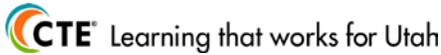


# Utah Career and Technical Education Career Pathway

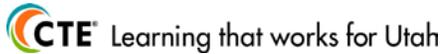
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>FFA is the CTSO for students in the Agricultural Systems Technology Career Pathway. FFA brings relevance to the classroom through industry-based competitive events and community service.</p> <p><b>Workforce Trends</b> 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.</p>	<h3 style="margin: 0;">Career Cluster: Agriculture, Food &amp; Natural Resources</h3> <h3 style="margin: 0;">Career Pathway: Agricultural Mechanics Systems</h3> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="text-align: left;">CORE CODE</th> <th style="text-align: left;">FOUNDATION COURSES (required)</th> <th style="text-align: left;">CREDITS</th> <th></th> </tr> </thead> <tbody> <tr> <td>30.01.00.00.030</td> <td>Agricultural Systems Technology 1</td> <td style="text-align: center;">1.00</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td>30.01.00.00.040</td> <td>Agricultural Systems Technology 2</td> <td style="text-align: center;">1.00</td> </tr> <tr style="background-color: #00a651; 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High skill &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; Heavy Equipment Operator &gt; Truck Driver &gt; Welder, Cutters, Solderers, and Brazers</p> <p><u>Certificate</u> &gt; Hydraulic Technician &gt; Maintenance Service Tech. &gt; Welder</p> <p><u>Assoc. or Technical Degree</u> &gt; Agricultural Engineer Tech. &gt; Diesel Mechanic &gt; Equipment Dealer Technician</p> <p><u>Baccalaureate Degree</u> &gt; Agricultural Engineer &gt; Career and Technical Education Teacher &gt; Welding Engineer</p> <p><u>Graduate or Prof. Degree</u> &gt; Geospatial Analytics Scientist &gt; Postsecondary Teacher &gt; Research Engineer</p>
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<p><b>Student Testimonial</b> “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</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <td style="background-color: #00a651; color: white; text-align: center; padding: 10px;"><b>12th Grade</b></td> <td style="background-color: #ff7f0e; color: white; text-align: center; padding: 10px;"><b>1-Year Certificate</b></td> <td style="background-color: #2ca02c; color: white; text-align: center; padding: 10px;"><b>2-Year Associate or Technical Degree</b></td> <td style="background-color: #ffc107; color: white; text-align: center; padding: 10px;"><b>4-Year Bachelor's Degree</b></td> <td style="background-color: #6c757d; color: white; text-align: center; padding: 10px;"><b>More Graduate or Prof. Degree</b></td> </tr> </table> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%; padding: 5px;"> <p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p> </div> <div style="width: 65%; padding: 5px;"> <p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> </div> </div>	<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>	<p><b>Utah Business and Industry Facts</b> Utah agriculturists produce crops and livestock worth over \$1.8 billion annually.</p> <p>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)</p>																																																												
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Food Production and Processing 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.

### Career Cluster: Agriculture, Food & Natural Resources

#### Career Pathway: Agricultural Production Systems

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
30.01.00.00.050	Agricultural Science 1	1.00	2.00 credits
30.01.00.00.060	Agricultural Science 2	1.00	
<b>Or choose the following courses:</b>			
30.02.00.00.040	Animal Science 1	1.00	
30.02.00.00.080	Plant and Soil Science 1	1.00	
ELECTIVE COURSES			
30.02.00.00.001	Animal Science 2	1.00	3.00 credits for completion
30.01.00.00.116	Aquaculture, Introduction	1.00	
30.02.00.00.050	Biology-Agricultural Science	1.00	
32.02.00.00.140	Business Management	.50	
32.02.00.00.110	Business Communication 1	.50	
32.02.00.00.111	Business Communication 2	.50	
37.01.00.00.150	Leadership Principles 1	1.00	
30.01.00.00.200	Summer Agriculture Program	.25	
	Supervised Agriculture Experience Program (capstone experience)		
41.00.00.00.030	Workplace Skills	.50	

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

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

**Food Production & Processing Systems is:**  
 > High skill  
 > High wage  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > Buyer and Purchasing Agent, Farm Products  
 > Farm/Ranch Worker/Manager  
 > Pesticide Handler, Sprayer, and Applicator

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

Graduate or Prof. Degree  
 > Biotechnology Research  
 > Extension Specialist  
 > Research Scientist

**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 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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>
Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain. In high school a variety of certificates can be earned.		An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions. In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).		

**Utah Business and Industry Facts**  
 In Utah, there are 18,100 farms with 11,000 acres in production. The poultry industry is huge with 7.5 million birds, layers, pullets, and turkeys.  
 Utah is also home to 777,000 head of cattle and 732,000 head of hogs.  
 Utah Agriculture contributes more than 15 percent to the state's economy.

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

**UtahFutures: College and Career Planning**  
 Visit [UtahFutures.org](http://UtahFutures.org) for salary projections, labor market demand, and training options.

In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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

# Utah Career and Technical Education Career Pathway

## 2018-2019 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**  
 Nationwide, dietitians and nutritionists held 66,700 jobs in 2014. Employment of dietitians and nutritionists is projected to increase 16.4 percent through the year 2024.  
 In Utah, a dietitian and a nutritionist must be licensed.

### Career Cluster: Agriculture, Food & Natural Resources

#### Career Pathway: Food Science, Dietetics & Nutrition

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
34.01.00.00.180	Food Science	.50	1.00 credit
34.01.00.00.160	Food and Nutrition 2	.50	
34.01.00.00.185	Foundations of Nutrition *	.50	
ELECTIVE COURSES			
34.01.00.00.150	Food and Nutrition 1	.50	2.00 credits
36.01.00.00.090	Health Science, Introduction	.50	
34.01.00.00.197	Human Development	1.00	
36.01.00.00.110	Medical Anatomy and Physiology	1.00	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

**Food Science, Dietetics & Nutrition is:**  
 > High skill

**Sample Occupations Requiring:**  
High School Diploma  
 > Nutrition and Wellness Coach  
 > Food Product Technician  
 > Packaging Manager Product Grader  
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  
Graduate or Prof. Degree  
 > Food Microbiologist  
 > Food Nutritionist  
 > Food/Research Scientist

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree
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**Utah Business and Industry Facts**  
 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 are more than 400 dietitians and nutritionists in the state. By the year 2020, an additional 100 nutrition professionals are projected to join the workforce.

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

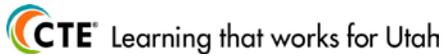
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Systems 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.

### Career Cluster: Agriculture, Food & Natural Resources

#### Career Pathway: Natural Resource Science

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
	<b>Choose two of the following courses:</b>		
30.01.00.00.116	Aquaculture, Introduction	1.00	2.00 credits
30.03.00.00.001	Natural Resource Science 1	1.00	
30.03.00.00.010	Natural Resource Science 2	1.00	
<b>ELECTIVE COURSES</b>			
30.01.00.00.050	Agricultural Science 1	1.00	1.00 credit
30.02.00.00.050	Biology-Agricultural Science	1.00	
32.02.00.00.110	Business Communication 1	.50	
32.02.00.00.111	Business Communication 2	.50	
32.02.00.00.140	Business Management	.50	
37.01.00.00.150	Leadership Principles 1	1.00	
30.01.00.00.200	Summer Agriculture Program	.25	
	Supervised Agriculture Experience Program (capstone experience)		
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

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

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

**Natural Resource Systems is:**  
 > High skill  
 > High wage  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > Forest/Conservation Worker  
 > Logger  
 > Truck Driver

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

Graduate or Prof. Degree  
 > Extension specialist  
 > Forester  
 > Marine Biologist

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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**Utah Business and Industry Facts**  
 Utah has a wealth of natural resources, which includes five national parks, seven national monuments, seven national forests, two national recreation areas, 45 state parks, and millions of acres of Bureau of Land Management (BLM)—administered deserts and range land.

**CTE Skill Certificates**  
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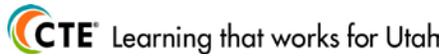
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 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, employment of conservation scientists and foresters is projected to grow 7 percent through the year 2024.

Nationwide, employment of landscape architects is projected to grow 5 percent through the year 2024.

### Career Cluster: Agriculture, Food & Natural Resources

#### Career Pathway: Plant Science

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
<i>Choose two credits from the following courses:</i>			
30.01.00.00.152	Floriculture	.50	2.00 credits
30.01.00.00.150	Floriculture and Greenhouse Management	1.00	
30.01.00.00.154	Greenhouse Management	.50	
30.01.00.00.160	Landscape Management	.50	
30.01.00.00.165	Nursery Operation	.50	
30.02.00.00.080	Plant and Soil Science 1	1.00	
30.02.00.00.010	Plant and Soil Science 2	1.00	
ELECTIVE COURSES			
30.01.00.00.050	Agricultural Science 1	1.00	1.00 credit
30.02.00.00.050	Biology-Agricultural Science	1.00	
32.02.00.00.110	Business Communication 1	.50	
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32.02.00.00.140	Business Management	.50	
30.01.00.00.070	Landscape Architecture, Introduction	1.00	
37.01.00.00.150	Leadership Principles 1	1.00	
30.01.00.00.200	Summer Agriculture Program	.25	
	Supervised Agriculture Experience Program (capstone experience)		
30.01.00.00.090	Sustainable Urban Agriculture	1.00	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

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

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

**Plant Systems is:**  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > Florist  
 > Greenhouse Worker  
 > Tree Trimmers and Pruners

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

Graduate or Prof. Degree  
 > Agronomist  
 > Extension Specialist  
 > Microbiologist

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>
Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain. In high school a variety of certificates can be earned.		An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions. In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).		

**Utah Business and Industry Facts**

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.

**CTE Skill Certificates**

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

**UtahFutures: College and Career Planning**

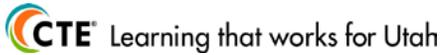
Visit [UtahFutures.org](http://UtahFutures.org) for salary projections, labor market demand, and training options.

In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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

# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Systems Career Pathway. FFA brings relevance to the classroom through industry-based competitive events and community service.

**Workforce Trends**  
 Twenty-one million people (or 18.5 percent of the American workforce) are employed in the agricultural industry. Farmers and ranchers provide food and habitat for 75 percent of the nation's wildlife. One-fourth of the world's beef and one-fifth of the world's grain, milk, and eggs are produced in the United States.

### Career Cluster: Agriculture, Food & Natural Resources

#### Career Pathway: Veterinary & Animal Science

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
30.02.00.00.040	Animal Science 1	1.00	2.00 credits
<i>Choose one of the following courses:</i>			
30.02.00.00.001	Animal Science 2	1.00	
30.01.00.00.005	Small and Companion Animal Science	1.00	
30.02.00.00.090	Veterinary Assistant 1	1.00	
ELECTIVE COURSES			
30.01.00.00.116	Aquaculture, Introduction	1.00	1.00 credit
30.02.00.00.050	Biology-Agricultural Science	1.00	
32.02.00.00.110	Business Communication 1	.50	
32.02.00.00.111	Business Communication 2	.50	
32.02.00.00.140	Business Management	.50	
30.02.00.00.072	Equine Science A	.50	
30.02.00.00.074	Equine Science B	.50	
37.01.00.00.150	Leadership Principles 1	1.00	
30.02.00.00.095	Veterinary Assistant 2	1.00	
30.01.00.00.200	Summer Agriculture Program	.25	
	Supervised Agriculture Experience Program (capstone experience)		
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

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

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

**Animal Systems is:**  
 > High skill  
 > High wage

**Sample Occupations Requiring:**

High School Diploma  
 > Livestock Handler  
 > Swine Farm Worker  
 > Veterinary Assistant and Laboratory Animal Caretaker

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

Graduate or Prof. Degree  
 > Animal Scientists  
 > Extension Specialist  
 > Veterinarian

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>
Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.		An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).		

**Utah Business and Industry Facts**

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)

**CTE Skill Certificates**

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

**UtahFutures: College and Career Planning**

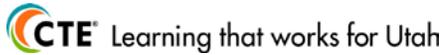
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In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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

# Utah Career and Technical Education Career Pathway

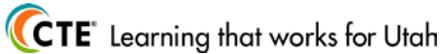
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>TSA is the CTSO for students in the CAD Architectural Design Career Pathway. TSA fosters personal growth, leadership, and opportunities in science, technology, engineering, and mathematics (STEM).</p> <p><b>Workforce Trends</b> 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.</p> <p>Nationwide, employment of architects is projected to grow 7 percent through the year 2024. In Utah, projected growth is 2.6 percent.</p>	<h3 style="margin: 0;">Career Cluster: Architecture &amp; Construction</h3> <h4 style="margin: 0;">Career Pathway: CAD Architectural Design</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a6c9; color: white;"> <th style="padding: 5px;">CORE CODE</th> <th style="padding: 5px;">FOUNDATION COURSES (required)</th> <th style="padding: 5px;">CREDITS</th> <th style="padding: 5px;"></th> </tr> </thead> <tbody> <tr> <td style="padding: 2px 5px;">38.01.00.00.041</td> <td style="padding: 2px 5px;">CAD Architectural Design 1 *</td> <td style="padding: 2px 5px;">.50</td> <td rowspan="3" style="padding: 5px; text-align: center; vertical-align: middle;">1.50 credits</td> </tr> <tr> <td style="padding: 2px 5px;">38.01.00.00.042</td> <td style="padding: 2px 5px;">CAD Architectural Design 2 *</td> <td style="padding: 2px 5px;">.50</td> </tr> <tr> <td style="padding: 2px 5px;">38.01.00.00.043</td> <td style="padding: 2px 5px;">CAD Architectural Design 3</td> <td style="padding: 2px 5px;">.50</td> </tr> <tr> <td colspan="4" style="padding: 5px; text-align: center;"><i>Or choose the following course:</i></td> </tr> <tr> <td style="padding: 2px 5px;">38.01.00.00.330</td> <td style="padding: 2px 5px;">PLTW Civil Engineering and Architecture</td> <td style="padding: 2px 5px;">1.00</td> <td></td> </tr> <tr style="background-color: #00a6c9; color: white;"> <th colspan="4" style="padding: 5px;">ELECTIVE COURSES</th> </tr> <tr> <td style="padding: 2px 5px;">38.03.00.00.010</td> <td style="padding: 2px 5px;">Engineering Technology</td> <td style="padding: 2px 5px;">.50</td> <td rowspan="4" style="padding: 5px; text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td style="padding: 2px 5px;">38.01.00.00.211</td> <td style="padding: 2px 5px;">Physics with Technology</td> <td style="padding: 2px 5px;">1.00</td> </tr> <tr> <td style="padding: 2px 5px;">38.01.00.00.030</td> <td style="padding: 2px 5px;">Construction Technology</td> <td style="padding: 2px 5px;">1.00</td> </tr> <tr> <td style="padding: 2px 5px;">41.00.00.00.030</td> <td style="padding: 2px 5px;">Workplace Skills</td> <td style="padding: 2px 5px;">.50</td> </tr> <tr> <td colspan="4" style="padding: 5px; text-align: center;"><b>2.50 credits for completion</b></td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">* Course can be taken up to 1.00 credit Foundation courses taken beyond the required credits can be used as elective credit.</p> <p style="text-align: center; margin-top: 10px;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		38.01.00.00.041	CAD Architectural Design 1 *	.50	1.50 credits	38.01.00.00.042	CAD Architectural Design 2 *	.50	38.01.00.00.043	CAD Architectural Design 3	.50	<i>Or choose the following course:</i>				38.01.00.00.330	PLTW Civil Engineering and Architecture	1.00		ELECTIVE COURSES				38.03.00.00.010	Engineering Technology	.50	1.00 credit	38.01.00.00.211	Physics with Technology	1.00	38.01.00.00.030	Construction Technology	1.00	41.00.00.00.030	Workplace Skills	.50	<b>2.50 credits for completion</b>				<p><b>CAD Architectural Design is:</b> &gt; High skill &gt; High wage &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <a href="#">High School Diploma</a> &gt; Surveying and Mapping Tech <a href="#">Certificate</a> &gt; N/A <a href="#">Assoc. or Technical Degree</a> &gt; Architectural Drafter &gt; Civil Drafter <a href="#">Baccalaureate Degree</a> &gt; Architect &gt; Architectural and Engineering Managers &gt; Career and Technical Education Teacher &gt; Civil Engineer &gt; Landscape Architect &gt; Secondary Education Teacher &gt; Surveyor <a href="#">Graduate or Prof. Degree</a> &gt; Architect</p>
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<p><b>Student Testimonial</b> “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</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <td style="width: 15%; background-color: #00a6c9; color: white; text-align: center; padding: 10px;"><b>12th Grade</b></td> <td style="width: 15%; background-color: #ff7f0e; color: white; text-align: center; padding: 10px;"><b>1-Year Certificate</b></td> <td style="width: 15%; background-color: #2ca02c; color: white; text-align: center; padding: 10px;"><b>2-Year Associate or Technical Degree</b></td> <td style="width: 15%; background-color: #ffc107; color: white; text-align: center; padding: 10px;"><b>4-Year Bachelor's Degree</b></td> <td style="width: 15%; background-color: #6c757d; color: white; text-align: center; padding: 10px;"><b>More Graduate or Prof. Degree</b></td> </tr> </table> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; padding: 5px;"> <p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p> </div> <div style="width: 45%; padding: 5px;"> <p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> </div> </div>	<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>	<p><b>Utah Business and Industry Facts</b> From commercial to residential, Utah is home to more than 900 architects and building designers.</p> <p>According to the Utah Department of Workforce Services, business expansion will provide the majority of job openings in the coming decade.</p> <p>In Utah, an architect must be licensed.</p>																																						
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# Utah Career and Technical Education Career Pathway

