utah Business and Industry Facts

Accountant (CPA) must have a master's degree in accounting and be licensed. The license must be renewed every two years. According to the Utah Department of Workforce Services, the median hourly wage for an experienced auditor and an accountant is \$30.22.

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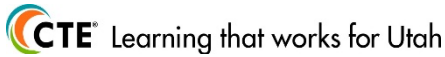
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Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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FBLA is the CTSTO for students in the Business Information Systems Career Pathway. FBLA provides students with opportunities for leadership, community involvement, and career development.

Workforce Trends

According to the Utah Department of Workforce Services, professional and business services make up nearly 13 percent of Utah's employment base.

There are 23 million small businesses in the U.S., with women owning about 9.1 million

To be an entrepreneur you don't need to be a certain age. A lot of teens are successful entrepreneurs. The U.S. Small Business Administration (SBA) has a [Young Entrepreneur](#) webpage to help teens start, grow, and own a business.

Student Testimonial

"The [Microsoft Office Specialist] certifications helped me land my current job at Lowe's Home Improvement. I am the manager there and perform all of the administrative functions. I do all of the accounting, book-keeping, data entry, and reporting. I'm using Microsoft Office daily, especially Excel."

Andrew McLay

Career Cluster: Business, Finance & Marketing

Career Pathway: Business Information Systems

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|--|-----------------|--|
| 39.01.00.00.001 | College and Career Awareness | | |
| 32.02.00.00.170 | Digital Literacy | | |
| 32.02.00.00.070 | Exploring Business and Marketing | | |
| 32.02.00.00.300 | Keyboarding | | |
| 32.02.00.00.370 | Word Processing | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 32.02.00.00.130 | Business Law | 32.02.00.00.200 | Economics |
| 32.01.00.00.001 | Business Math and Personal Finance | 37.01.00.00.220 | Real Estate |
| 32.02.00.00.110 | Communications 1 | 37.01.00.00.240 | Retailing |
| 32.02.00.00.111 | Communications 2 | 37.01.00.00.260 | Sports and Entertainment |
| 37.01.00.00.025 | Customer Service | 35.02.00.00.060 | Web Development 1 |
| 40.10.00.00.040 | Digital Graphic Arts, Intro | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 32.02.00.00.216 | Business Office Specialist | | |
| 32.02.00.00.150 | Digital Business Applications | | |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 32.02.00.00.260 | Business and Marketing Capstone | | |
| 41.00.00.00.054 | CTE Internship – Business, Finance and Marketing | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
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In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > N/A
- Assoc. or Technical Degree**
- > Desktop Publisher
- > Legal Assistant/Paralegal
- > Web Developer
- Baccalaureate Degree**
- > Career and Technical Education Teacher
- > General and Operations Manager
- > Marketing Manager
- > Management Analyst
- > Operations Manager
- > Sales Manager

Utah Business and Industry Facts

- In 2018:
- Amazon named Utah the #1 state for entrepreneurs.
 - Forbes named Utah the #2 best state for business. (Utah has been ranked #1 six out of the past nine years.)
 - CNBC named Utah the #3 best state for business.
 - WalletHub named Utah the #2 best state to start a business.

UtahFutures: College and Career Planning

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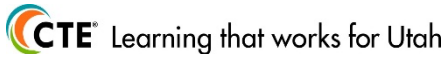
CTE Credentials of Value

In 2017-2018, 112,867 CTE Skill Certifications were awarded to secondary students and 19,189 third-party certifications were earned by secondary students.

In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

Students who participate in the Business Management and Leadership Career Pathway choose among the following CTOS, depending upon what is available at their school.

DECA | FBLA | FCCLA

Workforce Trends

During the next decade a growing number of personal financial advisors will be needed to assist the millions of workers who are expected to retire.

In Utah, the average annual employment growth rate for personal financial advisors is 2.4 percent through the year 2026.

Student Testimonial

“Taking Business Management sparked my interest to pursue a business degree. Currently, I hold a management position at Utah’s Hogle Zoo while obtaining my Master of Business Administration (MBA). Taking advantage of the CTE program ultimately helped to pinpoint my career trajectory.”

Andrew Nadauld

Career Cluster: Business, Finance & Marketing

Career Pathway: Business Management & Leadership

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|--|-----------------|--------------------------|
| 39.01.00.00.001 | College and Career Awareness | | |
| 32.02.00.00.170 | Digital Literacy | | |
| 32.02.00.00.070 | Exploring Business and Marketing | | |
| 32.02.00.00.300 | Keyboarding | | |
| 32.02.00.00.370 | Word Processing | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 32.02.00.00.130 | Business Law | 32.02.00.00.200 | Economics |
| 32.01.00.00.001 | Business Math and Personal Finance | 37.01.00.00.220 | Real Estate |
| 32.02.00.00.110 | Communications 1 | 37.01.00.00.240 | Retailing |
| 32.02.00.00.111 | Communications 2 | 37.01.00.00.260 | Sports and Entertainment |
| 37.01.00.00.025 | Customer Service | 35.02.00.00.060 | Web Development 1 |
| 40.10.00.00.040 | Digital Graphic Arts, Intro | | |
| RECOMMENDED EXPLORER COURSES | | | |
| 32.02.00.00.140 | Business Management | | |
| 37.01.00.00.150 | Leadership Principles 1 | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 37.01.00.00.155 | Leadership Principles 2 | | |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 32.02.00.00.260 | Business and Marketing Capstone | | |
| 41.00.00.00.054 | CTE Internship – Business, Finance and Marketing | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| | | | |
| | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > N/A
- Assoc. or Technical Degree**
- > Account Representative
- > Consumer Advocate
- > Dispute Resolution Analyst
- Baccalaureate Degree**
- > Budget Analyst
- > Career and Technical Education Teacher
- > Credit Counselor
- > Financial Manager
- > Personal Financial Advisor

Utah Business and Industry Facts

Economists are found in state and federal businesses throughout Utah. According to the Utah Department of Workforce Services, the annual median salary of an economist is \$78,260.

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CTE Credentials of Value

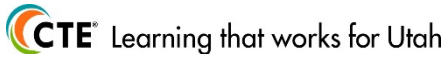
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In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah’s statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 School Year



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

DECA is the CTSSO for students in the Marketing Career Pathway. DECA prepares emerging leaders and entrepreneurs for careers in marketing, finance, hospitality, and management.

Workforce Trends
 In Utah, the average annual employment growth rate projected for market research analysts and marketing specialists is 20 percent nationwide through the year 2028.

The Utah Department of Workforce Services lists the median salary for a public relations specialist as \$52,360.

