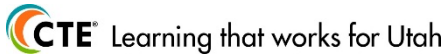


Utah Career and Technical Education Career Pathway 2019-2020 School Year



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

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

Workforce Trends
Nationwide, employment of aerospace engineers is projected to grow 6 percent through the year 2026. Employment opportunities will be best for those trained in software, such as C++, or with education and experience in stress and structural engineering.

Career Cluster: Engineering & Technology

Career Pathway: Aeronautical Engineering

CORE CODE	FOUNDATION COURSES (required)	CREDITS	3.00 credits
Aeronautical Component			
08.06.00.00.040	Aerospace	1.00	
<i>Or choose the following course:</i>			
38.01.00.00.350	PLTW Aerospace Engineering	1.00	
Foundation Component			
38.01.00.00.151	Engineering Principles 1	.50	
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	
Capstone Component			
38.01.00.00.990	Engineering Capstone	1.00	
<i>Or choose the following course:</i>			
38.01.00.00.390	PLTW Engineering Design and Development	1.00	
ELECTIVE COURSES			
38.03.00.00.010	Engineering Technology	.50	
38.01.00.00.211	Physics with Technology	1.00	
41.00.00.00.050	CTE Internship	.50	
41.00.00.00.030	Workplace Skills	.50	
3.00 credits for completion			

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

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

Aeronautical Engineering is:
 > High skill
 > High wage
 > High demand

Sample Occupations Requiring:
High School Diploma
 > N/A
Certificate
 > N/A
Assoc. or Technical Degree
 > Engineering Technician
 > Inspection Technician
 > Testing Technician
Baccalaureate Degree
 > Aerospace Engineer
 > Architectural and Engineering Manager
 > Career and Technical Education Teacher

Graduate or Prof. Degree
 > Aerospace Engineer

Student Testimonial
 "CTE classes have shown me a clear path for my future, because I have been able to experience more than just math and English. A CTE Internship, combined with my engineering classes, has given me a great insight to what the future holds for me. I believe an aerospace engineering and operations technician job is exactly what I want. I will be able to build, test, and maintain aircraft."
 Preston Henke

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

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

Utah Business and Industry Facts
 Aerospace and aviation companies located in Utah employ more than 42,000 workers.

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

CTE Skill Certificates

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

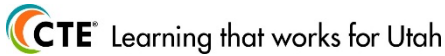
In 2017-2018, 111,238 CTE skill certificates were awarded to high school students. Students' knowledge and performance is demonstrated as part of the Skill Certificate process.

UtahFutures: College and Career Planning

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

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

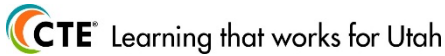
Utah Career and Technical Education Career Pathway 2019-2020 School Year



<p>CTSO Information 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>Workforce Trends Industrial growth and increasingly complex designs will spur growth in drafting services. As technology advances, opportunities will be best for drafters with at least 2 years of postsecondary training, and computer-aided design systems experience.</p>	<h2 style="margin: 0;">Career Cluster: Engineering & Technology</h2> <h3 style="margin: 0;">Career Pathway: CAD Mechanical Design</h3>	<p>CAD Mechanical Design is: > High skill > High wage</p> <p>Sample Occupations Requiring: High School Diploma > N/A Certificate > N/A Assoc. or Technical Degree > Engineering Technician > Mechanical Drafter > Mechanical Engineering Technician Baccalaureate Degree > Aerospace Engineer > Career and Technical Education Teacher > Civil Engineer > Industrial Designer > Mechanical Engineer > Secondary Education Teacher Graduate or Prof. Degree > Mechanical Engineer</p>																																														
<table border="1" style="width: 100%; border-collapse: collapse; margin: 0 auto;"> <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>38.01.00.00.051</td> <td>CAD Mechanical Design 1</td> <td>.50</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">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; background-color: #333; color: white;">Or choose the following courses:</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 style="background-color: #00a651; color: white;"> <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="5" style="text-align: center; vertical-align: middle;">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>41.00.00.00.050</td> <td>CTE Internship</td> <td>.50</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; background-color: #333; color: white; font-weight: bold;">2.50 credits for completion</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>			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	Or choose the following courses:				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	41.00.00.00.050	CTE Internship	.50	41.00.00.00.030	Workplace Skills	.50	2.50 credits for completion			
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<p>Student Testimonial “My training, in CTE courses in high school, prepared me for life after high school by helping me discover my love of drafting. I discovered the need for drafters in the world of engineering. I focused my CTE Pathway toward this career goal and have taken some advanced drafting classes to improve both my knowledge of the field and my employability in the field.” Calvin Hill</p>	<h3 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h3> <p style="font-size: small; margin: 0;">There are a number of options for education and training beyond high school, depending on your career goals.</p>	<p>Utah Business and Industry Facts According to the Utah Department of Workforce Services, 620 mechanical drafters are employed by more than 3,000 businesses throughout the state. The annual median salary for an experienced mechanical drafter is \$51,690.</p>																																														
<table border="1" style="width: 100%; border-collapse: collapse; margin: 0 auto;"> <tr> <td style="width: 15%; background-color: #00a651; color: white; text-align: center; padding: 5px;">12th Grade</td> <td style="width: 15%; background-color: #ff9900; color: white; text-align: center; padding: 5px;">1-Year Certificate</td> <td style="width: 15%; background-color: #7ed321; color: white; text-align: center; padding: 5px;">2-Year Associate or Technical Degree</td> <td style="width: 15%; background-color: #ffc000; color: white; text-align: center; padding: 5px;">4-Year Bachelor's Degree</td> <td style="width: 15%; background-color: #808080; color: white; text-align: center; padding: 5px;">More Graduate or Prof. Degree</td> </tr> </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. 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. In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).</p>																																									
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Utah Career and Technical Education Career Pathway