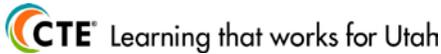
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>SkillsUSA is the CTSSO for students in the Carpentry Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.</p> <p><b>Workforce Trends</b> As construction continues to increase, in the public and private sector, demand for skilled carpenters will increase. Those individuals with the proper training and skills will have abundant job opportunities to choose from. Nationwide, employment of carpenters is projected to increase 6 percent through the year 2024.</p>	<h3 style="margin: 0;">Career Cluster: Architecture &amp; Construction</h3> <h4 style="margin: 0;">Career Pathway: Construction &amp; Structural Systems: Carpentry</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a6c9; color: white;"> <th style="width: 15%;">CORE CODE</th> <th style="width: 55%;">FOUNDATION COURSES (required)</th> <th colspan="2" style="width: 30%;">CREDITS</th> </tr> </thead> <tbody> <tr> <td>40.08.00.00.010</td> <td>Carpentry 1</td> <td style="text-align: center;">1.00</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td>40.08.00.00.015</td> <td>Carpentry 2</td> <td style="text-align: center;">1.00</td> </tr> <tr style="background-color: #00a6c9; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>38.01.00.00.041</td> <td>CAD Architectural Design 1 *</td> <td style="text-align: center;">.50</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td>38.01.00.00.042</td> <td>CAD Architectural Design 2 *</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>38.01.00.00.051</td> <td>CAD Mechanical Design 1 *</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>40.08.00.00.035</td> <td>Construction Trades Foundation</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="text-align: center; font-weight: bold;">3.00 credits for completion</td> </tr> </tbody> </table> <p style="font-size: small; margin: 5px 0;">* Course can be taken up to 1.00 credit.</p> <p style="text-align: center; font-weight: bold; margin: 0;">Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		40.08.00.00.010	Carpentry 1	1.00	2.00 credits	40.08.00.00.015	Carpentry 2	1.00	ELECTIVE COURSES				38.01.00.00.041	CAD Architectural Design 1 *	.50	1.00 credit	38.01.00.00.042	CAD Architectural Design 2 *	.50	38.01.00.00.051	CAD Mechanical Design 1 *	.50	40.08.00.00.035	Construction Trades Foundation	.50	41.00.00.00.030	Workplace Skills	.50	3.00 credits for completion				<p><b>Carpentry is:</b> &gt; High skill &gt; High wage &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; Cabinetmaker and bench carpenter &gt; Woodworkers</p> <p><u>Certificate</u> &gt; N/A</p> <p><u>Assoc. or Technical Degree</u> &gt; Carpenter</p> <p><u>Baccalaureate Degree</u> &gt; Career and Technical Education Teacher &gt; Construction Manager &gt; Secondary Education Teacher</p> <p><u>Graduate or Prof. Degree</u> &gt; Construction Manager</p>
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<p><b>Student Testimonial</b> "The CTE classes I have taken have led me to see that I am interested in a career in construction. With the CTE classes I have taken I have learned many skills needed to go farther in my career. I have learned that I like framing, shingling, and now I found out I like doing the finish mud on sheet rock. Once I finish my schooling I will be able to get a job that I will enjoy and that I can improve throughout my life."  Tyler Stettler</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <td style="width: 15%; background-color: #00a6c9; color: white; text-align: center; padding: 5px;"><b>12th Grade</b></td> <td style="width: 15%; background-color: #ff9933; color: white; text-align: center; padding: 5px;"><b>1-Year Certificate</b></td> <td style="width: 15%; background-color: #92d050; color: white; text-align: center; padding: 5px;"><b>2-Year Associate or Technical Degree</b></td> <td style="width: 15%; background-color: #ffcc00; color: white; text-align: center; padding: 5px;"><b>4-Year Bachelor's Degree</b></td> <td style="width: 15%; background-color: #808080; color: white; text-align: center; padding: 5px;"><b>More Graduate or Prof. Degree</b></td> </tr> </table> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; font-size: small; padding: 5px;"> <p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p> </div> <div style="width: 45%; font-size: small; padding: 5px;"> <p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> </div> </div>	<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>	<p><b>Utah Business and Industry Facts</b></p> <p style="font-size: small;">According to the Utah Department of Workforce Services, there are 10,467 construction companies in Utah that employ 93,584 workers.</p> <p style="font-size: small;">In Utah, a construction manager and a building inspector must be licensed.</p>																														
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# Utah Career and Technical Education Career Pathway

## 2018-2019 School Year



**CTSO Information**  
 Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.  
 SkillsUSA is the CTSO for students in the Electrical Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.

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

### Career Cluster: Architecture & Construction

#### Career Pathway: Construction & Structural Systems: Electrical

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

\* Course can be taken up to 1.00 credit.

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

**Electrical is:**

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

**Sample Occupations Requiring:**

- High School Diploma
- > Electrical Equipment Assembler
- > Electrician
- > Electrician Helper
- Certificate
- > Electrical and Electronics Engineering Technician
- Assoc. or Technical Degree
- > Electrical Drafter
- Baccalaureate Degree
- > Career and Technical Education Teacher
- > Electrical Engineer
- > Secondary Education Teacher
- Graduate or Prof. Degree
- > Electrical Engineer

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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree
Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.	An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).			

**Utah Business and Industry Facts**  
 According to the Utah Department of Workforce Services, the median salary for an electrician is \$52,600, which is roughly the same nationwide.  
 Employment of electricians fluctuates with the overall economy.  
 In Utah, an electrician must be licensed.

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

**UtahFutures: College and Career Planning**  
 Visit [UtahFutures.org](http://UtahFutures.org) for salary projections, labor market demand, and training options.

In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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

# Utah Career and Technical Education Career Pathway

## 2018-2019 School Year



**CTSO Information**  
 Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.  
 SkillsUSA is the CTSO for students in the Plumbing Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.

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

### Career Cluster: Architecture & Construction

#### Career Pathway: Construction & Structural Systems: Plumbing

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
40.08.00.00.100	Plumbing 1	1.00	2.00 credits
40.08.00.00.105	Plumbing 2	1.00	
ELECTIVE COURSES			
38.01.00.00.041	CAD Architectural Design 1 *	.50	1.00 credit
38.01.00.00.042	CAD Architectural Design 2 *	.50	
38.01.00.00.051	CAD Mechanical Design 1 *	.50	
40.08.00.00.010	Carpentry 1	1.00	
40.08.00.00.035	Construction Trades Foundation	.50	
40.08.00.00.050	Electrician 1	1.00	
38.01.00.00.021	Electronics 1 *	.50	
40.09.00.00.050	Heating/Air Conditioning/Refrigeration (HVACR)	1.00	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

**Plumbing is:**  
 > High skill  
 > High wage  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > Plumber/Pipefitter Helper  
 > Steamfitter

Certificate  
 > Pipefitter (Journey Level)  
 > Plumber (Journey Level)

Assoc. or Technical Degree  
 > N/A

Baccalaureate Degree  
 > Career and Technical Education Teacher

Graduate or Prof. Degree  
 > N/A

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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree
Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.		An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).		

**Utah Business and Industry Facts**  
 According to the Utah Department of Workforce Services, workers with knowledge of Building Information Modeling (BIM) should have the best job opportunities, as integrated building-planning abilities increase in demand.  
 In Utah, a plumber, pipefitter, and steamfitter must be licensed.

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

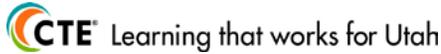
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In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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

# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Interior Design Career Pathway. FCCLA provides students with opportunities to attain the knowledge, skills, and leadership characteristics necessary to succeed in life and careers.

**Workforce Trends**  
 Nationwide, employment of interior designers in specialized design services firms is projected to grow 8 percent through the year 2024. Economic expansion, growing homeowner wealth, and an increased interest in interior design will increase demand for interior designers.

### Career Cluster: Architecture & Construction

#### Career Pathway: Interior Design

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
34.01.00.00.210	Interior Design 1	.50	1.00 credit
34.01.00.00.215	Interior Design 2 *	.50	
ELECTIVE COURSES			
34.01.00.00.090	Apparel Design and Production 1	.50	2.00 credits
38.01.00.00.041	CAD Architectural Design 1 *	.50	
38.01.00.00.042	CAD Architectural Design 2 *	.50	
40.13.00.00.020	Design and Visual Communications *	.50	
40.10.00.00.130	Furniture Design and Manufacturing *	.50	
34.01.00.00.010	Interior Design, Advanced *	.50	
34.01.00.00.080	Advanced Textile Design *	.50	
32.02.00.00.220	Entrepreneurship	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

**Interior Design is:**

- > High skill
- > High wage

**Sample Occupations Requiring:**

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

**Certificate**

- > N/A

**Assoc. or Technical Degree**

- > Photo Stylist

**Baccalaureate Degree**

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

**Graduate or Prof. Degree**

- > Interior Design Professor
- > Textile Scientist

**Student Testimonial**

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

Paige Kirschbaum

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

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

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

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

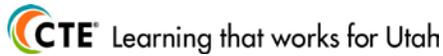
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 CTSSO for students in the Radio Broadcasting Technician 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. Bureau of Labor Statistics, employment of broadcast and sound engineering technicians is projected to increase 7 percent through the year 2024.

### Career Cluster: Arts, Audio/Visual Technology & Communication

#### Career Pathway: Broadcasting: Radio Broadcasting Technician

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
40.01.00.00.040	Radio Broadcasting 1 *	.50	1.00 credit
40.01.00.00.045	Radio Broadcasting 2 *	.50	
ELECTIVE COURSES			
32.02.00.00.010	Accounting 1	.50	2.00 credits
32.02.00.00.140	Business Management	.50	
35.02.00.00.030	Computer Programming 1	1.00	
35.02.00.00.010	Digital Media 1	1.00	
38.01.00.00.021	Electronics 1 *	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

**Radio Broadcasting Technician is:**  
 > High skill

**Sample Occupations Requiring:**

High School Diploma

> Radio Announcer

Certificate

> 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

Baccalaureate Degree

> Audio-Visual Specialist

> Career and Technical Education Teacher

Graduate or Prof. Degree

> Radio Broadcaster

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

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

According to the Utah Department of Workforce Services, there are 65 radio and television broadcasting firms in Utah. The annual median salary for a broadcast technician is \$35,500.

**CTE Skill Certificates**

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

**UtahFutures: College and Career Planning**

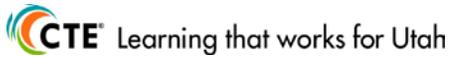
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In 2016-2017, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 86 percent.

# Utah Career and Technical Education Career Pathway

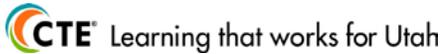
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>SkillsUSA is the CTSSO for students in the Broadcasting Technician Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.</p> <p><b>Workforce Trends</b> As businesses, schools, and radio and television stations demand new equipment, to improve their audio and video capabilities, the demand for broadcast and sound engineering technicians is expected to increase.</p> <p>According to the U.S. Bureau of Labor Statistics, employment of audio and visual technicians is projected to grow 12 percent through the year 2024.</p>	<h3 style="margin: 0;">Career Cluster: Arts, Audio/Visual Technology &amp; Communication</h3> <h3 style="margin: 0;">Career Pathway: Broadcasting: TV Broadcasting Technician</h3> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #009999; color: white;"> <th style="padding: 5px;">CORE CODE</th> <th style="padding: 5px;">FOUNDATION COURSES (required)</th> <th colspan="2" style="padding: 5px;">CREDITS</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">40.01.00.00.005</td> <td style="padding: 5px;">TV Broadcasting 1 *</td> <td style="padding: 5px; text-align: center;">.50</td> <td rowspan="2" style="padding: 5px; text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td style="padding: 5px;">40.01.00.00.010</td> <td style="padding: 5px;">TV Broadcasting 2 *</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr style="background-color: #009999; color: white;"> <th colspan="4" style="padding: 5px;">ELECTIVE COURSES</th> </tr> <tr> <td style="padding: 5px;">40.13.00.00.015</td> <td style="padding: 5px;">Advanced Commercial Photography *</td> <td style="padding: 5px; text-align: center;">.50</td> <td rowspan="7" style="padding: 5px; text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td style="padding: 5px;">40.13.00.00.012</td> <td style="padding: 5px;">Basic Digital Photography *</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">35.02.00.00.030</td> <td style="padding: 5px;">Computer Programming 1</td> <td style="padding: 5px; text-align: center;">1.00</td> </tr> <tr> <td style="padding: 5px;">35.02.00.00.010</td> <td style="padding: 5px;">Digital Media 1</td> <td style="padding: 5px; text-align: center;">1.00</td> </tr> <tr> <td style="padding: 5px;">38.01.00.00.021</td> <td style="padding: 5px;">Electronics 1 *</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">40.01.00.00.030</td> <td style="padding: 5px;">Video Production 1 *</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">41.00.00.00.030</td> <td style="padding: 5px;">Workplace Skills</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="padding: 5px; text-align: center;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">* Course can be taken up to 1.00 credit.</p> <p style="text-align: center; margin-top: 10px;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		40.01.00.00.005	TV Broadcasting 1 *	.50	1.00 credit	40.01.00.00.010	TV Broadcasting 2 *	.50	ELECTIVE COURSES				40.13.00.00.015	Advanced Commercial Photography *	.50	2.00 credits	40.13.00.00.012	Basic Digital Photography *	.50	35.02.00.00.030	Computer Programming 1	1.00	35.02.00.00.010	Digital Media 1	1.00	38.01.00.00.021	Electronics 1 *	.50	40.01.00.00.030	Video Production 1 *	.50	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>				<p><b>Broadcasting Technician is:</b></p> <ul style="list-style-type: none"> <li>&gt; High skill</li> <li>&gt; High wage</li> <li>&gt; High demand</li> </ul> <p><b>Sample Occupations Requiring:</b></p> <p><u>High School Diploma</u> &gt; Advertising Salesperson</p> <p><u>Certificate</u> &gt; Video Editor</p> <p><u>Assoc. or Technical Degree</u> &gt; Audio Video Equipment Technician &gt; Broadcast Technician &gt; Radio, Cellular, and Tower Equipment Installers and Repairers &gt; Sound Engineering Technician</p> <p><u>Baccalaureate Degree</u> &gt; Announcer &gt; Camera Operator &gt; Career and Technical Education Teacher &gt; Film and Video Editor &gt; Producer and Director</p> <p><u>Graduate or Prof. Degree</u> &gt; Television Broadcaster</p>
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<p><b>Student Testimonial</b></p> <p>"I knew a lot about how to film, but I didn't know much about the technical aspects. The CTE classes helped me gain that understanding. Not only did I learn the technical aspects of cameras, as I enjoy cinematography, but I also learned the technical aspects of sound, lighting."</p> <p style="text-align: right; font-size: small;">Morgan Taylor</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0; font-size: small;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <td style="width: 20%; background-color: #009999; color: white; text-align: center; padding: 5px;"><b>12th Grade</b></td> <td style="width: 20%; background-color: #ff9933; color: white; text-align: center; padding: 5px;"><b>1-Year Certificate</b></td> <td style="width: 20%; background-color: #99cc33; color: white; text-align: center; padding: 5px;"><b>2-Year Associate or Technical Degree</b></td> <td style="width: 20%; background-color: #ffcc00; color: white; text-align: center; padding: 5px;"><b>4-Year Bachelor's Degree</b></td> <td style="width: 20%; background-color: #999999; color: white; text-align: center; padding: 5px;"><b>More Graduate or Prof. Degree</b></td> </tr> </table> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; font-size: small;"> <p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p> </div> <div style="width: 45%; font-size: small;"> <p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> </div> </div>	<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>	<p><b>Utah Business and Industry Facts</b></p> <p>According to the Utah Department of Workforce Services, the broadcasting industry in Utah employs 2,091 workers.</p>																																				
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Fashion Design, Manufacturing and Merchandising 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.

### Career Cluster: Arts, Audio/Visual Technology & Communication

#### Career Pathway: Fashion, Apparel & Textiles

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
34.01.00.00.140	Fashion Design Studio	.50	1.50 credits
<b>Choose one of the following courses:</b>			
34.01.00.00.090	Apparel Design and Production 1	.50	
34.01.00.00.060	Sports and Outdoor Product Design 1	.50	
<b>Choose one of the following courses:</b>			
34.01.00.00.092	Apparel Design and Production 2	.50	
34.01.00.00.062	Sports and Outdoor Product Design 2	.50	
ELECTIVE COURSES			
32.02.00.00.010	Accounting 1	.50	1.50 credits
34.01.00.00.145	Fashion Design Merchandising	.50	
34.01.00.00.147	Fashion Design Merchandising, Advanced *	.50	
34.01.00.00.080	Advanced Textile Design *	.50	
32.02.00.00.220	Entrepreneurship	.50	
40.10.00.00.048	Screen Printing Technology	.50	
41.00.00.00.030	Workplace Skills	.50	
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\* Course can be taken up to 1.00 credit.  
 Foundation courses taken beyond the required credits can be used as elective credit.