Student Testimonial
 “The business and marketing courses I have taken in high school have really influenced me in the direction I would like to go for my future education and career. These classes have prepared me for my future career and have also given me life skills that will help me achieve my goals and dreams.”
 Rory James Pollard

| Career Cluster: Business, Finance & Marketing | | | |
|--|--|-----------------|--------------------------|
| Career Pathway: Marketing | | | |
| HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING | | | |
| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
| 39.01.00.00.001 | College and Career Awareness | | |
| 32.02.00.00.170 | Digital Literacy | | |
| 32.02.00.00.070 | Exploring Business and Marketing | | |
| 32.02.00.00.300 | Keyboarding | | |
| 32.02.00.00.370 | Word Processing | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 32.02.00.00.130 | Business Law | 32.02.00.00.200 | Economics |
| 32.01.00.00.001 | Business Math and Personal Finance | 37.01.00.00.220 | Real Estate |
| 32.02.00.00.110 | Communications 1 | 37.01.00.00.240 | Retailing |
| 32.02.00.00.111 | Communications 2 | 37.01.00.00.260 | Sports and Entertainment |
| 37.01.00.00.025 | Customer Service | 35.02.00.00.060 | Web Development 1 |
| 40.10.00.00.040 | Digital Graphic Arts, Intro | | |
| RECOMMENDED EXPLORER COURSES | | | |
| 37.01.00.00.165 | Marketing 1 | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 37.01.00.00.001 | Digital Marketing | | |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 32.02.00.00.260 | Business and Marketing Capstone | | |
| 41.00.00.00.054 | CTE Internship – Business, Finance and Marketing | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| <p>In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> | | | |

Sample Occupations Requiring:

Certificate
 > N/A

Assoc. or Technical Degree
 > N/A

Baccalaureate Degree
 > Art Director
 > Career and Technical Education Teacher
 > Editor
 > Graphic Designer
 > Marketing Manager
 > Market Research Analyst
 > Marketing Specialist
 > Public Relations Specialist
 > Sales Manager

Utah Business and Industry Facts
 In 2017, CNBC ranked Provo, Ogden, and Salt Lake City as one of the top twenty best places to start a business. Each metro area was hailed as a small-business hot spot.

According to the Utah Business magazine, the top three public relations firms in Utah are: Fusion 360, Penna Powers, and Method Communications.

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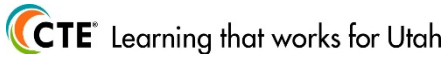
CTE Credentials of Value

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In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 School Year



Career Cluster: Computer Science & Information Technology

Career Pathway: Cybersecurity

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|---|---|-----------------|--|
| 39.01.00.00.001 | College and Career Awareness | | |
| 35.02.00.00.003 | Creative Coding | | |
| SUPPORTING COURSES | Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | |
| 09.06.00.00.030 | Current Issues | 38.01.00.00.031 | Robotics 1 |
| 40.06.00.00.001 | Law Enforcement | 07.08.00.00.100 | Secondary Math 2 |
| 07.04.00.13.020 | Math 1050 | 07.08.00.00.110 | Secondary Math 3 |
| 02.01.00.00.110 | Photography | | |
| EXPLORER COURSES | | | |
| 35.02.00.00.030 | Computer Programming 1 | 35.02.00.00.007 | Exploring Computer Science |
| 35.02.00.00.035 | Computer Science Principles 1 | 35.02.00.00.060 | Web Development 1 |
| 35.02.00.00.021 | Database Development | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 35.01.00.00.036 | Cybersecurity Ethical Hacking | 35.01.00.00.025 | Linux Fundamentals |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 35.01.00.00.038 | Cybersecurity Forensics | 35.02.00.00.042 | Cloud Computing |
| 41.00.00.00.055 | CTE Internship – Computer Science and Information Technology | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

CTSO Information

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

Students who participate in the Cybersecurity Career Pathway choose among the following CTOS, depending upon what is available at their school:

FBLA | SkillsUSA | TSA

Workforce Trends

According to the U.S. Department of Labor, employment of information security analysts is projected to grow 32 percent nationwide through the year 2028. Demand is expected to be very high, as these analysts will be needed to create innovative solutions to prevent hackers from stealing critical information or causing problem for computer networks.

Student Testimonial

“Getting a degree will help me to pursue my goal of working as a computer programmer at a large company. CTE classes prepared me by showing me what I would actually be doing in the different job fields and how I would apply the information that I learned in class.”

Aaron Montoya

Sample Occupations Requiring:

Certificate

> N/A

Assoc. or Technical Degree

> Computer Network Support Specialist

Baccalaureate Degree

- > Career and Technical Education Teacher
- > Computer and Information Systems Managers
- > Computer Programmers
- > Information Security Analyst

Utah Business and Industry Facts

In 2018, the Information Technology and Innovation Foundation (ITIF) ranked Utah’s state government website (Utah.gov) #1 for security, and 17th overall. “Government websites should be fast, secure, mobile-friendly, and accessible to everyone, said Daniel Castro, ITIF vice president.

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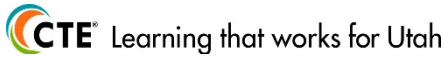
CTE Credentials of Value

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In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah’s statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 School Year



Career Cluster: Computer Science & Information Technology

Career Pathway: Information Technology Systems

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|--|---|----------------------------|
| 39.01.00.00.001 | College and Career Awareness | | |
| 35.02.00.00.003 | Creative Coding | | |
| SUPPORTING COURSES | | Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | |
| 40.08.00.00.050 | Electrician 1 | 38.01.00.00.031 | Robotics 1 |
| 38.01.00.00.021 | Electronics 1 | 07.08.00.00.100 | Secondary Math 2 |
| 07.04.00.13.020 | Math 1050 | 07.08.00.00.110 | Secondary Math 3 |
| 38.03.00.00.060 | Manufacturing Technology | | |
| EXPLORER COURSES | | | |
| 35.02.00.00.010 | Cisco | | |
| 35.02.00.00.030 | Computer Programming 1 | | |
| 35.02.00.00.035 | Computer Science Principles 1 | | |
| 35.02.00.00.021 | Database Development | | |
| 35.02.00.00.007 | Exploring Computer Science | | |
| 35.01.00.00.020 | Microsoft Certified Professional | | |
| 35.02.00.00.060 | Web Development 1 | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 35.01.00.00.040 | A+ Computer Maintenance and Repair | | |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 35.01.00.00.030 | Network Fundamentals | | |
| 41.00.00.00.055 | CTE Internship – Computer Science and Information Technology | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
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In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

CTSO Information

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

Students who participate in the Information Technology Systems Career Pathway choose among the following CTOS, depending upon what is available at their school:

FBLA | SkillsUSA | TSA

Workforce Trends

Growth will be driven by rapid increases in the computer and data processing services industry.

In Utah, the average annual employment growth rate for computer systems analysts is 3 percent through the year 2026.

According to the Utah Technology Council, IT occupations account for \$6.9 billion (14.3 percent) of Utah's total payroll.

Student Testimonial

"This program helped me earn many industry-level certifications including: CompTIA, IT Strata Fundamentals, IC3, Microsoft Technical Associate (MIT), OS Fundamentals, and Security and Academy of Information Technology certifications."

Parker Kingsford

Sample Occupations Requiring:

Certificate

> N/A

Assoc. or Technical Degree

> Computer Network Support Specialist

Baccalaureate Degree

- > Career and Technical Education Teacher
- > Computer Network Architect
- > Computer and Information Systems Manager
- > Computer Systems Analyst
- > Database Administrator
- > Network and Computer Systems Administrator

Utah Business and Industry Facts

In 2017, Forbes named Utah "cloud computing's new capital." Forbes ranked six Utah tech companies in the top 100 and three of the Utah tech companies were ranked in the top 20—Qualtrics (No.6), Domo (15), Pluralsight (20), Workfront (58), Health Catalyst (64), and InsideSales (92).