2019-2020 School Year



Career Cluster: Engineering & Technology

Career Pathway: Electrical Engineering

CORE CODE	FOUNDATION COURSES (required)	CREDITS
Foundation Component		
38.01.00.00.151	Engineering Principles 1	.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
<i>Or choose the following courses:</i>		
38.01.00.00.320	PLTW Digital Electronics	1.00
38.01.00.00.310	PLTW Principles of Engineering	1.00
Capstone Component		
38.01.00.00.990	Engineering Capstone	1.00
<i>Or choose the following course:</i>		
38.01.00.00.390	PLTW Engineering Design and Development	1.00
ELECTIVE COURSES		
38.03.00.00.010	Engineering Technology	.50
38.01.00.00.211	Physics with Technology	1.00
41.00.00.00.050	CTE Internship	.50
41.00.00.00.030	Workplace Skills	.50
3.00 credits for completion		

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

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

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

Workforce Trends

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

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

Electrical Engineering is:

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

Sample Occupations Requiring:

High School Diploma

- > Electronics Equipment Assembler

Certificate

- > Electronics Installer Repairer

Assoc. or Technical Degree

- > Electronics Drafter
- > Electronics Engineering Technician

Baccalaureate Degree

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

Graduate or Prof. Degree

- > Electronics Engineer

Student Testimonial

“Engineering, electronics, an architectural design, I found joy in these courses. These CTE Pathways have shown me many careers that provide [income] and most importantly joy and well-being.”

Michael Contreras

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, the median annual salary for an experienced electronics engineering technician is \$60,660.

In Utah, more than 1,400 individuals are employed as electrical engineers.

CTE Skill Certificates

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

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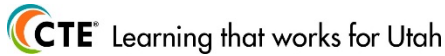
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Utah Career and Technical Education Career Pathway

2019-2020 School Year



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

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

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

Career Cluster: Engineering & Technology

Career Pathway: Manufacturing Engineering

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
38.01.00.00.011	Manufacturing Principles 1	.50	1.00 credit
38.01.00.00.012	Manufacturing Principles 2	.50	
<i>Or choose the following course:</i>			
38.01.00.00.340	PLTW Computer-Aided Manufacturing	1.00	
ELECTIVE COURSES			
40.10.00.00.140	Composites	.50	2.00 credits
38.03.00.00.010	Engineering Technology	.50	
40.10.00.00.072	Machining 1 *	.50	
38.03.00.00.060	Manufacturing Technology	.50	
40.11.00.00.100	Material Handling	1.00	
40.10.00.00.085	Metalworking	.50	
38.01.00.00.211	Physics with Technology	1.00	
40.10.00.00.050	Plastics	.50	
40.10.00.00.110	Welding Technician – Entry Level	.50	
41.00.00.00.050	CTE Internship	.50	
41.00.00.00.030	Workplace Skills	.50	
3.00 credits for completion			

* Course can be taken up to 1.00 credit.
 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.

Manufacturing Engineering is:
 > High skill
 > High wage
 > High demand

Sample Occupations Requiring:
High School Diploma
 > Production Technician
Certificate
 > Production Technician
Assoc. or Technical Degree
 > N/A
Baccalaureate Degree
 > Career and Technical Education Teacher
 > Manufacturing Engineer
Graduate or Prof. Degree
 > Manufacturing Engineer

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

HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

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

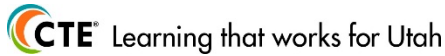
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Utah Career and Technical Education Career Pathway 2019-2020 School Year



Career Cluster: Engineering & Technology

Career Pathway: Materials Science

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
38.01.00.00.281	Materials Science	1.00	2.00 credits
38.01.00.00.211	Physics with Technology	1.00	
ELECTIVE COURSES			
40.11.00.00.140	Composites	.50	1.00 credit
38.03.00.00.010	Engineering Technology	.50	
40.10.00.00.050	Industrial Plastics	.50	
38.03.00.00.060	Manufacturing Technology	.50	
41.00.00.00.050	CTE Internship	.50	
41.00.00.00.030	Workplace Skills	.50	
		3.00 credits for completion	

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

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

Workforce Trends

The occupation of a material scientist is expected to experience faster than average employment growth. Business expansion will provide the majority of job openings in the coming decade. Material scientists with advanced degrees, particularly those with a Ph.D. and work experience are expected to have better job opportunities.