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

**Fashion Design, Manufacturing & Merchandising is:**  
 > High skill  
 > High wage

**Sample Occupations Requiring:**  
High School Diploma  
 > Merchandise Displayer and Window Trimmer  
 > Retail Buyer  
 > Wholesale Buyer

Certificate  
 > N/A

Assoc. or Technical Degree  
 > Fashion Design and Merchandising

Baccalaureate Degree  
 > Career and Technical Education Teacher  
 > Fashion Designer  
 > Fashion Illustrator  
 > Textile Scientist

Graduate or Prof. Degree  
 > Interior Design Professor  
 > Textile Science Researcher

**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 takes 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."  
 Tylar Hubbard

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

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

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

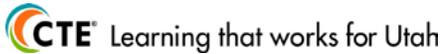
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In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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

# Utah Career and Technical Education Career Pathway

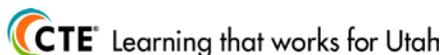
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>SkillsUSA is the CTSO for students in the Commercial Art Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.</p> <p><b>Workforce Trends</b> The expanding electronic media and entertainment industries will offer opportunities for animators, illustrators, and graphic artists.</p> <p>In Utah, the projected annual employment growth rate for graphic designers is 2.9 percent through the year 2024.</p>	<h3 style="margin: 0;">Career Cluster: Arts, Audio/Visual Technology &amp; Communication</h3> <h3 style="margin: 0;">Career Pathway: Graphic Design &amp; Communication: Commercial Art</h3>	<p><b>Commercial Art is:</b></p> <ul style="list-style-type: none"> <li>&gt; High skill</li> <li>&gt; High wage</li> <li>&gt; High demand</li> </ul> <p><b>Sample Occupations Requiring:</b></p> <p><a href="#">High School Diploma</a></p> <ul style="list-style-type: none"> <li>&gt; Fine Artist, including painters, sculptors, and illustrators</li> <li>&gt; Photographer</li> </ul> <p><a href="#">Certificate</a></p> <ul style="list-style-type: none"> <li>&gt; N/A</li> </ul> <p><a href="#">Assoc. or Technical Degree</a></p> <ul style="list-style-type: none"> <li>&gt; N/A</li> </ul> <p><a href="#">Baccalaureate Degree</a></p> <ul style="list-style-type: none"> <li>&gt; Art Director</li> <li>&gt; Career and Technical Education Teacher</li> <li>&gt; Commercial Designer</li> <li>&gt; Fashion Designer</li> <li>&gt; Graphic Designer</li> <li>&gt; Multimedia Animator</li> <li>&gt; Multimedia Artist</li> </ul> <p><a href="#">Graduate or Prof. Degree</a></p> <ul style="list-style-type: none"> <li>&gt; Medical Illustrator</li> <li>&gt; Postsecondary Teacher</li> </ul>																																																											
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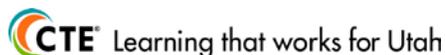
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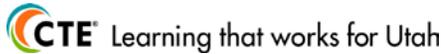
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>Students who participate in the Digital Media Career Pathway choose among the following CTOS, depending upon what is available at their school: FBLA   SkillsUSA   TSA</p> <p><b>Workforce Trends</b> 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 more than 3 billion Internet users worldwide and more than 1 billion websites, the demand for individuals skilled in digital media is high.</p>	<h3 style="margin: 0;">Career Cluster: Arts, Audio/Visual Technology &amp; Communication</h3> <h3 style="margin: 0;">Career Pathway: Graphic Design &amp; Communication: Digital Media</h3> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a6c9; color: white;"> <th style="text-align: left;">CORE CODE</th> <th style="text-align: left;">FOUNDATION COURSES (required)</th> <th style="text-align: left;">CREDITS</th> <th></th> </tr> </thead> <tbody> <tr> <td>35.02.00.00.010</td> <td>Digital Media 1</td> <td>1.00</td> <td rowspan="4" style="text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td colspan="3" style="text-align: center;"><i>Choose 1.00 credit from the following courses:</i></td> </tr> <tr> <td>35.02.00.00.075</td> <td>3D Animation</td> <td>.50</td> </tr> <tr> <td>35.02.00.00.070</td> <td>3D Graphics</td> <td>.50</td> </tr> <tr> <td>35.02.00.00.011</td> <td>Digital Media 2</td> <td>1.00</td> <td></td> </tr> <tr style="background-color: #00a6c9; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>37.01.00.00.001</td> <td>Digital Marketing</td> <td>.50</td> <td rowspan="8" style="text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td>32.02.00.00.220</td> <td>Entrepreneurship</td> <td>.50</td> </tr> <tr> <td>35.02.00.00.045</td> <td>Gaming Development Fundamentals</td> <td>.50</td> </tr> <tr> <td>40.10.00.00.040</td> <td>Graphic Communications, Introduction *</td> <td>.50</td> </tr> <tr> <td>35.02.00.00.005</td> <td>Introduction to Information Technology</td> <td>.50</td> </tr> <tr> <td>35.02.00.00.060</td> <td>Web Development 1</td> <td>.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td>.50</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">* Course can be taken up to 1.00 credit. Foundation courses taken beyond the required credits can be used as elective credit. Visit <a href="http://UtahCTE.org">UtahCTE.org</a> to learn how to earn industry certification in this Career Pathway.</p> <p style="text-align: center; font-weight: bold; margin-top: 5px;">Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		35.02.00.00.010	Digital Media 1	1.00	2.00 credits	<i>Choose 1.00 credit from the following courses:</i>			35.02.00.00.075	3D Animation	.50	35.02.00.00.070	3D Graphics	.50	35.02.00.00.011	Digital Media 2	1.00		ELECTIVE COURSES				37.01.00.00.001	Digital Marketing	.50	1.00 credit	32.02.00.00.220	Entrepreneurship	.50	35.02.00.00.045	Gaming Development Fundamentals	.50	40.10.00.00.040	Graphic Communications, Introduction *	.50	35.02.00.00.005	Introduction to Information Technology	.50	35.02.00.00.060	Web Development 1	.50	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>			<p><b>Digital Media is:</b> &gt; High skill &gt; High wage &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <a href="#">High School Diploma</a> &gt; N/A <a href="#">Certificate</a> &gt; N/A <a href="#">Assoc. or Technical Degree</a> &gt; Web Developer <a href="#">Baccalaureate Degree</a> &gt; Career and Technical Education Teacher &gt; Graphic Designer &gt; Multimedia Artist and Animator &gt; Software Developer &gt; Web Administrator <a href="#">Graduate or Prof. Degree</a> &gt; Software Engineer</p>
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<p><b>Student Testimonial</b> "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</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="background-color: #00a6c9; color: white; text-align: center;">12th Grade</th> <th style="background-color: #f4a460; color: white; text-align: center;">1-Year Certificate</th> <th style="background-color: #90d974; color: white; text-align: center;">2-Year Associate or Technical Degree</th> <th style="background-color: #f1c40f; color: white; text-align: center;">4-Year Bachelor's Degree</th> <th style="background-color: #555; color: white; text-align: center;">More Graduate or Prof. Degree</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.</td> <td colspan="3" style="padding: 5px;">An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.	An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).				<p><b>Utah Business and Industry Facts</b> "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." <i>Silicon Slopes Magazine, Spring 2017</i></p>																																								
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# Utah Career and Technical Education Career Pathway

## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>SkillsUSA is the CTSO for students in the Graphics Printing Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.</p> <p><b>Workforce Trends</b> Working conditions in paper and printing manufacturing plants have become less hazardous as the industry has become more automated. Companies now use fewer chemicals and solutions resulting in fewer equipment related accidents.</p>	<h3 style="margin: 0;">Career Cluster: Arts, Audio/Visual Technology &amp; Communication</h3> <h3 style="margin: 0;">Career Pathway: Graphic Design &amp; Communication: Graphics Printing</h3>	<p><b>Graphics/Printing is:</b> &gt; High skill &gt; High wage</p> <p><b>Sample Occupations Requiring:</b> <a href="#">High School Diploma</a> &gt; Printing Press Operator &gt; Prepress Workers &gt; Production Helpers</p> <p><a href="#">Certificate</a> &gt; N/A</p> <p><a href="#">Assoc. or Technical Degree</a> &gt; N/A</p> <p><a href="#">Baccalaureate Degree</a> &gt; Career and Technical Education Teacher &gt; Graphic Designer</p> <p><a href="#">Graduate or Prof. Degree</a> &gt; N/A</p>																																																
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Consumer Economics Services Career Pathway choose among the following CTOS, depending upon what is available at their school.  
 DECA | FBIA | 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, employment personal financial advisors is projected to increase 4.4 percent annually through the year 2024.

### Career Cluster: Business Management & Administration

#### Career Pathway: Customer Service & Management

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
37.01.00.00.025	Customer Service	.50	1.00 credit
32.02.00.00.200	Economics	.50	
ELECTIVE COURSES			
32.02.00.00.010	Accounting 1	.50	2.00 credits
32.02.00.00.140	Business Management	.50	
32.01.00.00.001	Business Mathematics and Personal Finance	1.00	
32.02.00.00.220	Entrepreneurship	.50	
41.00.00.00.030	Workplace Skills	.50	
		<b>3.00 credits for completion</b>	

\*\* This course satisfies the .50 Financial Literacy requirement.

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

**Consumer Economic Services is:**  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > Claims Correspondence Clerk  
 > Credit Checkers  
 > Customer Services Representative

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

Graduate or Prof. Degree  
 > Economist

**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 Masters of Business Administration (MBA). Taking advantage of the CTE program ultimately helped to pinpoint my career trajectory."  
 Andrew Nadauld

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

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

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

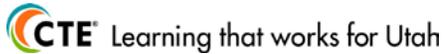
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# Utah Career and Technical Education Career Pathway

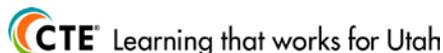
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>FBLA is the CTSO for students in the Entrepreneurship and Management Career Pathway. FBLA provides students with opportunities for leadership, community involvement, and career development.</p> <p><b>Workforce Trends</b> 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 <a href="#">Young Entrepreneur</a> webpage to help teens start, grow, and own a business.</p>	<h3 style="margin: 0;">Career Cluster: Business Management &amp; Administration</h3> <h4 style="margin: 0;">Career Pathway: Entrepreneurship</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="width: 15%;">CORE CODE</th> <th style="width: 55%;">FOUNDATION COURSES (required)</th> <th style="width: 15%;">CREDITS</th> <th style="width: 15%;"></th> </tr> </thead> <tbody> <tr> <td>32.02.00.00.130</td> <td>Business Law</td> <td style="text-align: center;">.50</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">1.50 credits</td> </tr> <tr> <td>32.02.00.00.140</td> <td>Business Management</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.220</td> <td>Entrepreneurship</td> <td style="text-align: center;">.50</td> </tr> <tr style="background-color: #00a651; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>32.02.00.00.010</td> <td>Accounting 1</td> <td style="text-align: center;">.50</td> <td rowspan="15" style="text-align: center; vertical-align: middle;">1.50 credits</td> </tr> <tr> <td>32.02.00.00.110</td> <td>Business Communication 1</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.111</td> <td>Business Communication 2</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.025</td> <td>Customer Service</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.150</td> <td>Digital Business Applications</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.070</td> <td>Exploring Business and Marketing</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.150</td> <td>Leadership Principles 1</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.155</td> <td>Leadership Principles 2</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.165</td> <td>Marketing 1</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.260</td> <td>Sports and Entertainment Marketing</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>35.02.00.00.060</td> <td>Web Development 1</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>35.02.00.00.065</td> <td>Web Development 2</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="text-align: center; background-color: #f2f2f2;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="text-align: center; margin-top: 10px;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		32.02.00.00.130	Business Law	.50	1.50 credits	32.02.00.00.140	Business Management	.50	32.02.00.00.220	Entrepreneurship	.50	ELECTIVE COURSES				32.02.00.00.010	Accounting 1	.50	1.50 credits	32.02.00.00.110	Business Communication 1	.50	32.02.00.00.111	Business Communication 2	.50	37.01.00.00.025	Customer Service	.50	32.02.00.00.150	Digital Business Applications	.50	32.02.00.00.070	Exploring Business and Marketing	.50	37.01.00.00.150	Leadership Principles 1	.50	37.01.00.00.155	Leadership Principles 2	.50	37.01.00.00.165	Marketing 1	.50	37.01.00.00.260	Sports and Entertainment Marketing	.50	35.02.00.00.060	Web Development 1	.50	35.02.00.00.065	Web Development 2	.50	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>				<p><b>Entrepreneurship &amp; Management is:</b> &gt; High skill &gt; High wage &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <a href="#">High School Diploma</a> &gt; Sales Representative <a href="#">Certificate</a> &gt; N/A <a href="#">Assoc. or Technical Degree</a> &gt; Web Developer <a href="#">Baccalaureate Degree</a> &gt; Career and Technical Education Teacher &gt; General Manager &gt; Marketing Manager &gt; Management Analyst &gt; Operations Manager &gt; Sales Manager <a href="#">Graduate or Prof. Degree</a> &gt; Business Administrator</p>
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Business Administrative and Technical Support Career Pathway. FBLA provides students with opportunities for leadership, community involvement, and career development.

**Workforce Trends**  
 According to the U.S. Department of Labor, secretaries and administrative assistants held about 4 million jobs in 2014, working in nearly every industry. This is one of the largest job categories in the U. S.

About 9 out of 10 secretaries work in firms providing services. These services range from education and health care to legal and business services.

### Career Cluster: Business Management & Administration

#### Career Pathway: Office/Administration Support & Technical Support

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
	<i>Choose two of the following courses:</i>		
32.02.00.00.110	Business Communication 1	.50	1.00 credit
32.02.00.00.216	Business Office Specialist	.50	
32.02.00.00.150	Digital Business Applications	.50	
37.01.00.00.001	Digital Marketing	.50	
	ELECTIVE COURSES		
35.01.00.00.040	A+ (Computer Maintenance)	1.00	2.00 credits
32.02.00.00.010	Accounting 1	.50	
32.02.00.00.111	Business Communication 2	.50	
32.02.00.00.140	Business Management	.50	
35.02.00.00.035	Computer Science Principles	.50	
35.02.00.00.010	Digital Media 1	.50	
32.02.00.00.070	Exploring Business and Marketing	.50	
40.10.00.00.040	Graphic Communications, Intro	.50	
35.02.00.00.060	Web Development 1	.50	
35.02.00.00.065	Web Development 2	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

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

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

**Business Administrative & Technical Support is:**

- > High wage
- > High demand

**Sample Occupations Requiring:**

**High School Diploma**

- > Administrative Assistant
- > Customer Service Rep.
- > Executive Administrative Assistant
- > Executive Secretary
- > Legal Secretary
- > Secretary

**Certificate**

- > N/A

**Assoc. or Technical Degree**

- > Desktop Publisher
- > Legal Assistant/Paralegal

**Baccalaureate Degree**

- > Career and Technical Education Teacher
- > General and Operations Manager

**Graduate or Prof. Degree**

- > Business Administrator

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

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

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

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

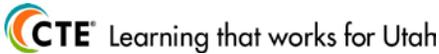
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In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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# Utah Career and Technical Education Career Pathway