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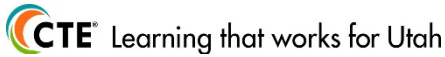
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CTE Credentials of Value

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Utah Career and Technical Education Career Pathway 2020-2021 School Year



Career Cluster: Computer Science & Information Technology

Career Pathway: Programming & Software Development

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|--|-----------------|----------------------------|
| 39.01.00.00.001 | College and Career Awareness | | |
| 35.02.00.00.003 | Creative Coding | | |
| TBD | Python 1, Intro | | |
| TBD | Python 2, Intro | | |
| SUPPORTING COURSES | | | |
| Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | | |
| 38.01.00.00.152 | Engineering Principles | 38.01.00.00.031 | Robotics 1 |
| 37.01.00.00.150 | Leadership Principles 1 | 07.08.00.00.100 | Secondary Math 2 |
| 07.04.00.13.020 | Math 1050 | 07.08.00.00.110 | Secondary Math 3 |
| 08.06.00.00.020 | Physics | | |
| EXPLORER COURSES | | | |
| 35.02.00.00.030 | Computer Programming 1 | | |
| 35.02.00.00.035 | Computer Science Principles 1 | | |
| 35.02.00.00.021 | Database Development | | |
| 35.02.00.00.007 | Exploring Computer Science | | |
| 35.02.00.00.045 | Game Development Fundamentals 1 | | |
| 35.02.00.00.005 | Information Technology, Intro | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 35.02.00.00.039 | Computer Principles 2 | | |
| 35.02.00.00.032 | Computer Programming 2 | | |
| 35.02.00.00.046 | Game Development Fundamentals 2 | | |
| 35.02.00.00.048 | Mobile Development Fundamentals | | |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 35.02.00.00.041 | AP Computer Science | | |
| 35.02.00.00.037 | Algorithm and Data Structures | | |
| 35.02.00.00.040 | Computer Programming, Advanced | | |
| 41.00.00.00.055 | CTE Internship – Computer Science and Information Technology | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| | | | |
| | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

CTSO Information

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

Students who participate in the Programming and Software Development Career Pathway choose among the following CTOS, depending upon what is available at their school:

FBLA | SkillsUSA | TSA

Workforce Trends

Demand continues for programmers who can help organizations keep up with changing technology. Prospects are best for those who have the knowledge of various programming languages.

In Utah, the average annual employment growth rate for software developers is 7.1 percent through the year 2026.

Student Testimonial

"My goal is to become a video game designer or programmer. The classes I took in high school taught me how to use the programs that I would be using in my career field and have given me a taste of what programming and design are like."

Jenny Whitecar

Sample Occupations Requiring:

Certificate

> N/A

Assoc. or Technical Degree

> Web Developer

Baccalaureate Degree

- > Career and Technical Education Teacher
- > Computer Programmer
- > Computer Systems Analyst
- > Computer Systems Engineers/Architect
- > Software Developer
- > Video Game Designer

Utah Business and Industry Facts

Silicon Slopes was formed to promote Utah's growing technology community and is home to more than 5,000 tech companies that has generated 142,500 jobs. From Ogden to Provo, technology companies dot the landscape. Pluralsight, Insidesales.com, Qualtrics, Vivint, Entrata, HealthCatalyst all started in Utah.

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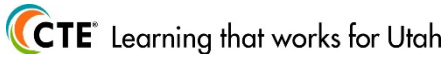
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Utah Career and Technical Education Career Pathway

2020-2021 School Year



Career Cluster: Computer Science & Information Technology

Career Pathway: Web Development

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|---|---|---|---|
| 39.01.00.00.001 | College and Career Awareness | | |
| 35.02.00.00.003 | Creative Coding | | |
| SUPPORTING COURSES Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | | |
| 37.01.00.00.150 | Leadership Principles 1 | 07.08.00.00.110 | Secondary Math 3 |
| 07.04.00.13.020 | Math 1050 | 09.05.00.00.090 | World Civilization |
| 38.01.00.00.031 | Robotics 1 | 09.04.00.00.030 | World Geography |
| 07.08.00.00.100 | Secondary Math 2 | | |
| EXPLORER COURSES | | | |
| 35.02.00.00.035 | Computer Science Principles 1 | | |
| 35.02.00.00.021 | Database Development | | |
| 40.10.00.00.040 | Digital Graphics Art, Intro | | |
| 35.02.00.00.007 | Exploring Computer Science | | |
| 35.02.00.00.080 | GIS, Intro | | |
| 35.02.00.00.005 | Information Technology, Intro | | |
| 35.02.00.00.060 | Web Development 1 | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| 35.02.00.00.055 | HTML 5 Application Development Fundamentals | 35.02.00.00.067 | Web Development Capstone |
| 35.02.00.00.012 | UX/UI | 35.02.00.00.090 | Geographic Information Systems (GIS) Remote Sensing |
| 35.02.00.00.065 | Web Development 2 | | |
| 41.00.00.00.055 CTE Internship – Computer Science and Information Technology | | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

CTSO Information

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

Students who want to participate in the Web Development Career Pathway choose among the following CTSOs, depending upon what is available at their school:

FBLA | SkillsUSA | TSA

Workforce Trends

The World Wide Web has changed the way we communicate and consume information. With more than 1 billion websites the need for Web developers is high.

According to the Utah Department of Workforce Services, the average annual employment growth rate for Web developers is 4.2 percent through the year 2026.

Student Testimonial

“My goal is to go to Utah Valley University and obtain an associate degree in computer technology with the focus on Web design. With the opportunity to receive an associate degree, it would allow me to apply and obtain work at any number of tech businesses across Utah County. CTE courses have provided experience in several areas that would not be available without CTE.”
Zachary Crocker

Sample Occupations Requiring:

Certificate

> N/A

Assoc. or Technical Degree

> Web Developer

Baccalaureate Degree

- > Career and Technical Education Teacher
- > Computer and Information Systems Manager
- > Computer Programmer
- > Database Administrator
- > Graphic Designer
- > Multimedia Artists and Animators
- > Software Developer

Utah Business and Industry Facts

Utah has deep consumer software roots. Ancestry.com, Overstock.com, Backcountry.com, and Vivint.com all started in the Beehive State. “People in Utah want to contribute. Just walking down the street you can sense the desire to build and create, to make a mark. That kind of ‘beehive’ energy is exactly what a consumer startup needs . . .” said Chatbooks CEO Nate Quigley. *Silicon Slopes Magazine*, Spring 2017

UtahFutures: College and Career Planning

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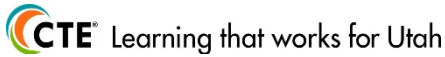
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CTE Credentials of Value

In 2017-2018, 112,867 CTE Skill Certifications were awarded to secondary students and 19,189 third-party certifications were earned by secondary students.

In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah’s statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway 2020-2021 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 CTSO for students in the Pre-K: Early Childhood Education Career Pathway. FCCLA provides students with opportunities to attain the knowledge, skills, and leadership characteristics necessary to succeed in life and careers.

Workforce Trends

According to the Utah Department of Workforce Services, the annual growth rate for childcare workers is projected to increase 4 percent through the year 2026. Large concentrations of this occupation are found in the following industries: private households, social services, and educational services both public and private.

Student Testimonial

“The CTE classes I have taken throughout high school have introduced me to my dream career path. After taking child development my sophomore year, I decided I wanted a career working with children. CTE classes helped me figure out what career I want in the future.”

