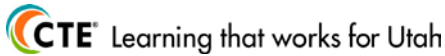


# Utah Career and Technical Education Career Pathway

## 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 and Electronics 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: #00a6c9; 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: #00a6c9; color: white;"> <th colspan="2" style="text-align: center;">ELECTIVE COURSES</th> <th></th> <th></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 and Electronics is:</b> &gt; High skill &gt; High wage</p> <p><b>Sample Occupations Requiring:</b> <u>High School Diploma</u> &gt; N/A <u>Certificate</u> &gt; N/A <u>Assoc. or Technical Degree</u> &gt; Electro-Mechanical Technicians <u>Baccalaureate Degree</u> &gt; Automation Engineer &gt; Career and Technical Education Teacher &gt; Engineer &gt; Industrial Engineer &gt; Robotics Engineer <u>Graduate or Prof. Degree</u> &gt; Engineer</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>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; 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="background-color: #00a6c9; color: white; text-align: center; padding: 5px;"><b>12th Grade</b></td> <td style="background-color: #ff7f0e; color: white; text-align: center; padding: 5px;"><b>1-Year Certificate</b></td> <td style="background-color: #2ca02c; color: white; text-align: center; padding: 5px;"><b>2-Year Associate or Technical Degree</b></td> <td style="background-color: #ffc107; color: white; text-align: center; padding: 5px;"><b>4-Year Bachelor’s Degree</b></td> <td style="background-color: #6c757d; 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> 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>																																	
<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 style="text-align: center; color: #00a6c9; font-weight: bold;">CTE Skill Certificates</p> <p style="text-align: center;">Competency-based student assessments, measured by core standards and competencies needed to be successful in the workforce.</p>	<p style="text-align: center; font-weight: bold; color: white;">UtahFutures: College and Career Planning</p> <p style="text-align: center;">Visit <a href="http://UtahFutures.org" style="color: white;">UtahFutures.org</a> for salary projections, labor market demand, and training options.</p>	<p>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.</p>	<p>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.</p>																																					