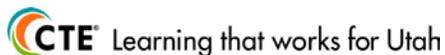
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>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.</p> <p><b>Workforce Trends</b> According to Utah Department of Workforce Services, the annual growth rate for childcare workers is projected to increase 5 percent through the year 2024. Large concentrations of this occupation are found in the following industries: private households, social services, and educational services both public and private.</p>	<h3 style="margin: 0;">Career Cluster: Education &amp; Training</h3> <h4 style="margin: 0;">Career Pathway: Pre-K: Early Childhood Education</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="text-align: left;">CORE CODE</th> <th style="text-align: left;">FOUNDATION COURSES (required)</th> <th style="text-align: center;">CREDITS</th> <th></th> </tr> </thead> <tbody> <tr> <td>34.01.00.00.020</td> <td>Child Development</td> <td style="text-align: center;">.50</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">1.50 credits</td> </tr> <tr> <td>34.01.00.00.040</td> <td>Early Childhood Education 1A</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>34.01.00.00.040</td> <td>Early Childhood Education 1B</td> <td style="text-align: center;">.50</td> </tr> <tr style="background-color: #00a651; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>32.02.00.00.010</td> <td>Accounting 1</td> <td style="text-align: center;">.50</td> <td rowspan="10" style="text-align: center; vertical-align: middle;">1.50 credits</td> </tr> <tr> <td>34.01.00.00.005</td> <td>Adult Roles and Financial Literacy **</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>34.01.00.00.001</td> <td>Adult Roles and Responsibilities</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>34.01.00.00.050</td> <td>Early Childhood Education 2 *</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>34.01.00.00.095</td> <td>Early Childhood Internship</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.220</td> <td>Entrepreneurship</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>34.01.00.00.150</td> <td>Food and Nutrition 1</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>34.01.00.00.185</td> <td>Foundations of Nutrition *</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>34.01.00.00.197</td> <td>Human Development</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="text-align: right; font-weight: bold;">3.00 credits for completion</td> </tr> </tbody> </table> <p style="font-size: small;">* Course can be taken up to 1.00 credit. ** This course satisfies the .50 Financial Literacy requirement.</p> <p style="font-size: small;">Visit <a href="http://UtahCTE.org">UtahCTE.org</a> to learn how to earn industry certification in this Career Pathway.</p> <p style="text-align: center; font-weight: bold; font-size: small;">Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		34.01.00.00.020	Child Development	.50	1.50 credits	34.01.00.00.040	Early Childhood Education 1A	.50	34.01.00.00.040	Early Childhood Education 1B	.50	ELECTIVE COURSES				32.02.00.00.010	Accounting 1	.50	1.50 credits	34.01.00.00.005	Adult Roles and Financial Literacy **	1.00	34.01.00.00.001	Adult Roles and Responsibilities	.50	34.01.00.00.050	Early Childhood Education 2 *	.50	34.01.00.00.095	Early Childhood Internship	.50	32.02.00.00.220	Entrepreneurship	.50	34.01.00.00.150	Food and Nutrition 1	.50	34.01.00.00.185	Foundations of Nutrition *	.50	34.01.00.00.197	Human Development	.50	41.00.00.00.030	Workplace Skills	.50	3.00 credits for completion				<p><b>Pre-K: Early Childhood Education is:</b> &gt; High skill &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; Childcare Aide/Worker <u>Certificate</u> &gt; Teacher Assistant <u>Assoc. or Technical Degree</u> &gt; Education Administrator, Preschool &gt; Preschool Teacher Assistant <u>Baccalaureate Degree</u> &gt; Career and Technical Education Teacher &gt; Elementary Education Teacher &gt; Special Education Teacher &gt; Social Worker <u>Graduate or Prof. Degree</u> &gt; Counseling Psychologist &gt; Guidance Counselor &gt; Speech Therapist</p>
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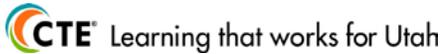
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>Students who participate in the K-12: Teaching as a Profession Career Pathway choose among the following CTSOs, depending upon what is available at their school: DECA   FFA   FBLA   FCCLA   HOSA   SkillsUSA   TSA</p> <p><b>Workforce Trends</b> 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.</p>	<h3 style="margin: 0;">Career Cluster: Education &amp; Training</h3> <h4 style="margin: 0;">Career Pathway: K-12: Teaching as a Profession</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="width: 15%;">CORE CODE</th> <th style="width: 55%;">FOUNDATION COURSES (required)</th> <th style="width: 15%;">CREDITS</th> <th style="width: 15%;"></th> </tr> </thead> <tbody> <tr> <td>39.02.00.00.001</td> <td>Teaching as a Profession 1</td> <td style="text-align: center;">.50</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">1.50 credits</td> </tr> <tr> <td>39.02.00.00.002</td> <td>Teaching as a Profession 2</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>39.02.00.00.003</td> <td>Teaching as a Profession 3</td> <td style="text-align: center;">.50</td> </tr> <tr style="background-color: #00a651; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>34.01.00.00.020</td> <td>Child Development</td> <td style="text-align: center;">.50</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">1.50 credits</td> </tr> <tr> <td>34.01.00.00.197</td> <td>Human Development</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="text-align: center; background-color: #333; color: white; padding: 5px;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="text-align: center; margin-top: 10px;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		39.02.00.00.001	Teaching as a Profession 1	.50	1.50 credits	39.02.00.00.002	Teaching as a Profession 2	.50	39.02.00.00.003	Teaching as a Profession 3	.50	ELECTIVE COURSES				34.01.00.00.020	Child Development	.50	1.50 credits	34.01.00.00.197	Human Development	.50	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>				<p><b>K-12: Teaching as a Profession is:</b> &gt; High skill &gt; High wage &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; Self-Enrichment Education Teacher</p> <p><u>Certificate</u> &gt; Teacher Assistant/Para Professional</p> <p><u>Assoc. or Technical Degree</u> &gt; Preschool Teacher</p> <p><u>Baccalaureate Degree</u> &gt; Career and Technical Education Teacher &gt; Elementary School Teacher &gt; Kindergarten Teacher &gt; Middle School Teacher &gt; Secondary School Teacher &gt; Special Education Teacher</p> <p><u>Graduate or Prof. Degree</u> &gt; Education Administrator &gt; School Counselor</p>
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<p><b>Student Testimonial</b> “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</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0; color: white;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <td style="width: 15%; background-color: #00a651; color: white; text-align: center; padding: 5px;"><b>12th Grade</b></td> <td style="width: 15%; background-color: #f4a460; color: white; text-align: center; padding: 5px;"><b>1-Year Certificate</b></td> <td style="width: 15%; background-color: #76c73b; color: white; text-align: center; padding: 5px;"><b>2-Year Associate or Technical Degree</b></td> <td style="width: 15%; background-color: #f1c232; color: white; text-align: center; padding: 5px;"><b>4-Year Bachelor’s Degree</b></td> <td style="width: 15%; background-color: #555; color: white; text-align: center; padding: 5px;"><b>More Graduate or Prof. Degree</b></td> </tr> </table> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; padding: 5px;"> <p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p> </div> <div style="width: 45%; padding: 5px;"> <p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> </div> </div>	<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor’s Degree</b>	<b>More Graduate or Prof. Degree</b>	<p><b>Utah Business and Industry Facts</b> According to the <a href="#">National Council on Teacher Quality</a> (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.</p>																											
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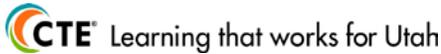
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>TSA is the CTSO for students in the CAD Mechanical Design Career Pathway. TSA fosters personal growth, leadership, and opportunities in science, technology, engineering, and mathematics (STEM).</p> <p><b>Workforce Trends</b> 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.</p>	<h3>Career Cluster: Engineering &amp; Technology</h3> <h3>Career Pathway: CAD Mechanical Design</h3> <table border="1"> <thead> <tr> <th>CORE CODE</th> <th>FOUNDATION COURSES (required)</th> <th>CREDITS</th> <th></th> </tr> </thead> <tbody> <tr> <td>38.01.00.00.051</td> <td>CAD Mechanical Design 1 *</td> <td>.50</td> <td rowspan="3">1.50 credits</td> </tr> <tr> <td>38.01.00.00.052</td> <td>CAD Mechanical Design 2</td> <td>.50</td> </tr> <tr> <td>38.01.00.00.053</td> <td>CAD Mechanical Design 3</td> <td>.50</td> </tr> <tr> <td colspan="4" style="text-align: center;"><i>Or choose the following courses:</i></td> </tr> <tr> <td>38.01.00.00.300</td> <td>PLTW Introduction to Engineering Design</td> <td>1.00</td> <td></td> </tr> <tr> <th colspan="2">ELECTIVE COURSES</th> <th></th> <th></th> </tr> <tr> <td>38.03.00.00.010</td> <td>Engineering Technology</td> <td>.50</td> <td rowspan="4">1.00 credit</td> </tr> <tr> <td>40.13.00.00.030</td> <td>Industrial Design *</td> <td>1.00</td> </tr> <tr> <td>38.01.00.00.211</td> <td>Physics with Technology</td> <td>1.00</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td>.50</td> </tr> <tr> <td colspan="4" style="text-align: center;"><b>2.50 credits for completion</b></td> </tr> </tbody> </table> <p>* Course can be taken up to 1.00 credit. Foundation courses taken beyond the required credits can be used as elective credit.</p> <p style="text-align: center;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>					CORE CODE	FOUNDATION COURSES (required)	CREDITS		38.01.00.00.051	CAD Mechanical Design 1 *	.50	1.50 credits	38.01.00.00.052	CAD Mechanical Design 2	.50	38.01.00.00.053	CAD Mechanical Design 3	.50	<i>Or choose the following courses:</i>				38.01.00.00.300	PLTW Introduction to Engineering Design	1.00		ELECTIVE COURSES				38.03.00.00.010	Engineering Technology	.50	1.00 credit	40.13.00.00.030	Industrial Design *	1.00	38.01.00.00.211	Physics with Technology	1.00	41.00.00.00.030	Workplace Skills	.50	<b>2.50 credits for completion</b>				<p><b>CAD Mechanical Design is:</b> &gt; High skill &gt; High wage</p> <p><b>Sample Occupations Requiring:</b> <a href="#">High School Diploma</a> &gt; N/A</p> <p><b>Certificate</b> &gt; N/A</p> <p><b>Assoc. or Technical Degree</b> &gt; Engineering Technician &gt; Mechanical Drafter &gt; Mechanical Engineering Technician</p> <p><b>Baccalaureate Degree</b> &gt; Aerospace Engineer &gt; Career and Technical Education Teacher &gt; Civil Engineer &gt; Industrial Designer &gt; Mechanical Engineer &gt; Secondary Education Teacher</p> <p><b>Graduate or Prof. Degree</b> &gt; Mechanical Engineer</p>
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<p><b>Student Testimonial</b> “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.”</p> <p style="text-align: right;">Calvin Hill</p>	<h3>HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1"> <thead> <tr> <th style="background-color: #00A0C0; color: white;">12th Grade</th> <th style="background-color: #FF8C00; color: white;">1-Year Certificate</th> <th style="background-color: #76C73A; color: white;">2-Year Associate or Technical Degree</th> <th style="background-color: #FFD700; color: white;">4-Year Bachelor's Degree</th> <th style="background-color: #666666; color: white;">More Graduate or Prof. Degree</th> </tr> </thead> <tbody> <tr> <td colspan="2">Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.</td> <td colspan="3">An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</td> </tr> </tbody> </table>					12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.		An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).			<p><b>Utah Business and Industry Facts</b></p> <p>According to the Utah Department of Workforce Services, 620 mechanical drafters are employed by more than 3,000 businesses throughout the state.</p> <p>The annual median salary for an experienced mechanical drafter is \$51,690.</p>																																	
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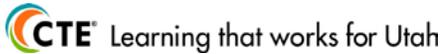
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Engineering Career Pathway. TSA fosters personal growth, leadership, and opportunities in science, technology, engineering, and mathematics (STEM).

**Workforce Trends**  
 Due to the expansion of jobs in the technical fields and the increasing number of engineers who are retiring, the number of job openings in technology and engineering are increasing.  
 According to the U.S. Bureau of Labor Statistics, 13 percent of U.S. engineering jobs are held by women, with one in four jobs in technology, engineering, and mathematics.

### Career Cluster: Engineering & Technology

### Career Pathway: Mechanical Engineering

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
<b>CAD Component</b>			
38.01.00.00.051	CAD Mechanical Design 1 *	.50	1.00 credit
38.01.00.00.052	CAD Mechanical Design 2	.50	
<i>Or choose the following course:</i>			
38.01.00.00.300	PLTW Introduction to Engineering Design	1.00	
<b>Foundation Component</b>			
38.01.00.00.151	Engineering Principles 1	.50	1.00 credit
38.01.00.00.152	Engineering Principles 2	.50	
<i>Or choose the following course:</i>			
38.01.00.00.310	PLTW Principles of Engineering	1.00	
<b>Capstone Component</b>			
38.01.00.00.990	Engineering Capstone	1.00	1.00 credit
<i>Or choose the following course:</i>			
38.01.00.00.390	PLTW Engineering Design and Development	1.00	
<b>ELECTIVE COURSES</b>			
38.03.00.00.010	Engineering Technology	.50	3.00 credits for completion
38.01.00.00.211	Physics with Technology	1.00	
41.00.00.00.030	Workplace Skills	.50	

\* Course can be taken up to 1.00 credit.  
 Foundation courses taken beyond the required credits can be used as elective credit.

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

**Mechanical Engineering is:**  
 > High skill  
 > High wage

**Sample Occupations Requiring:**  
High School Diploma  
 > N/A  
Certificate  
 > N/A  
Assoc. or Technical Degree  
 > Civil Engineer Technician  
 > Engineering Technician  
 > Industrial Engineering Technician  
 > Mechanical Engineering Technician  
Baccalaureate Degree  
 > Aerospace Engineer  
 > Biomedical Engineer  
 > Career and Technical Education Teacher  
 > Civil Engineer  
 > Electrical Engineer  
 > Industrial Engineer  
 > Mechanical Engineer  
Graduate or Prof. Degree  
 > Civil Engineer

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>
Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain. In high school a variety of certificates can be earned.		An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions. In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).		

**Utah Business and Industry Facts**  
 The Engineering Initiative, established by the Utah State Legislature in 2001, aimed to triple engineering and computer science graduates. Since 2015, Utah state schools graduated 907 engineering and computer science students per year, 657 more than promised.  
 According to Richard Brown, Dean of Engineering at the University of Utah, Utah's gross domestic product has more than doubled since the Engineering Initiative started.

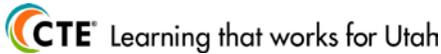
**CTE Skill Certificates**  
 Competency-based student assessments, measured by core standards and competencies needed to be successful in the workforce.  
 In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

**UtahFutures: College and Career Planning**  
 Visit [UtahFutures.org](http://UtahFutures.org) for salary projections, labor market demand, and training options.

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

# Utah Career and Technical Education Career Pathway

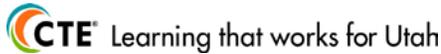
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>TSA is the CTSSO for students in the Robotics Career Pathway. TSA fosters personal growth, leadership, and opportunities in science, technology, engineering, and mathematics (STEM).</p> <p><b>Workforce Trends</b> Most robotics engineers are employed by private companies and work in laboratory or production settings.</p>	<h3 style="margin: 0;">Career Cluster: Engineering &amp; Technology</h3> <h3 style="margin: 0;">Career Pathway: Robotics &amp; Electronics</h3> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="text-align: left;">CORE CODE</th> <th style="text-align: left;">FOUNDATION COURSES (required)</th> <th style="text-align: center;">CREDITS</th> <th></th> </tr> </thead> <tbody> <tr> <td>38.01.00.00.031</td> <td>Robotics 1</td> <td style="text-align: center;">.50</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td>38.01.00.00.032</td> <td>Robotics 2</td> <td style="text-align: center;">.50</td> </tr> <tr style="background-color: #00a651; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>35.02.00.00.030</td> <td>Computer Programming 1</td> <td style="text-align: center;">1.00</td> <td rowspan="6" style="text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td>38.01.00.00.021</td> <td>Electronics 1 *</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>38.01.00.00.010</td> <td>Engineering Technology</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>40.09.00.00.070</td> <td>Industrial Maintenance Technician</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>38.01.00.00.211</td> <td>Physics with Technology</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="text-align: center; font-weight: bold;">2.00 credits for completion</td> </tr> </tbody> </table> <p style="text-align: center; font-weight: bold; margin-top: 10px;">Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		38.01.00.00.031	Robotics 1	.50	1.00 credit	38.01.00.00.032	Robotics 2	.50	ELECTIVE COURSES				35.02.00.00.030	Computer Programming 1	1.00	1.00 credit	38.01.00.00.021	Electronics 1 *	.50	38.01.00.00.010	Engineering Technology	.50	40.09.00.00.070	Industrial Maintenance Technician	1.00	38.01.00.00.211	Physics with Technology	.50	41.00.00.00.030	Workplace Skills	.50	2.00 credits for completion				<p><b>Robotics is:</b> &gt; High skill &gt; High wage</p> <p><b>Sample Occupations Requiring:</b> <a href="#">High School Diploma</a> &gt; N/A <a href="#">Certificate</a> &gt; N/A <a href="#">Assoc. or Technical Degree</a> &gt; Electro-Mechanical Technicians <a href="#">Baccalaureate Degree</a> &gt; Automation Engineer &gt; Career and Technical Education Teacher &gt; Engineer &gt; Industrial Engineer &gt; Robotics Engineer <a href="#">Graduate or Prof. Degree</a> &gt; Engineer</p>
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<p><b>Student Testimonial</b> "I want to earn an AAS degree in mechatronics. After completing my degree I plan on finding work with a company designing production equipment. My high school engineering instructor was an amazing person and has influenced my love of this field and the path that I have chosen."  Connor Hendry</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="background-color: #00a651; color: white; text-align: center;">12th Grade</th> <th style="background-color: #ff9900; color: white; text-align: center;">1-Year Certificate</th> <th style="background-color: #99cc33; color: white; text-align: center;">2-Year Associate or Technical Degree</th> <th style="background-color: #ffcc00; color: white; text-align: center;">4-Year Bachelor's Degree</th> <th style="background-color: #999999; color: white; text-align: center;">More Graduate or Prof. Degree</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> <p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p> </td> <td style="padding: 5px;"> <p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> </td> <td colspan="3"></td> </tr> </tbody> </table>	12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	<p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p>	<p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p>				<p><b>Utah Business and Industry Facts</b> From "smart" shoes to flying robots to self-driving cars, throughout Utah there are hundreds of companies that use robotics to streamline the manufacturing process, produce goods, and make daily tasks easier.  "We have this idea that robots will help us in the future," said Mark Minor, associate professor, University of Utah. "Well, the future is here. You just have to understand what they're doing." <i>(Deseret News, March 9, 2015)</i></p>																												
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# Utah Career and Technical Education Career Pathway

## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>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.</p> <p><b>Workforce Trends</b> 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.</p> <p>In Utah, the average annual employment growth rate for personal financial advisors is 5.2 percent through the year 2024.</p>	<h3 style="margin: 0;">Career Cluster: Finance</h3> <h4 style="margin: 0;">Career Pathway: Accounting &amp; Financial Operations</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="width: 15%;">CORE CODE</th> <th style="width: 45%;">FOUNDATION COURSES (required)</th> <th style="width: 15%;">CREDITS</th> <th style="width: 25%;"></th> </tr> </thead> <tbody> <tr> <td>32.02.00.00.010</td> <td>Accounting 1</td> <td style="text-align: center;">.50</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td>32.02.00.00.020</td> <td>Accounting 2</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.030</td> <td>Advanced Accounting</td> <td style="text-align: center;">1.00</td> </tr> <tr style="background-color: #00a651; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>32.02.00.00.110</td> <td>Business Communication 1</td> <td style="text-align: center;">.50</td> <td rowspan="10" style="text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td>32.02.00.00.111</td> <td>Business Communication 2</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.130</td> <td>Business Law</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.140</td> <td>Business Management</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.01.00.00.001</td> <td>Business Mathematics and Personal Finance</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>32.02.00.00.216</td> <td>Business Office Specialist</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.200</td> <td>Economics</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.070</td> <td>Exploring Business and Marketing</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.220</td> <td>Real Estate</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.240</td> <td>Retailing</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="text-align: center; font-weight: bold;">3.00 credits for completion</td> </tr> </tbody> </table> <p style="text-align: center; font-weight: bold; margin-top: 10px;">Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		32.02.00.00.010	Accounting 1	.50	1.00 credit	32.02.00.00.020	Accounting 2	.50	32.02.00.00.030	Advanced Accounting	1.00	ELECTIVE COURSES				32.02.00.00.110	Business Communication 1	.50	2.00 credits	32.02.00.00.111	Business Communication 2	.50	32.02.00.00.130	Business Law	.50	32.02.00.00.140	Business Management	.50	32.01.00.00.001	Business Mathematics and Personal Finance	1.00	32.02.00.00.216	Business Office Specialist	.50	32.02.00.00.200	Economics	.50	32.02.00.00.070	Exploring Business and Marketing	.50	37.01.00.00.220	Real Estate	.50	37.01.00.00.240	Retailing	.50	41.00.00.00.030	Workplace Skills	.50	3.00 credits for completion				<p><b>Accounting &amp; Finance is:</b> &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; Accounting and Audit Clerk &gt; Bookkeeper &gt; Tax Preparer</p> <p><u>Certificate</u> &gt; N/A</p> <p><u>Assoc. or Technical Degree</u> &gt; N/A</p> <p><u>Baccalaureate Degree</u> &gt; Accountant &gt; Auditor &gt; Career and Technical Education Teacher &gt; Financial Manager &gt; Loan Officer &gt; Tax Examiner</p> <p><u>Graduate or Prof. Degree</u> &gt; Certified Public Accountant</p>
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<p><b>Student Testimonial</b></p> <p>“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.”</p> <p style="text-align: right; font-weight: bold;">Brayden Austin</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width: 15%; background-color: #00a651; color: white;">12th Grade</th> <th style="width: 15%; background-color: #ff7f0e;">1-Year Certificate</th> <th style="width: 15%; background-color: #2ca02c;">2-Year Associate or Technical Degree</th> <th style="width: 15%; background-color: #ffc107;">4-Year Bachelor's Degree</th> <th style="width: 15%; background-color: #555555; color: white;">More Graduate or Prof. Degree</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> <p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p> </td> <td colspan="4" style="padding: 5px;"> <p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> </td> </tr> </tbody> </table>	12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	<p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p>	<p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p>				<p><b>Utah Business and Industry Facts</b></p> <p>In Utah, a Certified Public Accountant (CPA) must have a master's degree in accounting and be licensed. The license must be renewed every two years.</p> <p>According to the Utah Department of Workforce Services, the median hourly wage for an experienced auditor and an accountant is \$30.22.</p>																																														
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# Utah Career and Technical Education Career Pathway

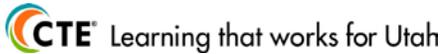
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>HOSA is the CTSSO for students in the Biotechnology 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.</p> <p><b>Workforce Trends</b> Biotechnology is a dynamic career field that is expanding by leaps and bounds. "Biotechnology has become the centerpiece of therapy of all ailments, from heart disease and cancers to the common cold," says Carl B. Feldbaum, former president of the Biotechnology Industry Organization (BIO).</p>	<h3 style="margin: 0;">Career Cluster: Health Science</h3> <h3 style="margin: 0;">Career Pathway: Clinical Laboratory Science: Biotechnology</h3> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #008080; color: white;"> <th style="text-align: left;">CORE CODE</th> <th style="text-align: left;">FOUNDATION COURSES (required)</th> <th colspan="2" style="text-align: left;">CREDITS</th> </tr> </thead> <tbody> <tr> <td>36.01.00.00.080</td> <td>Biotechnology</td> <td style="text-align: center;">1.00</td> <td style="text-align: center;">1.00 credit</td> </tr> <tr style="background-color: #008080; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>36.01.00.00.090</td> <td>Health Science, Introduction</td> <td style="text-align: center;">.50</td> <td rowspan="6" style="text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td>36.01.00.00.001</td> <td>Health Science, Advanced (capstone course) *</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>36.01.00.00.110</td> <td>Medical Anatomy and Physiology</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>36.01.00.00.150</td> <td>Medical Math</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>36.01.00.00.175</td> <td>Medical Terminology</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="text-align: center; background-color: #e0e0e0;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="font-size: small;">* Course can be taken up to 1.00 credit.</p> <p style="text-align: center; font-weight: bold; margin-top: 10px;">Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		36.01.00.00.080	Biotechnology	1.00	1.00 credit	ELECTIVE COURSES				36.01.00.00.090	Health Science, Introduction	.50	2.00 credits	36.01.00.00.001	Health Science, Advanced (capstone course) *	.50	36.01.00.00.110	Medical Anatomy and Physiology	1.00	36.01.00.00.150	Medical Math	.50	36.01.00.00.175	Medical Terminology	.50	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>				<p><b>Biotechnology is:</b> &gt; High skill &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; N/A</p> <p><u>Certificate</u> &gt; Clinical Laboratory Technician &gt; Medical Laboratory Technician</p> <p><u>Assoc. or Technical Degree</u> &gt; Clinical Laboratory Technologist &gt; Medical Laboratory Technologist</p> <p><u>Baccalaureate Degree</u> &gt; Biological Scientist &gt; Biotechnology Technician &gt; Career and Technical Education Teacher &gt; Chemist &gt; Microbiologist &gt; Sales Representative, Technical/Scientific Products</p> <p><u>Graduate or Prof. Degree</u> &gt; Biochemist &gt; Biophysicist &gt; Medical Scientist</p>
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<p><b>Student Testimonial</b> "Throughout the past four years of high school, I have been given the opportunity to take many Health Science [Education] CTE courses. Because of these classes, I have developed a love for the medical field. These courses impacted my education and career goals tremendously."  Markelle Bradshaw</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="background-color: #008080; color: white; text-align: center;">12th Grade</th> <th style="background-color: #ff8c00; color: white; text-align: center;">1-Year Certificate</th> <th style="background-color: #90ee90; text-align: center;">2-Year Associate or Technical Degree</th> <th style="background-color: #ffd700; text-align: center;">4-Year Bachelor's Degree</th> <th style="background-color: #808080; color: white; text-align: center;">More Graduate or Prof. Degree</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.</td> <td colspan="4" style="padding: 5px;">An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</td> </tr> </tbody> </table>	12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.	An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).				<p><b>Utah Business and Industry Facts</b> 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])</p>																									
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# Utah Career and Technical Education Career Pathway

## 2018-2019 School Year



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<p><b>Student Testimonial</b> "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 bio-technology 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</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="background-color: #008080; color: white; text-align: center;">12th Grade</th> <th style="background-color: #ff8c00; color: white; text-align: center;">1-Year Certificate</th> <th style="background-color: #90ee90; color: white; text-align: center;">2-Year Associate or Technical Degree</th> <th style="background-color: #ffd700; color: white; text-align: center;">4-Year Bachelor's Degree</th> <th style="background-color: #808080; color: white; text-align: center;">More Graduate or Prof. Degree</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</td> <td style="padding: 5px;">In high school a variety of certificates can be earned.</td> <td colspan="3" style="padding: 5px;">An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</td> </tr> <tr> <td colspan="2" style="padding: 5px;"></td> <td colspan="3" style="padding: 5px;">In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</td> </tr> </tbody> </table>	12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.	In high school a variety of certificates can be earned.	An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.					In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).			<p><b>Utah Business and Industry Facts</b> According to the Utah Department of Workforce Services, medical and clinical laboratory technicians are employed in 5,268 local, state, and federal businesses throughout the state, including 1,866 physicians' offices industry.</p>																				
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Emergency Medical Technician 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**  
 A growing and urbanized population will demand more emergency services, increasing the demand for professional emergency medical technicians (EMT) and paramedics.

### Career Cluster: Health Science

#### Career Pathway: Emergency Medical Services

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
36.01.00.00.030	Emergency Medical Technician	2.00	2.00 credits
ELECTIVE COURSES			
36.01.00.00.070	Emergency Medical Responder	.50	1.00 credit
36.01.00.00.090	Health Science, Introduction	.50	
36.01.00.00.001	Health Science, Advanced (capstone course) *	.50	
36.01.00.00.110	Medical Anatomy and Physiology	1.00	
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36.01.00.00.175	Medical Terminology	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

**Emergency Medical Technician is:**  
 > High skill  
 > High demand

**Sample Occupations Requiring:**  
[High School Diploma](#)  
 > N/A  
[Certificate](#)  
 > Emergency Medical Technician  
 > Paramedic  
[Assoc. or Technical Degree](#)  
 > N/A  
[Baccalaureate Degree](#)  
 > Career and Technical Education Teacher  
[Graduate or Prof. Degree](#)  
 > N/A

**Student Testimonial**  
 "By taking the CNA and EMT courses in high school I'm better prepared to enter the workforce. These courses allowed me to gain hands-on learning and on-the-job training through CTE Internships, and receive instruction from actual teachers who work in the field."  
 Taylor Brown

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree
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**Utah Business and Industry Facts**  
 According to the Utah Department of Workforce Services, 2,390 individuals are employed as emergency medical technicians throughout Utah.

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

**UtahFutures: College and Career Planning**  
 Visit [UtahFutures.org](http://UtahFutures.org) for salary projections, labor market demand, and training options.

In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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

# Utah Career and Technical Education Career Pathway

## 2018-2019 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 CTSSO for students in the Nursing 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.  
 In Utah, employment for nurse practitioners is projected to increase 4.6 percent annually through the year 2024.

### Career Cluster: Health Science

#### Career Pathway: Nursing Services

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
36.01.00.00.190	Nurse Assistant (CNA)*	.50	.50 credit
ELECTIVE COURSES			
36.01.00.00.070	Emergency Medical Responder	.50	2.50 credits
34.01.00.00.150	Food and Nutrition 1	.50	
34.01.00.00.160	Food and Nutrition 2	.50	
34.01.00.00.185	Foundations of Nutrition *	.50	
36.01.00.00.090	Health Science, Introduction	.50	
36.01.00.00.001	Health Science, Advanced (capstone course) *	.50	
34.01.00.00.197	Human Development	1.00	
36.01.00.00.110	Medical Anatomy and Physiology	1.00	
36.01.00.00.150	Medical Math	.50	
36.01.00.00.175	Medical Terminology	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

**Nursing is:**  
 > High skill  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > N/A  
Certificate  
 > Certified Nurse Assistant (CNA)  
 > Licensed Practical Nurse (LPN)  
 > Medical Assistant  
Assoc. or Technical Degree  
 > Advanced Practice Nurse (APN)  
 > Registered Nurse (RN)  
Baccalaureate Degree  
 > Career and Technical Education Teacher  
Graduate or Prof. Degree  
 > Nurse Anesthetist  
 > Nurse Midwife  
 > Nurse Practitioner

**Student Testimonial**  
 "In the CNA class I learned many skills. Most importantly I learned how to interact with people from all walks of life and care for them in the ways I would want my loved ones to be cared for.  
 "It's a requirement for many RN programs to have your CNA before applying to nursing school. I'm glad that CTE gave me the chance to complete that requirement in high school."  
 Marie-Chantal Niwenshuti

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree
Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain. In high school a variety of certificates can be earned.		An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions. In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).		

**Utah Business and Industry Facts**  
 According to the Utah Department of Workforce Services, 20,481 individuals are employed as registered nurses throughout Utah.  
 Nurses are employed in hospitals, outpatient care centers, physician offices.  
 In Utah, a nurse anesthetist (CRNA), a licensed practical nurse (LPN), and a registered nurse (RN) must be licensed.

**CTE Skill Certificates**

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

**UtahFutures: College and Career Planning**

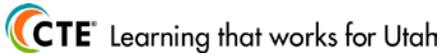
Visit [UtahFutures.org](http://UtahFutures.org) for salary projections, labor market demand, and training options.

In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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

# Utah Career and Technical Education Career Pathway

## 2018-2019 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 CTSSO for students in the Dental 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**  
 The dental industry is in critical need of dental assistants. Dentists are hiring more assistants to perform routine tasks so that they may devote more time to complex procedures. In Utah, employment for dental assistants is projected to increase 3.0 percent through the year 2024.

### Career Cluster: Health Science

#### Career Pathway: Therapeutic Clinical Services: Dental Assistant

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
36.01.00.00.020	Dental Assistant	2.00	2.00 credits
ELECTIVE COURSES			
34.01.00.00.150	Food and Nutrition 1	.50	1.00 credit
34.01.00.00.160	Food and Nutrition 2	.50	
34.01.00.00.185	Foundations of Nutrition *	.50	
36.01.00.00.090	Health Science, Introduction	.50	
36.01.00.00.001	Health Science, Advanced (capstone course) *	.50	
36.01.00.00.110	Medical Anatomy and Physiology	1.00	
36.01.00.00.150	Medical Math	.50	
36.01.00.00.175	Medical Terminology	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

**Dental is:**  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > Dental Laboratory Technician  
Certificate  
 > Dental Assistant  
Assoc. or Technical Degree  
 > Dental Hygienist  
 > Medical Equipment Repairer  
Baccalaureate Degree  
 > Career and Technical Education Teacher  
 > Health Services Administrators  
 > Public Health Educators  
Graduate or Prof. Degree  
 > Dentist  
 > Orthodontist

**Student Testimonial**  
 "The high school dental assisting program has helped me beyond measure. I always knew I wanted to be in the dental field and this [CTE Pathway] gave me the assurance I needed. The opportunity I had to gain this knowledge of my passion for the dental field, as a junior in high school, has greatly [impacted] my future."  
 Sydnee Dayley

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree
	Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.	An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).		

**Utah Business and Industry Facts**  
 The University of Utah School of Dentistry provides dental-related clinical, research, and healthcare training.  
 According to the Utah Department of Workforce Services, more than 4,500 dental assistants are employed in 1,697 dental offices throughout the state.  
 In Utah, dental professionals must be licensed.

**CTE Skill Certificates**

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

**UtahFutures: College and Career Planning**

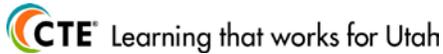
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In 2016-2017, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared to Utah's statewide graduation rate of 86 percent.

# Utah Career and Technical Education Career Pathway

## 2018-2019 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 CTSSO for students in the Therapeutic Rehabilitation/Exercise 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**  
 Job growth will be concentrated in healthcare industry settings, such as ambulatory healthcare services and hospitals. 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.

### Career Cluster: Health Science

#### Career Pathway: Therapeutic Clinical Services: Exercise Science/Sports Medicine

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
36.01.00.00.040	Exercise Science/Sports Medicine	1.00	1.00 credit
ELECTIVE COURSES			
36.01.00.00.070	Emergency Medical Responder	.50	2.00 credits
36.01.00.00.090	Health Science, Introduction	.50	
36.01.00.00.001	Health Science, Advanced (capstone course) *	.50	
36.01.00.00.110	Medical Anatomy and Physiology	1.00	
36.01.00.00.150	Medical Math	.50	
36.01.00.00.175	Medical Terminology	.50	
36.01.00.00.195	Physical Therapy, Introduction	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

**Therapeutic Rehabilitation/Exercise is:**

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

**Sample Occupations Requiring:**

**High School Diploma**

- > Occupational Therapy Aide
- > Physical Therapist Aide

**Certificate**

- > Message Therapist

**Assoc. or Technical Degree**

- > Occupational Therapy Assistant
- > Physical Therapist Assistant

**Baccalaureate Degree**

- > Athletic Trainer
- > Career and Technical Education Teacher

**Graduate or Prof. Degree**

- > Chiropractor
- > Occupational Therapist
- > Physical Therapist

**Student Testimonial**

“My occupational goal is to become a physical therapist. The CTE courses that I have taken have not only helped me to gain experience, but they have also helped me to figure out what I would like to study when I reach college.”

Tiffany Thacker

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

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

Utah consistently ranks among the healthiest states in the nation. (United Health Foundation)

According to the Utah Department of Workforce Services, the average annual salary for an experienced physical therapist assistant is \$52,620.