Kayla Clopten

Career Cluster: Education & Training

Career Pathway: Pre-K: Early Childhood Education HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | |
|--|--|
| 39.01.00.00.001 | College and Career Awareness |
| 34.01.00.00.230 | FCS Exploration |
| SUPPORTING COURSES | |
| Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | |
| 32.02.00.00.220 | Entrepreneurship |
| EXPLORER COURSES | |
| GENERAL EXPLORER COURSES | |
| 32.02.00.00.216 | Business Office Specialist |
| 34.01.00.00.020 | Child Development |
| 34.01.00.00.150 | Food and Nutrition 1 |
| RECOMMENDED EXPLORER COURSES | |
| 34.01.00.00.040 | Early Childhood Education 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 34.01.00.00.045 | Early Childhood Education 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| 34.01.00.00.050 | Early Childhood Education 3 |
| 41.00.00.00.056 | CTE Internship – Education and Training |
| POSTSECONDARY: There are many options for education and training beyond high school. | |
| | |
| | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > Teacher Assistant
- Assoc. or Technical Degree**
- > Education Administrator, Preschool
- > Preschool Teacher Assistant
- Baccalaureate Degree**
- > Career and Technical Education Teacher
- > Elementary Education Teacher
- > Special Education Teacher
- > Social Worker

Utah Business and Industry Facts

Elementary, middle, and secondary school teachers are in high demand across the state of Utah. There are four ways to earn a teaching license in Utah: 1) out-of-state licensure, 2) university licensure program, 3) ARL-alternative route to licensure program, and 4) the APT-academic pathway to teaching. In Utah, an elementary, middle, and secondary school teacher must be licensed.

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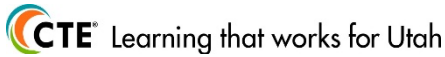
CTE Credentials of Value

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In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway 2020-2021 School Year



CTSO Information

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

Students who participate in the K-12: Teaching as a Profession Career Pathway choose among the following CTOS, depending upon what is available at their school:

DECA | FFA | FBLA | FCCLA | HOSA | SkillsUSA | TSA Educators Rising

Workforce Trends

In Utah, individuals who would like to teach, but don't have a Utah license, can obtain one through the Alternative Route to Licensure (ARL). The ARL Program is a teacher preparation program for individuals who want to earn a Level 1 teaching license, or who are licensed and want to earn another type of teaching license.

Student Testimonial

"My career goal is to become a high school welding teacher. My plan is to attend Utah Valley University and get a bachelor's degree in education. CTE classes have changed my life. All of these classes have taught me skills that I can apply in life, some of which I have already applied in the workforce."

Miguel Lopez

Career Cluster: Education & Training

Career Pathway: K-12: Teaching as a Profession

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | |
|---|---|
| 39.01.00.00.001 | College and Career Awareness |
| 32.02.00.00.170 | Digital Literacy |
| SUPPORTING COURSES | Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) |
| 32.02.00.00.111 | Business Communications 2 |
| 32.02.00.00.216 | Business Office Specialist |
| 09.07.00.00.010 | Psychology |
| 35.02.00.00.060 | Web Development 1 |
| EXPLORER COURSES | |
| GENERAL EXPLORER COURSES | |
| 32.02.00.00.110 | Business Communication 1 |
| 06.02.00.13.070 | English 1010 |
| 34.01.00.00.197 | Human Development |
| 07.04.00.13.020 | Math 1050 |
| RECOMMENDED EXPLORER COURSES | |
| 39.02.00.00.001 | Teaching as a Profession 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 39.02.00.00.002 | Teaching as a Profession 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| 39.02.00.00.003 | Teaching as a Profession 3 |
| 41.00.00.00.056 | CTE Internship – Education and Training |
| POSTSECONDARY: There are many options for education and training beyond high school. | |
| | |
| | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > Teacher Assistant/
Para Professional
- Assoc. or Technical Degree**
- > Preschool Teacher
- Baccalaureate Degree**
- > Career and Technical
Education Teacher
- > Elementary School Teacher
- > Kindergarten Teacher
- > Middle School Teacher
- > Secondary School Teacher
- > Special Education Teacher

Utah Business and Industry Facts

According to the [National Council on Teacher Quality](#) (NCTQ), seven under-graduate teacher prep programs in Utah rank in the top half of the 717 programs nationwide, as a Top Tier Secondary Teacher Prep Program. The schools are: U of U, BYU, UVU, SUU, DSU, WSU, and USU. In Utah, a teacher must be licensed.

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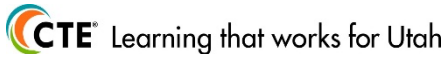
CTE Credentials of Value

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Utah Career and Technical Education Career Pathway

2020-2021 School Year



Career Cluster: Engineering & Technology

Career Pathway: Engineering

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|---|--|---|
| 39.01.00.00.001 | College and Career Awareness | | |
| 38.03.00.00.010 | Engineering Technology | | |
| 38.03.00.00.001 | Exploring Technology | | |
| SUPPORTING COURSES | Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | |
| 08.03.00.00.010 | Chemistry | | |
| 08.06.00.00.020 | Physics | | |
| 07.08.00.00.100 | Secondary Math 2 | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 38.01.00.00.041 | CAD Architecture Design 1 | 40.10.00.00.085 | Metalworking 1 |
| 38.01.00.00.051 | CAD Mechanical Design 1 | 38.02.00.00.241 | Plastics 1 |
| 38.01.00.00.340 | CAM Automated Manufacturing | 40.10.00.00.110 | Welding Technician, Entry Level |
| 38.02.00.00.251 | Composites 1 | 38.02.00.00.261 | Woods 1 |
| 40.10.00.00.072 | Machining 1 | | |
| RECOMMENDED EXPLORER COURSES | | CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| | | 38.01.00.00.350 | Aerospace Engineering |
| 38.01.00.00.021 | Electronics 1 | 38.01.00.00.022 | Electronics 2 |
| 38.01.00.00.151 | Engineering Principles 1 | 38.01.00.00.152 | Engineering Principles 2 |
| 38.01.00.00.011 | Manufacturing Principles 1 | 38.01.00.00.012 | Manufacturing Principles 2 |
| | | 38.01.00.00.281 | Materials Science |
| 38.01.00.00.031 | Robotics 1 | 38.01.00.00.032 | Robotics 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 38.01.00.00.990 | Engineering Capstone | | |
| 41.00.00.00.057 | CTE Internship – Engineering and Technology | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| | | | |
| | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

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 Engineering Career Pathway. TSA fosters personal growth, leadership, and opportunities in science, technology, engineering, and mathematics (STEM).

Workforce Trends

Employment of engineers will be limited by computer-aided design and other technologies that increase productivity.

Job opportunities will be best for those individuals who have an associate degree or extensive job training.

Student Testimonial

“I have always liked doing hands-on projects and thinking of different ways to make something better. With the CTE classes I was able to see whole processes, from the design stage on paper to transferring that design and idea into a computer application, then all the way to building a prototype.”