Materials Science is:

- > High skill
- > High wage

Sample Occupations Requiring:

- High School Diploma
- > Lab Tech
- Certificate
- > N/A
- Assoc. or Technical Degree
- > N/A
- Baccalaureate Degree
- > Career and Technical Education Teacher
- > Materials Engineer
- > Materials Scientist
- Graduate or Prof. Degree
- > Materials Engineer
- > Materials Scientist

Student Testimonial

"Materials Science is an amazing course. If you are planning on a career in materials science this [Career Pathway] is for you. I learned so much that I didn't know about the world around me. [I learned] how things are made, why things are made of what they are made of, and the structure of the molecules in a piece of wire I made."

Daniel Floyd

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

Utah is home to Hexcel Corporations largest carbon fiber and matrix manufacturing plant. The plant is located in West Valley City and is a worldwide supplier of carbon fiber.

CTE Skill Certificates

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

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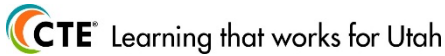
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Utah Career and Technical Education Career Pathway

2019-2020 School Year



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

TSA is the CTSO for students in the 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	
CAD Component			
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	
Foundation Component			
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	
Capstone Component			
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	
ELECTIVE COURSES			
38.03.00.00.010	Engineering Technology	.50	3.00 credits for completion
38.01.00.00.211	Physics with Technology	1.00	
41.00.00.00.050	CTE Internship	.50	
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.

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.

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

Utah Business and Industry Facts

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

UtahFutures: College and Career Planning

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

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

Utah Career and Technical Education Career Pathway 2019-2020 School Year

<p>CTSO Information 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 Robotics Career Pathway. TSA fosters personal growth, leadership, and opportunities in science, technology, engineering, and mathematics (STEM).</p> <p>Workforce Trends Most robotics engineers are employed by private companies and work in laboratory or production settings.</p>	<h2 style="margin: 0;">Career Cluster: Engineering & Technology</h2> <h3 style="margin: 0;">Career Pathway: Robotics</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: 45%;">FOUNDATION COURSES (required)</th> <th style="width: 20%;">CREDITS</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td>38.01.00.00.031</td> <td>Robotics 1</td> <td>.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>.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>1.00</td> <td rowspan="7" style="text-align: center; vertical-align: middle;">2.00 credits</td> </tr> <tr> <td>38.01.00.00.021</td> <td>Electronics 1</td> <td>.50</td> </tr> <tr> <td>38.03.00.00.010</td> <td>Engineering Technology</td> <td>.50</td> </tr> <tr> <td>40.09.00.00.070</td> <td>Industrial Maintenance Technician</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>41.00.00.00.050</td> <td>CTE Internship</td> <td>.50</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; background-color: #333; color: white; padding: 5px;">3.00 credits for completion</td> </tr> <p style="text-align: center; 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> </tbody></table>	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	2.00 credits	38.01.00.00.021	Electronics 1	.50	38.03.00.00.010	Engineering Technology	.50	40.09.00.00.070	Industrial Maintenance Technician	1.00	38.01.00.00.211	Physics with Technology	1.00	41.00.00.00.050	CTE Internship	.50	41.00.00.00.030	Workplace Skills	.50	3.00 credits for completion				<p>Robotics is: > High skill > High wage</p> <p>Sample Occupations Requiring: <u>High School Diploma</u> > N/A <u>Certificate</u> > Machine Operator <u>Assoc. or Technical Degree</u> > Electro-Mechanical Technicians <u>Baccalaureate Degree</u> > Automation Engineer > Career and Technical Education Teacher > Engineer > Industrial Engineer > Robotics Engineer <u>Graduate or Prof. Degree</u> > Engineer</p>
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<p>Student Testimonial “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>	<h2 style="margin: 0;">HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING</h2> <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: #ff7f0e; color: white; text-align: center;">1-Year Certificate</th> <th style="width: 15%; background-color: #2ca02c; color: white; text-align: center;">2-Year Associate or Technical Degree</th> <th style="width: 15%; background-color: #ffc107; color: white; text-align: center;">4-Year Bachelor’s Degree</th> <th style="width: 15%; 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 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 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31). </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	Certificates are awarded upon the successful completion of a brief course of study, usually one year or less. Upon completion of a course of study, a certificate does not require any further action to retain. In high school a variety of certificates can be earned.	An academic degree is an award for the completion of a program or course of study over multiple years at postsecondary education institutions. In 2016-2017, 74 percent of secondary students who concentrated in a CTE Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).				<p>Utah Business and Industry Facts 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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