**CTE Skill Certificates**

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

**UtahFutures: College and Career Planning**

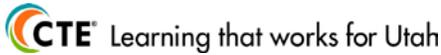
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# Utah Career and Technical Education Career Pathway

## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>HOSA is the CTSO for students in the Medical Assistant 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.</p> <p><b>Workforce Trends</b> A growing and aging population and technological advances in medicine make this one of the fastest growing occupations nationwide, having a projected job growth of 23 percent through the year 2024.</p>	<h3 style="margin: 0;">Career Cluster: Health Science</h3> <h4 style="margin: 0;">Career Pathway: Therapeutic Clinical Services: Medical Assistant</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="padding: 5px;">CORE CODE</th> <th style="padding: 5px;">FOUNDATION COURSES (required)</th> <th colspan="2" style="padding: 5px;">CREDITS</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">36.01.00.00.120</td> <td style="padding: 5px;">Medical Assistant</td> <td style="padding: 5px; text-align: center;">2.00</td> <td style="padding: 5px; text-align: center;">2.00 credits</td> </tr> <tr style="background-color: #00a651; color: white;"> <th colspan="4" style="padding: 5px;">ELECTIVE COURSES</th> </tr> <tr> <td style="padding: 5px;">36.01.00.00.070</td> <td style="padding: 5px;">Emergency Medical Responder</td> <td style="padding: 5px; text-align: center;">.50</td> <td rowspan="7" style="padding: 5px; text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td style="padding: 5px;">36.01.00.00.090</td> <td style="padding: 5px;">Health Science, Introduction</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">36.01.00.00.001</td> <td style="padding: 5px;">Health Science, Advanced (capstone course) *</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">36.01.00.00.110</td> <td style="padding: 5px;">Medical Anatomy and Physiology</td> <td style="padding: 5px; text-align: center;">1.00</td> </tr> <tr> <td style="padding: 5px;">36.01.00.00.150</td> <td style="padding: 5px;">Medical Math</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">36.01.00.00.175</td> <td style="padding: 5px;">Medical Terminology</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">41.00.00.00.030</td> <td style="padding: 5px;">Workplace Skills</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="padding: 5px; text-align: center;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="font-size: small; margin: 5px 0;">* Course can be taken up to 1.00 credit.</p> <p style="text-align: center; margin: 10px 0;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		36.01.00.00.120	Medical Assistant	2.00	2.00 credits	ELECTIVE COURSES				36.01.00.00.070	Emergency Medical Responder	.50	1.00 credit	36.01.00.00.090	Health Science, Introduction	.50	36.01.00.00.001	Health Science, Advanced (capstone course) *	.50	36.01.00.00.110	Medical Anatomy and Physiology	1.00	36.01.00.00.150	Medical Math	.50	36.01.00.00.175	Medical Terminology	.50	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>				<p><b>Medical Assistant is:</b> &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; Medical Secretary</p> <p><u>Certificate</u> &gt; Certified Nurse Assistant (CNA) &gt; Licensed Practical Nurse (LPN) &gt; Medical Assistant &gt; Medical Sonographer &gt; Medical Transcriptionist</p> <p><u>Assoc. or Technical Degree</u> &gt; Registered Nurse (RN)</p> <p><u>Baccalaureate Degree</u> &gt; Career and Technical Education Teacher &gt; Medical and Health Service Manager</p> <p><u>Graduate or Prof. Degree</u> &gt; Nurse Practitioner</p>
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<p><b>Student Testimonial</b> "The CTE [medical assistant] course helped me get a head start in the medical field. It also helped me determine whether or not I actually loved it or not. I plan to work at a doctor's office as a medical assistant while I attend college to further my education."  Bronda Riguerod</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <td style="width: 20%; background-color: #00a651; color: white; text-align: center; padding: 10px;"><b>12th Grade</b></td> <td style="width: 20%; background-color: #ff9900; color: white; text-align: center; padding: 10px;"><b>1-Year Certificate</b></td> <td style="width: 20%; background-color: #92d050; color: white; text-align: center; padding: 10px;"><b>2-Year Associate or Technical Degree</b></td> <td style="width: 20%; background-color: #ffcc00; color: white; text-align: center; padding: 10px;"><b>4-Year Bachelor's Degree</b></td> <td style="width: 20%; background-color: #808080; color: white; text-align: center; padding: 10px;"><b>More Graduate or Prof. Degree</b></td> </tr> </table> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; padding: 5px;"> <p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p> </div> <div style="width: 45%; padding: 5px;"> <p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> </div> </div>	<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>	<p><b>Utah Business and Industry Facts</b></p> <p>According to the Utah Department of Workforce Services, 7,313 individuals are employed as medical assistants throughout Utah.</p> <p>The median salary for a medical assistant is \$25,870.</p> <p>In Utah, a medical assistant working as a radiology assistant must be licensed. A licensed practical nurse (LPN), and a registered nurse (RN) must also be licensed.</p>																																	
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 CTSSO for students in the Pharmacy 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 U.S. Bureau of Labor Statistics, employment of pharmacists is projected to grow 3 percent through the year 2024. As more people have access to insurance coverage, more pharmacist will be needed to fill their prescriptions and to consult with patients about their medications.

### Career Cluster: Health Science

#### Career Pathway: Therapeutic Clinical Services: Pharmacy Technician

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
36.01.00.00.210	Pharmacy Technician	2.00	2.00 credits
ELECTIVE COURSES			
36.01.00.00.090	Health Science, Introduction	.50	1.00 credit
36.01.00.00.001	Health Science, Advanced (capstone course) *	.50	
36.01.00.00.110	Medical Anatomy and Physiology	1.00	
36.01.00.00.150	Medical Math	.50	
36.01.00.00.175	Medical Terminology	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

**Pharmacy is:**  
 > High skill  
 > High demand

**Sample Occupations Requiring:**  
[High School Diploma](#)  
 > Pharmacy Aide  
 > Pharmacy Technician

**Certificate**  
 > N/A

**Assoc. or Technical Degree**  
 > N/A

**Baccalaureate Degree**  
 > Career and Technical Education Teacher

**Graduate or Prof. Degree**  
 > Pharmacist

**Student Testimonial**  
 "I loved the opportunity to participate in CTE courses. These classes have given me the opportunity to plan and prepare. They have helped prepare me for life after high school by giving me the opportunity to experience a variety of life skills. Upon completion of high school, I plan on completing the 600 hour pharmacy technician course offered through Uintah Basin ATC."  
 Madison Lamb

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree
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**Utah Business and Industry Facts**  
 Within the healthcare industry, Utah is highly specialized in drug and pharmaceuticals. Leading biotechnology and pharmaceutical research companies based in Utah include ARUP Laboratories, Myriad Genetics Laboratories, Inc., and USANA Health Sciences, Inc.  
 In Utah, a pharmacist and pharmacy technician must be licensed.

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

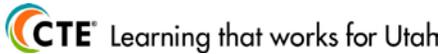
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**UtahFutures: College and Career Planning**  
 Visit [UtahFutures.org](http://UtahFutures.org) for salary projections, labor market demand, and training options.

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

# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Services and 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**  
 Nationwide, job openings for chefs, cooks, and food preparation workers are expected to be plentiful through the year 2024; however, competition should be fierce for jobs in the top kitchens of higher-end restaurants.

### Career Cluster: Hospitality & Tourism

#### Career Pathway: Culinary Arts

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
	<b>Choose one of the following courses:</b>		
34.01.00.00.170	Culinary Arts	1.00	1.00 credit
34.01.00.00.255	ProStart 1	1.00	
ELECTIVE COURSES			
34.01.00.00.172	Culinary Management	1.00	2.00 credits
34.01.00.00.150	Food and Nutrition 1	.50	
34.01.00.00.160	Food and Nutrition 2	.50	
34.01.00.00.185	Foundations of Nutrition *	.50	
34.01.00.00.257	ProStart 2	1.00	
37.01.00.00.100	Hospitality and Tourism	.50	
32.02.00.00.220	Entrepreneurship	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.  
 Foundation courses taken beyond the required credits can be used as elective credit.  
 Visit [UtahCTE.org](http://UtahCTE.org) to learn how to earn industry certification in this Career Pathway.

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

**Food Services & Culinary Arts is:**  
 > High skill  
 > High wage  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > Chef and Head Cook  
 > First-Line Supervisor of Food Preparation and Serving Workers

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

Graduate or Prof. Degree  
 > Food Service Manager

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree
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**Utah Business and Industry Facts**  
 According to the 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 2016, sales in Utah restaurants totaled \$4.4 billion. Restaurant jobs represent 9 percent of employment in Utah.

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

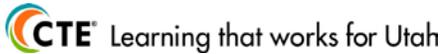
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# Utah Career and Technical Education Career Pathway

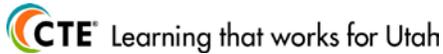
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>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.</p> <p><b>Workforce Trends</b> 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.</p>	<h3 style="margin: 0;">Career Cluster: Hospitality &amp; Tourism</h3> <h3 style="margin: 0;">Career Pathway: Hospitality &amp; Tourism</h3> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="width: 15%;">CORE CODE</th> <th style="width: 55%;">FOUNDATION COURSES (required)</th> <th style="width: 15%;">CREDITS</th> <th style="width: 15%;"></th> </tr> </thead> <tbody> <tr> <td>37.01.00.00.165</td> <td>Marketing 1</td> <td style="text-align: center;">.50</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td>37.01.00.00.100</td> <td>Hospitality and Tourism</td> <td style="text-align: center;">.50</td> </tr> <tr style="background-color: #00a651; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>32.02.00.00.010</td> <td>Accounting 1</td> <td style="text-align: center;">.50</td> <td rowspan="10" style="text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td>32.02.00.00.110</td> <td>Business Communication 1</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.140</td> <td>Business Management</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>34.01.00.00.172</td> <td>Culinary Management</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>37.01.00.00.025</td> <td>Customer Service</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.220</td> <td>Entrepreneurship</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.151</td> <td>Event Planning and Management</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.205</td> <td>Lodging and Recreation</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>34.01.00.00.257</td> <td>ProStart 2</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>37.01.00.00.240</td> <td>Retailing</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center; background-color: #333; color: white; padding: 5px;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="text-align: center; margin-top: 10px;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		37.01.00.00.165	Marketing 1	.50	1.00 credit	37.01.00.00.100	Hospitality and Tourism	.50	ELECTIVE COURSES				32.02.00.00.010	Accounting 1	.50	2.00 credits	32.02.00.00.110	Business Communication 1	.50	32.02.00.00.140	Business Management	.50	34.01.00.00.172	Culinary Management	1.00	37.01.00.00.025	Customer Service	.50	32.02.00.00.220	Entrepreneurship	.50	37.01.00.00.151	Event Planning and Management	.50	37.01.00.00.205	Lodging and Recreation	.50	34.01.00.00.257	ProStart 2	1.00	37.01.00.00.240	Retailing	.50	41.00.00.00.030	Workplace Skills	.50		<b>3.00 credits for completion</b>				<p><b>Hospitality &amp; Tourism is:</b> &gt; High wage &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; Chef and Head Cook &gt; Concierge &gt; First-Line Supervisor of Housekeeping and Janitorial Workers &gt; Hotel, Motel, and Resort Desk Clerk &gt; Lodging Manager &gt; Tour Guide and Travel Guide</p> <p><u>Certificate</u> &gt; N/A</p> <p><u>Assoc. or Technical Degree</u> &gt; N/A</p> <p><u>Baccalaureate Degree</u> &gt; Career and Technical Education Teacher &gt; Marketing Manager &gt; Meeting, Convention, and Event Planner &gt; Sales Manager</p> <p><u>Graduate or Prof. Degree</u> &gt; Marketing Director</p>
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# Utah Career and Technical Education Career Pathway

## 2018-2019 School Year



**CTSO Information**  
 Career and Technical Student Organizations (CTSO) align with the national career clusters and all Utah CTE Career Pathways.

FCCLA is the CTSO for students in the Community, Family and Social Services CTE 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 social workers is projected to increase 12 percent through the year 2024. Most social workers need a bachelor's degree in social work. However, clinical social workers must have a master's degree as well as experience.

### Career Cluster: Human Services

#### Career Pathway: Community, Family & Social Services\*

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
	Courses in development.	TBD	
ELECTIVE COURSES			
34.01.00.00.197	Human Development	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

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

\*Pathway is in development process.

**Community, Family and Social Services is:**  
 > High demand

**Sample Occupations Requiring:**

**High School Diploma**  
 > Childcare Worker  
 > Community Health Worker  
 > Social and Human Service Assistant

**Certificate**  
 > N/A

**Assoc. or Technical Degree**  
 > Foster Care Social Worker  
 > Mental Health Technician

**Baccalaureate Degree**  
 > Career and Technical Education Teacher  
 > Social and Community Service Manager  
 > Social Worker

**Graduate or Prof. Degree**  
 > Clinical, Counseling and School Psychologist  
 > Community and Social Service Specialist  
 > Marriage and Family Therapist  
 > Mental Health Counselor

**Student Testimonial**  
 "I would like to be a child counselor . . . CTE courses helped me tremendously, not just for my occupational goal, but for life as well. I am very excited to begin my journey to become a child counselor, and hope to be able to make a huge difference one day."  
 Tia Rae Shumway

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>
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**Utah Business and Industry Facts**  
 Social workers are found in numerous industries throughout Utah, including local, state, federal agencies, schools, residential care facilities, and emergency/relief services, and social advocacy organizations.

In Utah, child, family, and school social workers, and marriage and family therapists must be licensed.

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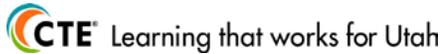
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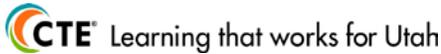
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<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>SkillsUSA is the CTSO for students in the Esthetician/Nail Technician Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.</p> <p><b>Workforce Trends</b> Population growth and expanding services are expected to create good job prospects among manicurists and pedicurists.</p>	<h3>Career Cluster: Human Services</h3>					<p><b>Esthetician/Nail Technician is:</b> &gt; High skill &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <a href="#">High School Diploma</a> &gt; N/A <a href="#">Certificate</a> &gt; Manicurists and Pedicurists &gt; Skincare Specialist (Esthetician) <a href="#">Assoc. or Technical Degree</a> &gt; N/A <a href="#">Baccalaureate Degree</a> &gt; Career and Technical Education Teacher <a href="#">Graduate or Prof. Degree</a> &gt; N/A</p>																																										
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# Utah Career and Technical Education Career Pathway

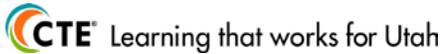
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>Students who participate in the Network and IT Support Career Pathway choose among the following CTOS, depending upon what is available at their school: FBLA   SkillsUSA   TSA</p> <p><b>Workforce Trends</b> Growth will be driven by rapid increases in the computer and data processing services industry.</p> <p>In Utah, the average annual employment growth rate for computer systems analysts is 5 percent through the year 2024.</p> <p>According to the Utah Technology Council, IT occupations account for \$6.9 billion (14.3 percent) of Utah's total payroll.</p>	<h3 style="margin: 0;">Career Cluster: Information Technology</h3> <h4 style="margin: 0;">Career Pathway: Information Technology Systems</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00A6C9; color: white;"> <th style="width: 15%;">CORE CODE</th> <th style="width: 55%;">FOUNDATION COURSES (required)</th> <th style="width: 30%;">CREDITS</th> </tr> </thead> <tbody> <tr style="background-color: #00A6C9; color: white;"> <td colspan="3" style="text-align: center;"><i>Choose 2.00 credits from the following courses:</i></td> </tr> <tr> <td>35.01.00.00.040</td> <td>A+ (Computer Maintenance)</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>35.01.00.00.010</td> <td>Cisco Certified Network Administrator (CCNA)</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>35.01.00.00.025</td> <td>Linux Fundamentals</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>35.01.00.00.030</td> <td>Network Fundamentals</td> <td style="text-align: center;">.50</td> </tr> <tr style="background-color: #00A6C9; color: white;"> <td colspan="3" style="text-align: center;"><b>ELECTIVE COURSES</b></td> </tr> <tr> <td>35.02.00.00.021</td> <td>Database Development</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>35.02.00.00.005</td> <td>Introduction to Information Technology</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>35.01.00.00.020</td> <td>Microsoft Certified Professional</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>35.01.00.00.036</td> <td>Security Fundamentals</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr style="background-color: #00A6C9; color: white;"> <td colspan="3" style="text-align: center;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="font-size: small; margin: 0;">Foundation courses taken beyond the required credits can be used as elective credit. Visit <a href="http://UtahCTE.org">UtahCTE.org</a> to learn how to earn industry certification in this Career Pathway.</p> <p style="text-align: center; margin: 0;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS	<i>Choose 2.00 credits from the following courses:</i>			35.01.00.00.040	A+ (Computer Maintenance)	1.00	35.01.00.00.010	Cisco Certified Network Administrator (CCNA)	1.00	35.01.00.00.025	Linux Fundamentals	1.00	35.01.00.00.030	Network Fundamentals	.50	<b>ELECTIVE COURSES</b>			35.02.00.00.021	Database Development	1.00	35.02.00.00.005	Introduction to Information Technology	.50	35.01.00.00.020	Microsoft Certified Professional	1.00	35.01.00.00.036	Security Fundamentals	.50	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>			<p><b>Network &amp; IT Support is:</b> &gt; High skill &gt; High wage &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <a href="#">High School Diploma</a> &gt; N/A <a href="#">Certificate</a> &gt; N/A <a href="#">Assoc. or Technical Degree</a> &gt; Computer Network Support Specialist <a href="#">Baccalaureate Degree</a> &gt; Career and Technical Education Teacher &gt; Computer Network Architect &gt; Computer and Information Systems Manager &gt; Computer Systems Analyst &gt; Database Administrator &gt; Network and Computer Systems Administrator <a href="#">Graduate or Prof. Degree</a> &gt; Computer and Information Research Scientist</p>
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Programming/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 5.9 percent through the year 2024.