Hunter Okerlund

Sample Occupations Requiring:

- Certificate**
- > Machine Operator
- > Production Technician
- Assoc. or Technical Degree**
- > Electro-Mechanical Technicians
- > Electronics Equipment Assembler
- Baccalaureate Degree**
- > Automation Engineer
- > Career and Technical Education Teacher
- > Electrical Engineer
- > Electronics Drafter
- > Electronics Engineer
- > Engineer
- > Industrial Engineer
- > Manufacturing Engineer
- > Robotics Engineer

Utah Business and Industry Facts

The Engineering Initiative, established by the Utah State Legislature in 2001, aimed to triple engineering and computer science graduates. This Initiative has increased the number of engineering graduates from 1,375 (when the Initiative began) to 3,283 in 2018.

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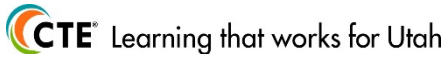
CTE Credentials of Value

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In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 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 Mechanical Design (CAD) Career Pathway. TSA fosters personal growth, leadership, and opportunities in science, technology, engineering, and mathematics (STEM).

Workforce Trends

Industrial growth and increasingly complex designs will spur growth in drafting services. As technology advances, opportunities will be best for drafters with at least 2 years of postsecondary training, and computer-aided design systems experience.

Student Testimonial

“My training, in CTE courses in high school, prepared me for life after high school by helping me discover my love of drafting. I discovered the need for drafters in the world of engineering. I focused my CTE Pathway toward this career goal and have taken some advanced drafting classes to improve both my knowledge of the field and my employability in the field.”

Calvin Hill

Career Cluster: Engineering & Technology

Career Pathway: Mechanical Design (CAD)

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|---|-----------------|---------------------------------|
| 39.01.00.00.001 | College and Career Awareness | | |
| 38.03.00.00.010 | Engineering Technology | | |
| 38.03.00.00.001 | Exploring Technology | | |
| SUPPORTING COURSES | | | |
| Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | | |
| 07.08.00.00.100 | Secondary Math 2 | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 38.01.00.00.340 | CAM Automated Manufacturing | 38.02.00.00.241 | Plastics 1 |
| 38.02.00.00.251 | Composites 1 | 40.10.00.00.110 | Welding Technician, Entry Level |
| 40.10.00.00.072 | Machining 1 | 38.02.00.00.261 | Woods 1 |
| 40.10.00.00.085 | Metalworking 1 | | |
| RECOMMENDED EXPLORER COURSES | | | |
| 38.01.00.00.051 | CAD Mechanical Design 1 | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 38.01.00.00.052 | CAD Mechanical Design 2 | | |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 38.01.00.00.053 | CAD Mechanical Design 3 | | |
| 41.00.00.00.057 | CTE Internship – Engineering and Technology | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > N/A
- Assoc. or Technical Degree**
- > Engineering Technician
- > Mechanical Drafter
- > Mechanical Engineering Technician
- Baccalaureate Degree**
- > Aerospace Engineer
- > Career and Technical Education Teacher
- > Civil Engineer
- > Industrial Designer
- > Mechanical Engineer
- > Secondary Education Teacher

Utah Business and Industry Facts

According to the Utah Department of Workforce Services, 620 mechanical drafters are employed by more than 3,000 businesses throughout the state. The annual median salary for an experienced mechanical drafter is \$51,690.

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CTE Credentials of Value

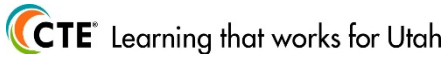
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Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information
 Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.
 HOSA is the CTSO for students in the Health Science Career Pathway. HOSA enhances the delivery of compassionate, quality health care by providing opportunities for knowledge, skill and leadership development of all health science education students.

Workforce Trends
 According to the Utah Department of Workforce Services, healthcare occupations are expected to make up seven of the 20 fastest growing occupations by the year 2030.

Student Testimonial
 “My personal goal is to become a homicide detective. For my occupation I would have to work my way up through the ranks, I am prepared and would love the opportunity. I took a medical forensics class and a biotechnology class; both classes helped me immensely on what to do at a crime scene and how to process evidence. I learned a lot and could definitely use these skills in the career that I want to pursue.”
 Micayla Poulsen

| Career Cluster: Health Science | | | |
|---|----------------------------------|-----------------|-------------------------|
| Career Pathway: Health Science | | | |
| HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING | | | |
| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
| 39.01.00.00.001 | College and Career Awareness | | |
| TBD | Exploring Health Science | | |
| EXPLORER COURSES | | | |
| 34.01.00.00.197 | Human Development | | |
| 36.01.00.00.090 | Health Science, Intro | | |
| 36.01.00.00.110 | Medical Anatomy and Physiology | | |
| 36.01.00.00.150 | Medical Math | | |
| 36.01.00.00.175 | Medical Terminology | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| <i>Choose a track within the Health Science Career Pathway</i> | | | |
| 36.01.00.00.001 | Advanced Health Science | 36.01.00.00.195 | Physical Therapy, Intro |
| 36.01.00.00.080 | Biotechnology | 36.01.00.00.085 | Medical Forensics |
| 36.01.00.00.020 | Dental Assistant | 36.01.00.00.120 | Medical Assistant |
| 36.01.00.00.070 | Emergency Medical Responder | 36.01.00.00.190 | Nurse Assistant (CNA) |
| 36.01.00.00.030 | Emergency Medical Technician | 36.01.00.00.210 | Pharmacy Technician |
| 36.01.00.00.040 | Exercise Science/Sports Medicine | | |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| Choose one Explorer Course and two or more Concentrator Courses to equal 3.0 credits. | | | |
| 41.00.00.00.058 | CTE Internship – Health Science | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31). | | | |

Sample Occupations Requiring:

Certificate

- > Clinical Lab Technician
- > Certified Nurse Assistant
- > Emergency Medical Technician
- > Medical Assistant

Assoc. or Technical Degree

- > Clinical Lab Technologist
- > Dental Hygienist
- > Occupational Therapy Assistant
- > Registered Nurse (RN)

Baccalaureate Degree

- > Athletic Trainer
- > Career and Technical Education Teacher
- > Forensic Science Technician
- > Microbiologist

Utah Business and Industry Facts

Utah is known for its medical innovations, such as the Kolff artificial heart and genetic research. The Utah Population Database (UPDB) is one of the world’s richest sources of in-depth information supporting research on genetics, epidemiology, demography, and public health. (Governor’s Office of Economic Development [GOED])

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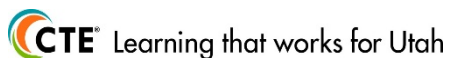
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Utah Career and Technical Education Career Pathway

2020-2021 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 CTSO for students in the Culinary Arts Career Pathway. FCCLA provides students with opportunities to attain the knowledge, skills, and leadership characteristics necessary to succeed in life and careers.

Workforce Trends

In Utah, job openings for chefs and head cooks are projected to increase 3.1 percent through the year 2026; however, competition should be fierce for jobs in the top kitchens of higher-end restaurants.

Student Testimonial

"I'm going to further my education after high school and study how to become a pastry chef. One day I plan to open my own bakery. By taking culinary classes in high school, I will take the skills and knowledge of food that have learned to the next level and become the best pastry chef I can be."

Marissa Muhlestein

Career Cluster: Hospitality & Tourism

Career Pathway: Culinary Arts

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|--|-----------------|-------------|
| 39.01.00.00.001 | College and Career Awareness | | |
| 34.01.00.00.230 | FCS Exploration | | |
| SUPPORTING COURSES | | | |
| Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | | |
| 32.02.00.00.220 | Entrepreneurship | | |
| 37.01.00.00.100 | Hospitality and Tourism | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 37.01.00.00.025 | Customer Service | | |
| 37.01.00.00.151 | Event Planning and Management | | |
| 34.01.00.00.150 | Food and Nutrition 1 | | |
| RECOMMENDED EXPLORER COURSES | | | |
| 34.01.00.00.170 | Culinary Arts 1 | 34.01.00.00.255 | ProStart® 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 34.01.00.00.172 | Culinary Arts 2 | 34.01.00.00.257 | ProStart® 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| TBD | Culinary Arts 3 | | |
| TBD | Baking and Pastry | | |
| 41.00.00.00.059 | CTE Internship – Hospitality and Tourism | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

Certificate

> N/A

Assoc. or Technical Degree

- > Baker/Pastry Chef
- > Sous Chef
- > Restaurant Manager

Baccalaureate Degree

- > Career and Technical Education Teacher
- > Culinary Arts Instructor
- > Executive Chef

Utah Business and Industry Facts

According to the National Restaurant Association, in Utah restaurant and food service jobs represent 10 percent of employment in the state. Through the year 2026, growth is projected at 13.3 percent.

In 2018, sales in Utah restaurants totaled \$5.5 billion. Restaurant jobs represent 9 percent of employment in Utah.

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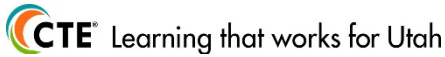
CTE Credentials of Value

In 2017-2018, 112,867 CTE Skill Certifications were awarded to secondary students and 19,189 third-party certifications were earned by secondary students.

In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 87 percent.

Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

FBLA is the CTSO for students in the Hospitality and Tourism Career Pathway. FBLA provides students with opportunities for leadership, community involvement, and career development.

Workforce Trends

According to the U.S. Department of Labor, travel and tourism is one of the largest and fastest growing industries in the world. Annual sales exceed a half-trillion dollars.

Student Testimonial

"The CTE courses I took prepared me for my chosen career path. I received knowledge and training in business management and restaurant fundamentals. I would like to open my own restaurant."

Alexis Kingery

Career Cluster: Hospitality & Tourism

Career Pathway: Hospitality & Tourism

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

JUNIOR HIGH / MIDDLE SCHOOL COURSES

| | | | |
|-----------------|----------------------------------|--|--|
| 39.01.00.00.001 | College and Career Awareness | | |
| TBD | Creative Coding | | |
| 32.02.00.00.170 | Digital Literacy | | |
| 32.02.00.00.070 | Exploring Business and Marketing | | |
| 32.02.00.00.300 | Keyboarding | | |
| 32.02.00.00.370 | Word Processing | | |

EXPLORER COURSES

GENERAL EXPLORER COURSES

| | | | |
|-----------------|------------------------------------|-----------------|-------------------|
| 32.01.00.00.001 | Business Math and Personal Finance | 37.01.00.00.165 | Marketing 1 |
| 34.01.00.00.170 | Culinary Arts | 37.01.00.00.240 | Retailing |
| 40.10.00.00.040 | Digital Graphic Arts, Intro | 35.02.00.00.060 | Web Development 1 |

RECOMMENDED EXPLORER COURSES

| | | | |
|-----------------|------------------------|--|--|
| 34.01.00.00.172 | Culinary Management | | |
| 37.01.00.00.025 | Customer Service | | |
| 37.01.00.00.205 | Lodging and Recreation | | |

CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course.

| | | | |
|-----------------|-------------------------------|--|--|
| 37.01.00.00.151 | Event Planning and Management | | |
| 37.01.00.00.100 | Hospitality and Tourism | | |

COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway.

| | | | |
|-----------------|--|--|--|
| 32.02.00.00.260 | Business and Marketing Capstone | | |
| 41.00.00.00.059 | CTE Internship – Hospitality and Tourism | | |

POSTSECONDARY: There are many options for education and training beyond high school.

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

Certificate

> N/A

Assoc. or Technical Degree

> N/A

Baccalaureate Degree

- > Career and Technical Education Teacher
- > Marketing Manager
- > Meeting, Convention, and Event Planner
- > Sales Manager

Utah Business and Industry Facts

According to the Utah Department of Workforce Services, 567 individuals are employed as travel agents throughout Utah, with 263 travel arrangement and reservation services businesses.

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CTE Credentials of Value

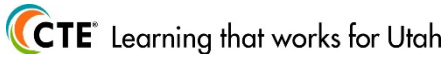
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Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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SkillsUSA is the CTSSO for students in the Personal Care Services Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.

Workforce Trends

According to the Utah Department of Workforce Services, employment for hairdressers, hairstylists, and cosmetologists is projected to grow 3.4 percent through the year 2026.

Student Testimonial

“The cosmetology CTE courses I took in high school helped teach me the basic knowledge I need to continue in the field. I learned all the tips and tricks to methods and was taught that there is more than just one way to do task.”

Alexas Walker

Career Cluster: Human Services

Career Pathway: Personal Care Services

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|---|---|-----------------------------------|---|
| 39.01.00.00.001 | College and Career Awareness | | |
| SUPPORTING COURSES | | | |
| Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | | | |
| 32.02.00.00.220 | Entrepreneurship | | |
| EXPLORER COURSES | | | |
| 32.02.00.00.010 | Accounting 1 | | |
| 32.02.00.00.140 | Business Management | | |
| 32.01.00.00.001 | Business Math and Personal Finance | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| Barbering/Cosmetology/Hair Design TRACK | | Esthetician/Nail Technician TRACK | |
| 40.03.00.00.003 | Barbering | 40.03.00.00.005 | Basic Esthetician and Skin Care |
| 40.03.00.00.001 | Cosmetology | 40.03.00.00.002 | Nail Technician/Specialist Manicurist |
| TBD | Hair Design | | |
| COMPLETER COURSES: To be a completer you must pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 41.00.00.00.060 | CTE Internship – Human Services (Clinicals or Labs) | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

Certificate

- > Barber
- > Cosmetologist
- > Hair Designer
- > Manicurists and Pedicurists
- > Skincare Specialist (Esthetician)

Assoc. or Technical Degree

- > N/A

Baccalaureate Degree

- > Career and Technical Education Teacher

Utah Business and Industry Facts

According to the Utah Department of Workforce Services, there are 1,097 personal care services businesses throughout Utah employing 88.1 percent of individuals practicing in this profession.

In Utah, a barber, cosmetologist, hair designer, an electrologist and a nail technician (manicurist and pedicurist) must be licensed.

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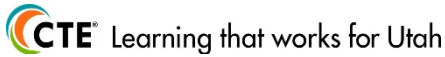
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Utah Career and Technical Education Career Pathway

2020-2021 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 Protective Services Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.

Workforce Trends

In Utah, the occupation projection for firefighters is 140 annual openings. Those who have completed some firefighter education at a community college and have an EMT certification will have an advantage.

Student Testimonial

"Firefighting is in my blood. I love being on the scene with my grandfather and learning from him and my fellow firefighters. The pungent smell of smoke really gets me excited to get my career moving. I have never wanted anything more in my life than to be a firefighter."