### Career Cluster: Information Technology

#### Career Pathway: Programming & Software Development

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
<b>Choose 1.00 credit from the following courses:</b>			
35.02.00.00.035	Computer Science Principles	1.00	2.00 credits
35.02.00.00.030	Computer Programming 1	.50	
35.02.00.00.036	PLTW Computer Science and Software Engineering	1.00	
<b>Choose 1.00 credit from the following courses:</b>			
35.02.00.00.041	AP Computer Science	1.00	1.00 credit
35.02.00.00.032	Computer Programming 2	.50	
35.02.00.00.040	Computer Programming 3	1.00	
35.02.00.00.045	Gaming Development Fundamentals	.50	
<b>ELECTIVE COURSES</b>			
35.02.00.00.037	Algorithms and Data Structures	1.00	1.00 credit
35.02.00.00.021	Database Development	1.00	
32.02.00.00.220	Entrepreneurship	.50	
35.02.00.00.007	Exploring Computer Science 1	.50	
35.02.00.00.008	Exploring Computer Science 2	.50	
35.02.00.00.046	Gaming Development Fundamentals 2	.50	
35.02.00.00.005	Introduction to Information Technology	.50	
35.02.00.00.048	Mobile Development Fundamentals	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

Foundation courses taken beyond the required credits can be used as elective credit. Visit [UtahCTE.org](http://UtahCTE.org) to learn how to earn industry certification in this Career Pathway.

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

**Programming/Software Development is:**  
 > High skill  
 > High wage  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > N/A  
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  
Graduate or Prof. Degree  
 > Software Engineer

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>
Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain. In high school a variety of certificates can be earned.		An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions. In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).		

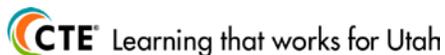
**Utah Business and Industry Facts**  
 Silicon Slopes was formed to promote Utah's growing technology community and is home to more than 5,000 tech companies that has generated 142,500 jobs.  
 From Ogden to Provo, technology companies dot the landscape. Pluralsight, Insidesales.com, Qualtrics, Vivint,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

**CTE Skill Certificates**  
 Competency-based student assessments, measured by core standards and competencies needed to be successful in the workforce.  
 In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

**UtahFutures: College and Career Planning**  
 Visit [UtahFutures.org](http://UtahFutures.org) for salary projections, labor market demand, and training options.  
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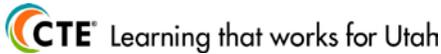
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>Students who want to participate in the Web Development and Administration Career Pathway choose among the following CTSOs, depending upon what is available at their school: FBLA   SkillsUSA   TSA</p> <p><b>Workforce Trends</b> 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.</p> <p>In Utah, the average annual employment growth rate for Web developers is 5.5 percent and for computer and information systems managers is 4.5 percent through the year 2024.</p>	<h3 style="margin: 0;">Career Cluster: Information Technology</h3> <h4 style="margin: 0;">Career Pathway: Web Development</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="width: 15%;">CORE CODE</th> <th style="width: 55%;">FOUNDATION COURSES (required)</th> <th style="width: 15%;">CREDITS</th> <th style="width: 15%;"></th> </tr> </thead> <tbody> <tr> <td>35.02.00.00.060</td> <td>Web Development 1</td> <td style="text-align: center;">.50</td> <td rowspan="4" style="text-align: center; vertical-align: middle;">1.50 credits</td> </tr> <tr> <td colspan="3" style="text-align: center;"><i>Choose 1.00 credit of the following courses:</i></td> </tr> <tr> <td>35.02.00.00.055</td> <td>HTML5 App Development Fundamentals</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>35.02.00.00.065</td> <td>Web Development 2</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>35.02.00.00.067</td> <td>Web Development Capstone</td> <td style="text-align: center;">1.00</td> <td></td> </tr> <tr style="background-color: #00a651; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>35.02.00.00.021</td> <td>Database Development</td> <td style="text-align: center;">1.00</td> <td rowspan="8" style="text-align: center; vertical-align: middle;">1.50 credit</td> </tr> <tr> <td>37.01.00.00.001</td> <td>Digital Marketing</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.220</td> <td>Entrepreneurship</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>35.02.00.00.090</td> <td>Geographic Information Systems (GIS) Remote Sensing</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>35.02.00.00.005</td> <td>Introduction to Information Technology</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>35.02.00.00.048</td> <td>Mobile Development Fundamentals</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="text-align: center;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">Foundation courses taken beyond the required credits can be used as elective credit. Visit <a href="http://UtahCTE.org">UtahCTE.org</a> to learn how to earn industry certification in this Career Pathway.</p> <p style="text-align: center; margin-top: 10px;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		35.02.00.00.060	Web Development 1	.50	1.50 credits	<i>Choose 1.00 credit of the following courses:</i>			35.02.00.00.055	HTML5 App Development Fundamentals	.50	35.02.00.00.065	Web Development 2	.50	35.02.00.00.067	Web Development Capstone	1.00		ELECTIVE COURSES				35.02.00.00.021	Database Development	1.00	1.50 credit	37.01.00.00.001	Digital Marketing	.50	32.02.00.00.220	Entrepreneurship	.50	35.02.00.00.090	Geographic Information Systems (GIS) Remote Sensing	1.00	35.02.00.00.005	Introduction to Information Technology	.50	35.02.00.00.048	Mobile Development Fundamentals	.50	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>				<p><b>Web Development &amp; Administration is:</b> &gt; High skill &gt; High wage &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <a href="#">High School Diploma</a> &gt; N/A</p> <p><a href="#">Certificate</a> &gt; N/A</p> <p><a href="#">Assoc. or Technical Degree</a> &gt; Web Developer</p> <p><a href="#">Baccalaureate Degree</a> &gt; Career and Technical Education Teacher &gt; Computer and Information Systems Manager &gt; Computer Programmer &gt; Database Administrator &gt; Graphic Designer &gt; Multimedia Artists and Animators &gt; Software Developer</p> <p><a href="#">Graduate or Prof. Degree</a> &gt; Web Developer</p>
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<p><b>Student Testimonial</b></p> <p>"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."</p> <p style="text-align: right; font-size: small;">Zachary Crocker</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width: 15%; background-color: #00a651; color: white; text-align: center;">12th Grade</th> <th style="width: 15%; background-color: #ff9900; color: white; text-align: center;">1-Year Certificate</th> <th style="width: 15%; background-color: #92d050; color: white; text-align: center;">2-Year Associate or Technical Degree</th> <th style="width: 15%; background-color: #ffcc00; color: white; text-align: center;">4-Year Bachelor's Degree</th> <th style="width: 15%; background-color: #808080; color: white; text-align: center;">More Graduate or Prof. Degree</th> </tr> </thead> <tbody> <tr> <td style="font-size: small; padding: 5px;">Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</td> <td colspan="4" style="font-size: small; padding: 5px;">An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</td> </tr> <tr> <td style="font-size: small; padding: 5px;">In high school a variety of certificates can be earned.</td> <td colspan="4" style="font-size: small; padding: 5px;">In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</td> </tr> </tbody> </table>	12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.	An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.				In high school a variety of certificates can be earned.	In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).				<p><b>Utah Business and Industry Facts</b></p> <p style="font-size: small;">Utah has deep consumer software roots. Ancestry.com, Overstock.com, Backcountry.com, and Vivint.com all started in the Beehive State.</p> <p style="font-size: small;">"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. <i>Silicon Slopes Magazine</i>, Spring 2017</p>																																				
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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.

### Career Cluster: Law, Public Safety, Corrections and Security

#### Career Pathway: Public Safety & Law Enforcement: Protective Services

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
36.01.00.00.070	Emergency Medical Responder	.50	1.00 credit
<i>Choose one of the following courses:</i>			
40.06.00.00.010	Fire Science *	.50	
40.06.00.00.001	Law Enforcement *	.50	
ELECTIVE COURSES			
40.06.00.00.105	Careers in Law Enforcement	.50	2.00 credits
40.06.00.00.108	Criminal Law *	.50	
40.06.00.00.301	Homeland Security *	.50	
40.06.00.00.046	Introduction to Corrections	.50	
40.06.00.00.103	Introduction to Criminal Justice	.50	
36.01.00.00.085	Medical Forensics	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

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

**Protective Services is:**  
 > High skill  
 > High wage

**Sample Occupations Requiring:**

High School Diploma

- > Fire Inspector and Investigator
- > Forest Fire Inspector and Prevention Specialist

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

Graduate or Prof. Degree

- > N/A

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree
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**CTE Skill Certificates**  
 Competency-based student assessments, measured by core standards and competencies needed to be successful in the workforce.

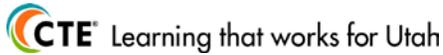
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In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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

# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Cabinetmaking/Millwork Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.

**Workforce Trends**  
 Job prospects will be best for highly skilled workers and those with knowledge of computerized machine tool operation.

### Career Cluster: Manufacturing

#### Career Pathway: Advanced Manufacturing: Cabinetmaking/Millwork

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
40.10.00.00.020	Cabinetmaking	1.00	1.50 credits
40.10.00.00.130	Furniture Design and Manufacturing *	.50	
ELECTIVE COURSES			
38.01.00.00.041	CAD Architectural Design 1 *	.50	1.50 credits
38.01.00.00.051	CAD Mechanical Design 1 *	.50	
40.13.00.00.030	Industrial Design *	1.00	
40.10.00.00.072	Machining 1 *	.50	
40.10.00.00.070	Machining 2 *	.50	
40.10.00.00.085	Metalworking 1 *	.50	
38.01.00.00.330	PLTW Civil Engineering and Architecture	1.00	
38.01.00.00.390	PLTW Engineering Design and Development	1.00	
40.10.00.00.120	Woodworking *	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit

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

**Cabinetmaking/Millwork is:**  
 > High demand

**Sample Occupations Requiring:**

High School Diploma  
 > Cabinetmaker  
 > Carpenter  
 > Supervisor of Construction Workers

Certificate  
 > Cabinetmaking and Furniture Construction

Assoc. or Technical Degree  
 > Cabinetry and Architectural Woodwork

Baccalaureate Degree  
 > Career and Technical Education Teacher

Graduate or Prof. Degree  
 > N/A

**Student Testimonial**  
 "Throughout my high school career I focused on the Cabinetmaking/Millwork CTE Pathway. My CTE classes have prepared me in many ways such as teaching me the knowledge I need to know about woodworking, learning about all the tools and machines and how to use the, and how to create and read plans."  
 Kaydee Walters

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>
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**Utah Business and Industry Facts**  
 From residential to commercial construction, cabinetmakers and carpenters are in demand throughout Utah.  
 According to the Utah Department of Workforce Services, the median hourly wage for cabinetmakers and bench carpenters in Utah is \$16.11.

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

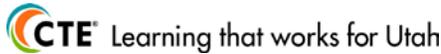
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# Utah Career and Technical Education Career Pathway

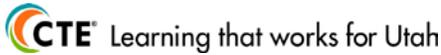
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>SkillsUSA is the CTSO for students in the Machine Tool Career Pathway. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.</p> <p><b>Workforce Trends</b> Despite rising productivity that is expected to limit employment growth, opportunities should be excellent because not enough qualified people are attracted to production-related occupations.</p>	<h3 style="margin: 0;">Career Cluster: Manufacturing</h3> <h4 style="margin: 0;">Career Pathway: Advanced Manufacturing: Machine Tool</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a6c9; color: white;"> <th style="padding: 5px;">CORE CODE</th> <th style="padding: 5px;">FOUNDATION COURSES (required)</th> <th colspan="2" style="padding: 5px;">CREDITS</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">40.10.00.00.072</td> <td style="padding: 5px;">Machining 1 *</td> <td style="padding: 5px; text-align: center;">.50</td> <td rowspan="2" style="padding: 5px; text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td style="padding: 5px;">40.10.00.00.070</td> <td style="padding: 5px;">Machining 2 *</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr style="background-color: #00a6c9; color: white;"> <th colspan="4" style="padding: 5px;">ELECTIVE COURSES</th> </tr> <tr> <td style="padding: 5px;">38.01.00.00.051</td> <td style="padding: 5px;">CAD Mechanical Design 1 *</td> <td style="padding: 5px; text-align: center;">.50</td> <td rowspan="7" style="padding: 5px; text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td style="padding: 5px;">38.01.00.00.052</td> <td style="padding: 5px;">CAD Mechanical Design 2</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">40.10.00.00.085</td> <td style="padding: 5px;">Metalworking 1 *</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">38.01.00.00.340</td> <td style="padding: 5px;">PLTW Computer Integrated Manufacturing</td> <td style="padding: 5px; text-align: center;">1.00</td> </tr> <tr> <td style="padding: 5px;">38.01.00.00.390</td> <td style="padding: 5px;">PLTW Engineering Design and Development</td> <td style="padding: 5px; text-align: center;">1.00</td> </tr> <tr> <td style="padding: 5px;">40.10.00.00.110</td> <td style="padding: 5px;">Welding Technician, Entry Level *</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">41.00.00.00.030</td> <td style="padding: 5px;">Workplace Skills</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="padding: 5px; text-align: center;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">* Course can be taken up to 1.00 credit.</p> <p style="text-align: center; margin-top: 10px;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		40.10.00.00.072	Machining 1 *	.50	1.00 credit	40.10.00.00.070	Machining 2 *	.50	ELECTIVE COURSES				38.01.00.00.051	CAD Mechanical Design 1 *	.50	2.00 credits	38.01.00.00.052	CAD Mechanical Design 2	.50	40.10.00.00.085	Metalworking 1 *	.50	38.01.00.00.340	PLTW Computer Integrated Manufacturing	1.00	38.01.00.00.390	PLTW Engineering Design and Development	1.00	40.10.00.00.110	Welding Technician, Entry Level *	.50	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>				<p><b>Machine Tool is:</b></p> <ul style="list-style-type: none"> <li>&gt; High skill</li> <li>&gt; High wage</li> <li>&gt; High demand</li> </ul> <p><b>Sample Occupations Requiring:</b></p> <p style="color: #00a6c9; font-weight: bold; margin: 0;">High School Diploma</p> <ul style="list-style-type: none"> <li>&gt; Industrial Machinery Mechanic</li> <li>&gt; Machinist</li> <li>&gt; Tool and Die Makers</li> </ul> <p style="color: #00a6c9; font-weight: bold; margin: 0;">Certificate</p> <ul style="list-style-type: none"> <li>&gt; N/A</li> </ul> <p style="color: #00a6c9; font-weight: bold; margin: 0;">Assoc. or Technical Degree</p> <ul style="list-style-type: none"> <li>&gt; N/A</li> </ul> <p style="color: #00a6c9; font-weight: bold; margin: 0;">Baccalaureate Degree</p> <ul style="list-style-type: none"> <li>&gt; Career and Technical Education Teacher</li> </ul> <p style="color: #00a6c9; font-weight: bold; margin: 0;">Graduate or Prof. Degree</p> <ul style="list-style-type: none"> <li>&gt; N/A</li> </ul>
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<p><b>Student Testimonial</b></p> <p>"I took machine tool because I heard it was a great program, and that machinist make good money. I'm a hands-on worker and like to make stuff and see the finished product. If I'm going to work I want it to be something I want to do every day and enjoy doing it. I love being a machinist and I could see myself doing this for the rest of my life."</p> <p style="text-align: right; font-size: small;">Gates Hadley</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0; color: white;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <td style="width: 15%; background-color: #00a6c9; color: white; text-align: center; padding: 5px;"><b>12th Grade</b></td> <td style="width: 15%; background-color: #ff9933; color: white; text-align: center; padding: 5px;"><b>1-Year Certificate</b></td> <td style="width: 15%; background-color: #99cc66; color: white; text-align: center; padding: 5px;"><b>2-Year Associate or Technical Degree</b></td> <td style="width: 15%; background-color: #ffcc00; color: white; text-align: center; padding: 5px;"><b>4-Year Bachelor's Degree</b></td> <td style="width: 15%; background-color: #999999; color: white; text-align: center; padding: 5px;"><b>More Graduate or Prof. Degree</b></td> </tr> </table> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%; padding: 5px;"> <p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p> </div> <div style="width: 30%; padding: 5px;"> <p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> </div> <div style="width: 30%; padding: 5px;"> <p>Many businesses in Utah rely on the expertise of machinists, and their skilled knowledge of using precise measurements, as technologically advanced materials and equipment are manufactured and assembled.</p> <p>According to the Governor's Office of Economic Development (GOED), the Northern Utah region has a strong existing base of aerospace and composites companies, with more than 30 companies and an estimated 16,500 employers.</p> </div> </div>	<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>	<p><b>Utah Business and Industry Facts</b></p>																																				
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# Utah Career and Technical Education Career Pathway