Nate Buchanan

Career Cluster: Law, Public Safety, Corrections & Security

Career Pathway: Protective Services

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | |
|---|---|
| 39.01.00.00.001 | College and Career Awareness |
| SUPPORTING COURSES | Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) |
| 36.01.00.00.070 | Emergency Medical Responder |
| 36.01.00.00.030 | Emergency Medical Technician |
| 36.01.00.00.085 | Medical Forensics |
| EXPLORER COURSES | |
| 40.06.00.00.301 | Homeland Security |
| 40.06.00.00.046 | Corrections, Intro |
| 40.06.00.00.103 | Criminal Justice, Intro |
| 40.06.00.00.001 | Law Enforcement |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 40.06.00.00.108 | Criminal Law |
| 40.06.00.13.010 | Fire Science |
| COMPLETER COURSES: To be a completer you must pass enough courses to earn 3.0 credits in this Pathway. | |
| 41.00.00.00.061 | CTE Internship – Law, Public Safety, Corrections and Security |
| POSTSECONDARY: There are many options for education and training beyond high school. | |
| | |
| | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > Firefighter
- > First-Line Supervisor of Fire Fighting and Prevention Workers
- Assoc. or Technical Degree**
- > N/A
- Baccalaureate Degree**
- > Career and Technical Education Teacher
- > Criminal Justice and Law Enforcement Teachers, postsecondary

Utah Business and Industry Facts

Police and sheriff's patrol officers are found in local, state, and federal agencies throughout Utah. According to the Utah Department of Workforce Services, there are 3,742 total agencies who employ police and sheriff's patrol officers.

UtahFutures: College and Career Planning

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CTE Credentials of Value

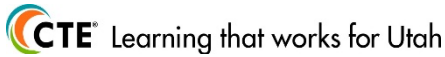
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Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information
 Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.
 Students who participate in the Manufacturing and Production Career Pathway choose among the following CTSOs, depending upon what is available at their school:
 SkillsUSA | TSA

Workforce Trends
 A manufacturing engineer designs, documents and standardizes manufacturing processes, along with related tooling, for companies where they are employed. This is a niche occupation where specialized skills are required.

Student Testimonial
 “I would like a career as a manufacturing engineer and go on to pursue my own business in the manufacturing industry. CTE gave me experience for what my career will be like. CTE also [allowed me] to be able to work on the skills that I need to improve on in that specific area.”
 Garret Maycock

| Career Cluster: Manufacturing | |
|--|---|
| Career Pathway: Manufacturing & Production | |
| HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING | |
| JUNIOR HIGH / MIDDLE SCHOOL COURSES | |
| 39.01.00.00.001 | College and Career Awareness |
| 38.03.00.00.001 | Exploring Technology |
| 38.03.00.00.060 | Manufacturing Technology |
| SUPPORTING COURSES | Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) |
| 07.08.00.00.100 | Secondary Math 2 |
| EXPLORER COURSES | |
| GENERAL EXPLORER COURSES | |
| 38.01.00.00.051 | CAD Mechanical Design 1 |
| 38.01.00.00.340 | CAM Automated Manufacturing |
| 38.01.00.00.011 | Manufacturing Principles 1 |
| RECOMMENDED EXPLORER COURSES | |
| 38.02.00.00.251 | Composites 1 |
| 38.02.00.00.241 | Plastics 1 |
| 38.02.00.00.261 | Woods 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 38.02.00.00.252 | Composites 2 |
| 38.02.00.00.242 | Plastics 2 |
| 38.02.00.00.262 | Woods 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| 38.02.00.00.263 | Woods 3 |
| 41.00.00.00.062 | CTE Internship – Manufacturing |
| POSTSECONDARY: There are many options for education and training beyond high school. | |
| <p>In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> | |

Sample Occupations Requiring:

Certificate
 > Production Technician

Assoc. or Technical Degree
 > Career and Technical Education Teacher
 > Manufacturing Engineer

Baccalaureate Degree
 > Career and Technical Education Teacher
 > Manufacturing Engineer

Utah Business and Industry Facts
 In 2017, Northrop Grumman purchased aerospace manufacturer Orbital ATK (who has a strong presence in Utah) for \$9.2 billion. The company has nearly 3,000 employees with a payroll of approximately \$250 million.
 Northrop Grumman not only develops and tests propulsion systems for rockets and missiles, they manufacture advanced composite components for commercial and military aircraft.

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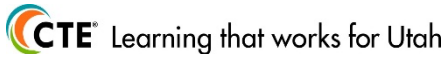
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CTE Credentials of Value
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Utah Career and Technical Education Career Pathway

2020-2021 School Year



CTSO Information

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

Students who participate in the Welding & Machining Career Pathway choose among the following CTOS, depending upon what is available at their school:

FFA | SkillsUSA

Workforce Trends

In Utah, the occupation projection for welders, cutters, solderers, and brazers is 290 annual openings. Job prospects should be excellent for skilled candidates.

Student Testimonial

"I took my first welding class in my sophomore year of high school and fell in love with it. Welding prepared me for college and my career by showing me I will have to continue on without giving up to reach my goals."

Fillmore Tukuafu

Career Cluster: Manufacturing

Career Pathway: Welding & Machining

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | |
|--|--|
| 39.01.00.00.001 | College and Career Awareness |
| 39010000001 | Exploring Technology |
| EXPLORER COURSES | |
| 40.10.00.00.072 | Machining 1 |
| 40.10.00.00.085 | Metal Working 1 |
| 40.10.00.00.090 | Sheet Metal |
| 40.10.00.00.110 | Welding Technician, Entry Level |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | |
| 40.10.00.00.070 | Machining 2 |
| 40.10.00.00.112 | Welding Technician, Intermediate Level |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | |
| Certification | American Welding Society Level 1 Welder |
| 40.04.00.00.001 | Non-Destructive Testing |
| 30.01.00.00.517 | Welding-Pipe Fitting |
| 30.01.00.00.519 | Welding-Structural Fitting |
| 40.10.00.00.114 | Welding Technician, Advanced Level |
| 41.00.00.00.062 | CTE Internship – Manufacturing |
| POSTSECONDARY: There are many options for education and training beyond high school. | |
| | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

- Certificate**
- > Tool and Die Maker
- > Tool Maker
- > Welder
- Assoc. or Technical Degree**
- > Machine Tool Technician
- > Welding Technician
- Baccalaureate Degree**
- > Career and Technical Education Teacher
- > Machine Tool Engineer
- > Welding Engineer

Utah Business and Industry Facts

From construction sites to automotive body shops, from farms to manufacturing plants, welders are found in numerous industries throughout Utah. According to the Utah Department of Workforce Services, the median hourly wage for a welders, cutters, solderers and brazers is \$18.64.

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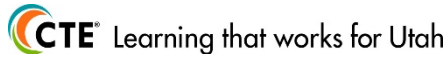
CTE Credentials of Value

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Utah Career and Technical Education Career Pathway

2020-2021 School Year



Career Cluster: Transportation, Distribution & Logistics

Career Pathway: Aviation

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

JUNIOR HIGH / MIDDLE SCHOOL COURSES

| | |
|---|--|
| 39.01.00.00.001 | College and Career Awareness |
| 38.03.00.00.001 | Exploring Technology |
| SUPPORTING COURSES Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Career Pathway) | |
| 06.02.00.13.070 | English 1010 |
| 07.04.00.13.020 | Math 1050 |
| 07.07.00.13.010 | Math 1060 |

EXPLORER COURSES

| | | | |
|-----------------|------------------------------------|-----------------|-------------------------------|
| 40.11.00.00.044 | Aviation History | 38.01.00.00.021 | Electronics 1 |
| 40.11.00.00.042 | Aircraft Systems | 40.10.00.00.072 | Machining 1 |
| 40.11.00.00.046 | Air Transportation | 08.04.00.00.050 | Meteorology |

CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course.

| | | | |
|-----------------|----------------------|-----------------|----------------------------------|
| 40.09.00.00.001 | Aviation Mechanics 1 | 40.11.00.00.048 | Flight Simulator |
| | | 40.11.00.00.040 | Private Pilot |

COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway.

| | | | |
|-----|----------------------|-----|-------------------------|
| TBD | Aviation Mechanics 2 | TBD | AV Professions |
| | | TBD | AV Weather |
| | | TBD | Unmanned Aerial Systems |

| | |
|-----------------|---|
| 41.00.00.00.063 | CTE Internship – Transportation, Distribution and Logistics |
|-----------------|---|

POSTSECONDARY: There are many options for education and training beyond high school.

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

CTSO Information

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

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

Workforce Trends

Rising population and income will drive demand for airline travel and the need for commercial aviation workers. Those who have attended college for at least 2 years and have experience dealing with the public should have the best prospects.

Student Testimonial

"I plan to become a certified flight instructor and use that [credential] in order to build up my hours until I can get a job with a local airline. I learned everything I know about planes from Private Pilot Ground School [through CTE]. I even passed my written test from the information that I learn from that class."

Braden Ottley

Sample Occupations Requiring:

- Certificate**
- > Aircraft Mechanic
- > Aircraft Service Technician
- Assoc. or Technical Degree**
- > Air Traffic Controller
- Baccalaureate Degree**
- > Aircraft Co-pilot
- > Aircraft Pilot
- > Career and Technical Education Teacher
- > Flight Engineer

Utah Business and Industry Facts

According to the Utah Department of Workforce Services, air transportation companies in Utah employ 6,316 workers. In Utah, an aircraft mechanic, an aircraft service technician, and an aircraft pilot must be licensed.

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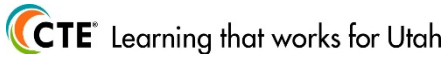
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Utah Career and Technical Education Career Pathway

2020-2021 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 Auto Mechanics & Repairs Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.

Workforce Trends

Job opportunities in the automotive industry are very good for persons with formal training in automotive body repair and mechanics.

Student Testimonial

“My overall goal of taking CTE courses was to become an automotive technician. I found my passion late during my sophomore year and ever since then I’ve been staying on track with the automotive industry. I took collision and refinishing and I love it. I found my passion in life and intend to make a full career out of it.”

Tyerell Przybycien

Career Cluster: Transportation, Distribution & Logistics

Career Pathway: Auto Mechanics & Repairs

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|---|-----------------|---|
| 39.01.00.00.001 | College and Career Awareness | | |
| 38.03.00.00.001 | Exploring Technology | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES | | | |
| 38.01.00.00.021 | Electronics 1 | 38.03.00.00.070 | Transportation Technology |
| 40.10.00.00.072 | Machining 1 | 40.10.00.00.110 | Welding, Entry Level |
| RECOMMENDED EXPLORER COURSES | | | |
| 40.09.00.00.020 | Automotive, Intro | 40.09.00.00.010 | Collision 1 |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 40.09.00.00.021 | ASE Chassis MLR | 40.09.00.00.013 | Collision 2 |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 40.09.00.00.026 | ASE Engine MLR | 40.09.00.00.015 | Collision 3 |
| 41.00.00.00.063 | CTE Internship – Transportation, Distribution and Logistics | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
| | | | |
| | | | |

In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

Sample Occupations Requiring:

Certificate

> Automotive Service Technician – ASE (Automotive Service Excellence) www.ase.com/ is a national certification for automotive service technicians.

Assoc. or Technical Degree

> N/A

Baccalaureate Degree

> Career and Technical Education Teacher

Utah Business and Industry Facts

According to the Utah Department of Workforce Services, more than 1,500 individuals are employed as automotive body and related repairers. Those employees with experience make an annual salary of \$41,950.

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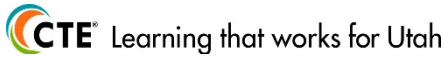
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Utah Career and Technical Education Career Pathway

2020-2021 School Year



Career Cluster: Transportation, Distribution & Logistics

Career Pathway: Diesel

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

| JUNIOR HIGH / MIDDLE SCHOOL COURSES | | | |
|--|---|-----------------|---|
| 39.01.00.00.001 | College and Career Awareness | | |
| 38.03.00.00.001 | Exploring Technology | | |
| EXPLORER COURSES | | | |
| GENERAL EXPLORER COURSES Exploring Technology | | | |
| 38.01.00.00.021 | Electronics 1 | 38.03.00.00.070 | Transportation Technology |
| 40.10.00.00.072 | Machining 1 | 40.10.00.00.110 | Welding, Entry Level |
| RECOMMENDED EXPLORER COURSES | | | |
| 40.09.00.00.020 | Automotive, Intro | | |
| CONCENTRATOR COURSES: To be a concentrator you must pass this course and one more explorer course. | | | |
| 40.09.00.00.060 | Diesel 1 | | |
| COMPLETER COURSES: To be a completer you must pass this course and/or pass enough courses to earn 3.0 credits in this Pathway. | | | |
| 40.09.00.00.065 | Diesel 2 | | |
| 41.00.00.00.063 | CTE Internship – Transportation, Distribution and Logistics | | |
| POSTSECONDARY: There are many options for education and training beyond high school. | | | |
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In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathways placed in postsecondary education, advanced training, military service or employment (October 1-December 31).

CTSO Information

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

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

Workforce Trends

Employment growth will result from the increased manufacturing of buses and trucks powered by durable, economical diesel engines. Opportunities are good for those with formal diesel mechanic training and experience with electronic and diagnostic equipment.

Student Testimonial

"I completed a CTE Internship at a local garage in my community. Because of the courses I have taken, the safety certifications I have earned, and my internship, Jiffy Lube hired me on the spot. The CTE Pathways program helped me learn to set goals and make wise choices. CTE courses gave me real-life, marketable skills."

Trever Gardner

Sample Occupations Requiring:

Certificate

> Automotive Service Technician – ASE (Automotive Service Excellence) www.ase.com/ is a national certification for automotive service technicians.

Assoc. or Technical Degree

> N/A

Baccalaureate Degree

> Career and Technical Education Teacher

Utah Business and Industry Facts

Utah high school seniors have the opportunity to participate in the [Utah Diesel Technician Pathways program](#). The program was created by industry to open opportunities for young men and women who are interested in the diesel technician field.

UtahFutures: College and Career Planning

Visit UtahFutures.org to explore occupations, search salary projections, access labor market information, investigate training options, and to create a plan.

Visit UtahCTE.org to access high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.

CTE Credentials of Value

In 2017-2018, 112,867 CTE Skill Certifications were awarded to secondary students and 19,189 third-party certifications were earned by secondary students.

In 2017-2018, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 87 percent.