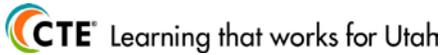
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>Students who participate in the Aerospace Manufacturing Career Pathway choose among the following CTOS, depending upon what is available at their school: SkillsUSA   TSA</p> <p><b>Workforce Trends</b> Aerospace operations technicians work on many projects related to national defense and therefore require security clearances. In Utah, this occupation is expected to experience much faster than average employment growth.</p>	<h3 style="margin: 0;">Career Cluster: Manufacturing</h3> <h4 style="margin: 0;">Career Pathway: Aerospace Manufacturing</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="padding: 5px;">CORE CODE</th> <th style="padding: 5px;">FOUNDATION COURSES (required)</th> <th style="padding: 5px;">CREDITS</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">40.10.00.00.140</td> <td style="padding: 5px;">Composites 1</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">38.01.00.00.011</td> <td style="padding: 5px;">Manufacturing Principles 1</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td colspan="3" style="padding: 5px; text-align: center;"><b>Or choose one the following courses:</b></td> </tr> <tr> <td style="padding: 5px;">40.10.00.00.085</td> <td style="padding: 5px;">Metalworking 1 *</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">41.00.00.00.020</td> <td style="padding: 5px;">Apprenticeship</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">41.00.00.00.050</td> <td style="padding: 5px;">CTE Internship</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td style="padding: 5px;">41.00.00.00.030</td> <td style="padding: 5px;">Workplace Skills</td> <td style="padding: 5px; text-align: center;">.50</td> </tr> <tr> <td colspan="3" style="padding: 5px; text-align: center;"><b>1.50 credits for completion</b></td> </tr> </tbody> </table> <p style="font-size: small;">* Course can be taken up to 1.00 credit.</p> <p style="text-align: center;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS	40.10.00.00.140	Composites 1	.50	38.01.00.00.011	Manufacturing Principles 1	.50	<b>Or choose one the following courses:</b>			40.10.00.00.085	Metalworking 1 *	.50	41.00.00.00.020	Apprenticeship	.50	41.00.00.00.050	CTE Internship	.50	41.00.00.00.030	Workplace Skills	.50	<b>1.50 credits for completion</b>			<p><b>Aerospace Manufacturing is:</b> &gt; High skill &gt; High wage</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; Assembler/Fabricator &gt; Welder <u>Certificate</u> &gt; N/A <u>Assoc. or Technical Degree</u> &gt; Aerospace Engineering and Operations Technician &gt; Engineering Technician &gt; Industrial Engineering Technician &gt; Mechanical Drafter <u>Baccalaureate Degree</u> &gt; Aerospace Engineer &gt; Career and Technical Education Teacher &gt; Materials Engineer &gt; Mechanical Engineer <u>Graduate or Prof. Degree</u> &gt; Aeronautical Engineer &gt; Astronautical Engineer</p>
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<p><b>Student Testimonial</b> "My long-term occupation and educational goal is to get a job working in the aerospace industry making composites. I appreciate the opportunity I have had to pursue CTE classes, both in high school and in the composites program at MATC. I feel like I have a head start on my future career. I feel that through taking CTE classes I was able to find a plan that will work for me." Jacob Michael Argyle</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <td style="width: 15%; background-color: #00a651; color: white; text-align: center; padding: 10px;"><b>12th Grade</b></td> <td style="width: 15%; background-color: #ff9900; color: white; text-align: center; padding: 10px;"><b>1-Year Certificate</b></td> <td style="width: 15%; background-color: #99cc33; color: white; text-align: center; padding: 10px;"><b>2-Year Associate or Technical Degree</b></td> <td style="width: 15%; background-color: #ffcc00; color: white; text-align: center; padding: 10px;"><b>4-Year Bachelor's Degree</b></td> <td style="width: 15%; background-color: #999999; color: white; text-align: center; padding: 10px;"><b>More Graduate or Prof. Degree</b></td> </tr> </table> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; padding: 5px;"> <p>Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.</p> <p>In high school a variety of certificates can be earned.</p> </div> <div style="width: 45%; padding: 5px;"> <p>An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.</p> <p>In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p> </div> </div>	<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>	<p><b>Utah Business and Industry Facts</b> Aerospace and aviation companies located in Utah employ more than 42,000 workers.</p> <p>ATK and Hill Air Force Base are two of the largest aerospace employers in Utah. (Governor's Office of Economic Development [GOED]).</p>																						
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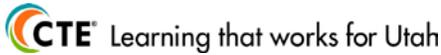
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>Students who participate in the Welding Career Pathway choose among the following CTOS, depending upon what is available at their school: FFA   SkillsUSA</p> <p><b>Workforce Trends</b> In Utah, the occupation projection for welders, cutters, solderers, and brazers is 290 annual openings. Job prospects should be excellent for skilled candidates.</p>	<h3 style="margin: 0;">Career Cluster: Manufacturing</h3> <h3 style="margin: 0;">Career Pathway: Welding</h3> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr style="background-color: #00a6c9; color: white;"> <th style="width: 15%;">CORE CODE</th> <th style="width: 55%;">FOUNDATION COURSES (required)</th> <th style="width: 15%;">CREDITS</th> <th style="width: 15%;"></th> </tr> </thead> <tbody> <tr> <td>40.10.00.00.110</td> <td>Welding Technician, Entry Level *</td> <td style="text-align: center;">.50</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td>40.10.00.00.112</td> <td>Welding Technician, Intermediate Level *</td> <td style="text-align: center;">.50</td> </tr> <tr style="background-color: #00a6c9; color: white;"> <th colspan="4" style="text-align: center;">ELECTIVE COURSES</th> </tr> <tr> <td>32.02.00.00.010</td> <td>Accounting 1</td> <td style="text-align: center;">.50</td> <td rowspan="10" style="text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td>32.02.00.00.140</td> <td>Business Management</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>38.01.00.00.051</td> <td>CAD Mechanical Design 1 *</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>38.01.00.00.052</td> <td>CAD Mechanical Design 2</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>38.01.00.00.021</td> <td>Electronics 1 *</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.220</td> <td>Entrepreneurship</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>40.10.00.00.072</td> <td>Machining 1 *</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>40.10.00.00.070</td> <td>Machining 2 *</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>38.01.00.00.340</td> <td>PLTW Computer Integrated Manufacturing</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>38.01.00.00.390</td> <td>PLTW Engineering Design and Development</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>40.10.00.00.114</td> <td>Welding Technician, Advanced Level *</td> <td style="text-align: center;">1.00</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr> <td colspan="4" style="text-align: center; background-color: #333; color: white; padding: 5px;"><b>3.00 credits for completion</b></td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">* Course can be taken up to 1.00 credit.</p> <p style="text-align: center; margin-top: 10px;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS		40.10.00.00.110	Welding Technician, Entry Level *	.50	1.00 credit	40.10.00.00.112	Welding Technician, Intermediate Level *	.50	ELECTIVE COURSES				32.02.00.00.010	Accounting 1	.50	2.00 credits	32.02.00.00.140	Business Management	.50	38.01.00.00.051	CAD Mechanical Design 1 *	.50	38.01.00.00.052	CAD Mechanical Design 2	.50	38.01.00.00.021	Electronics 1 *	.50	32.02.00.00.220	Entrepreneurship	.50	40.10.00.00.072	Machining 1 *	.50	40.10.00.00.070	Machining 2 *	.50	38.01.00.00.340	PLTW Computer Integrated Manufacturing	1.00	38.01.00.00.390	PLTW Engineering Design and Development	1.00	40.10.00.00.114	Welding Technician, Advanced Level *	1.00	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>				<p><b>Welding is:</b> &gt; High skill &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; Welder, Cutter, Solderer, and Brazer &gt; Welder and Solderer Machine Operator</p> <p><u>Certificate</u> &gt; Welder</p> <p><u>Assoc. or Technical Degree</u> &gt; N/A</p> <p><u>Baccalaureate Degree</u> &gt; Career and Technical Education Teacher</p> <p><u>Graduate or Prof. Degree</u> &gt; N/A</p>
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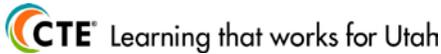
## 2018-2019 School Year



<p><b>CTSO Information</b> Career and Technical Student Organizations (CTSO) align with the national Career Clusters® and the Utah CTE Career Pathways.</p> <p>DECA is the CTSO for students in the Marketing Career Pathway. DECA prepares emerging leaders and entrepreneurs for careers in marketing, finance, hospitality, and management.</p> <p><b>Workforce Trends</b> In Utah, the average annual employment growth rate projected for market research analysts and marketing specialists is 5.1 percent through the year 2024.</p> <p>The Utah Department of Workforce Services lists the median salary for a public relations specialist as \$52,360.</p>	<h3 style="margin: 0;">Career Cluster: Marketing</h3> <h4 style="margin: 0;">Career Pathway: Marketing &amp; Sales</h4> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #00a651; color: white;"> <th style="width: 15%;">CORE CODE</th> <th style="width: 55%;">FOUNDATION COURSES (required)</th> <th style="width: 10%;">CREDITS</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td></td> <td colspan="2" style="text-align: center;"><i>Choose two of the following courses:</i></td> <td></td> </tr> <tr> <td>37.01.00.00.001</td> <td>Digital Marketing</td> <td style="text-align: center;">.50</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">1.00 credit</td> </tr> <tr> <td>37.01.00.00.165</td> <td>Marketing 1</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.190</td> <td>Marketing 2</td> <td style="text-align: center;">.50</td> </tr> <tr style="background-color: #00a651; color: white;"> <th colspan="2" style="text-align: center;">ELECTIVE COURSES</th> <th></th> <th></th> </tr> <tr> <td>32.02.00.00.140</td> <td>Business Management</td> <td style="text-align: center;">.50</td> <td rowspan="10" style="text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td>37.01.00.00.025</td> <td>Customer Service</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.200</td> <td>Economics</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>32.02.00.00.070</td> <td>Exploring Business and Marketing</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>34.01.00.00.145</td> <td>Fashion Design Merchandising</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.150</td> <td>Leadership Principles 1</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.155</td> <td>Leadership Principles 2</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.220</td> <td>Real Estate</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.240</td> <td>Retailing</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>37.01.00.00.260</td> <td>Sports and Entertainment Marketing</td> <td style="text-align: center;">.50</td> </tr> <tr> <td>41.00.00.00.030</td> <td>Workplace Skills</td> <td style="text-align: center;">.50</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>3.00 credits for completion</b></td> <td></td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">Foundation courses taken beyond the required credits can be used as elective credit.</p> <p style="text-align: center; margin-top: 10px;"><b>Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value.</b></p>	CORE CODE	FOUNDATION COURSES (required)	CREDITS			<i>Choose two of the following courses:</i>			37.01.00.00.001	Digital Marketing	.50	1.00 credit	37.01.00.00.165	Marketing 1	.50	37.01.00.00.190	Marketing 2	.50	ELECTIVE COURSES				32.02.00.00.140	Business Management	.50	2.00 credits	37.01.00.00.025	Customer Service	.50	32.02.00.00.200	Economics	.50	32.02.00.00.070	Exploring Business and Marketing	.50	34.01.00.00.145	Fashion Design Merchandising	.50	37.01.00.00.150	Leadership Principles 1	.50	37.01.00.00.155	Leadership Principles 2	.50	37.01.00.00.220	Real Estate	.50	37.01.00.00.240	Retailing	.50	37.01.00.00.260	Sports and Entertainment Marketing	.50	41.00.00.00.030	Workplace Skills	.50	<b>3.00 credits for completion</b>				<p><b>Marketing is:</b> &gt; High wage &gt; High demand</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; Advertising Sales Agent <u>Certificate</u> &gt; N/A <u>Assoc. or Technical Degree</u> &gt; N/A <u>Baccalaureate Degree</u> &gt; Art Director &gt; Career and Technical Education Teacher &gt; Editor &gt; Graphic Designer &gt; Marketing Manager &gt; Market Research Analyst &gt; Marketing Specialist &gt; Public Relations Specialist &gt; Sales Manager <u>Graduate or Prof. Degree</u> &gt; Marketing Director &gt; Statistician &gt; Survey Researcher</p>
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# Utah Career and Technical Education Career Pathway

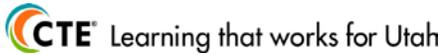
## 2018-2019 School Year



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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 CTSSO for students in the Automotive Service Technician 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 expected to be very good for persons with formal training, strong diagnostic and problem-solving skills, and knowledge of electronics and mathematics.

Nationwide, employment of automotive service technicians and mechanics is projected to increase 5 percent through the year 2024.

### Career Cluster: Transportation, Distribution & Logistics

#### Career Pathway: Automotive: Service Technician

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
40.09.00.00.020	Introduction to Automotive *	.50	1.50 credits
<i>Choose two of the following courses:</i>			
40.09.00.00.022	ASE Brakes *	.50	
40.09.00.00.021	ASE Chassis MLR *	.50	
40.09.00.00.024	ASE Electrical/Electronics *	.50	
40.09.00.00.026	ASE Engine MLR *	.50	
40.09.00.00.025	ASE Engine Performance *	.50	
40.09.00.00.023	ASE Steering and Suspension *	.50	
ELECTIVE COURSES			
32.02.00.00.010	Accounting 1	.50	1.50 credits
40.09.00.00.005	Basic Automotive Collision Repair *	.50	
32.02.00.00.140	Business Management	.50	
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41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.  
 Foundation courses taken beyond the required credits can be used as elective credit.  
 Visit [UtahCTE.org](http://UtahCTE.org) to learn how to earn industry certification in this Career Pathway.

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

**Automotive Service Technician is:**  
 > High skill  
 > High wage  
 > High demand

**Sample Occupations Requiring:**  
[High School Diploma](#)  
 > Automotive Body and Related Repairer  
 > Automotive Glass Installer and Repairer  
 > Automotive Service Mechanics  
 > Automotive Service Technician

**Certificate**  
 > Automotive Service Technician – ASE (Automotive Service Excellence)  
[www.ase.com/](http://www.ase.com/) is a national certification for automotive service technicians.

**Assoc. or Technical Degree**  
 > N/A

**Baccalaureate Degree**  
 > Career and Technical Education Teacher

**Graduate or Prof. Degree**  
 > N/A

**Student Testimonial**  
 "I focused on a CTE Pathway in high school. I took all of the automotive classes offered to me to help me pursue my career goal of an automotive technician. The automotive classes I took will help me with my training in college."  
 Thomas Jex

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

<b>12th Grade</b>	<b>1-Year Certificate</b>	<b>2-Year Associate or Technical Degree</b>	<b>4-Year Bachelor's Degree</b>	<b>More Graduate or Prof. Degree</b>
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**Utah Business and Industry Facts**  
 According to the Utah Department of Workforce Services, there are 1,763 automotive repair and maintenance firms throughout Utah.  
 The occupations of Automotive Service Technicians and Mechanics is projected to experience a high volume of annual job openings.

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

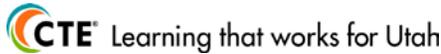
**UtahFutures: College and Career Planning**  
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In 2016-2017, 105,691 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

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

# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Aviation Technology 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.

### Career Cluster: Transportation, Distribution & Logistics

#### Career Pathway: Aviation

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
40.11.00.00.042	Aircraft Systems *	.50	1.00 credit
40.11.00.00.040	Private Pilot *	.50	
ELECTIVE COURSES			
32.02.00.00.010	Accounting 1	.50	2.00 credits
40.11.00.00.046	Air Transportation *	.50	
40.11.00.00.044	Aviation History *	.50	
32.02.00.00.140	Business Management	.50	
38.01.00.00.021	Electronics 1 *	.50	
32.02.00.00.220	Entrepreneurship	.50	
40.11.00.00.048	Flight Simulator *	.50	
40.09.00.00.020	Introduction to Automotive *	.50	
38.01.00.00.350	PLTW Aerospace Engineering	1.00	
38.01.00.00.320	PLTW Digital Electronics	1.00	
40.11.00.00.040	Private Pilot	.50	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.

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

**Aviation Technology is:**  
 > High skill  
 > High wage  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > Aircraft Structure, Surfaces, Rigging, and System Assembler  
 > Commercial Pilot  
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  
Graduate or Prof. Degree  
 > Aviation Manager

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree
Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain.  In high school a variety of certificates can be earned.		An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions.  In 2015-2016, 73 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).		

**Utah Business and Industry Facts**  
 According to the Utah Department of Workforce Services, 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.

**CTE Skill Certificates**

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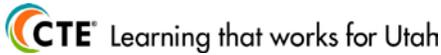
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# Utah Career and Technical Education Career Pathway

## 2018-2019 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 Heavy Duty 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.

### Career Cluster: Transportation, Distribution & Logistics

#### Career Pathway: Diesel

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
40.09.00.00.060	Diesel Technician *	.50	1.00 credit
40.09.00.00.065	Medium/Heavy Vehicle Systems *	.50	
ELECTIVE COURSES			
32.02.00.00.010	Accounting 1	.50	2.00 credits
40.09.00.00.022	ASE Brakes *	.50	
40.09.00.00.021	ASE Chassis MLR *	.50	
40.09.00.00.024	ASE Electrical/Electronics *	.50	
40.09.00.00.026	ASE Engine MLR *	.50	
40.09.00.00.025	ASE Engine Performance *	.50	
40.09.00.00.023	ASE Steering and Suspension *	.50	
40.09.00.00.005	Basic Automotive Collision Repair *	.50	
32.02.00.00.140	Business Management	.50	
38.01.00.00.021	Electronics 1 *	.50	
38.01.00.00.022	Electronics 2	.50	
32.02.00.00.220	Entrepreneurship	.50	
38.01.00.00.320	PLTW Digital Electronics	1.00	
41.00.00.00.030	Workplace Skills	.50	
<b>3.00 credits for completion</b>			

\* Course can be taken up to 1.00 credit.  
 Foundation courses taken beyond the required credits can be used as elective credit.

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**Heavy Duty Diesel is:**  
 > High skill  
 > High wage  
 > High demand

**Sample Occupations Requiring:**  
High School Diploma  
 > Bus and Truck Mechanic  
 > Diesel Engine Specialist  
 > Mobile Heavy Equipment Mechanic

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

Assoc. or Technical Degree  
 > N/A

Baccalaureate Degree  
 > Career and Technical Education Teacher

Graduate or Prof. Degree  
 > N/A

**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

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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**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.

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