Utah Career and Technical Education Career Pathway

2017-2018 School Year

CTE Learning that works for Utah

CareerClusters® Pathways to College & Career Readiness
Science, Technology, Engineering & Mathematics

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

Workforce Trends

Most robotics engineers are employed by private companies and work in laboratory or production settings.

Career Cluster: Engineering & Technology

Career Pathway: Robotics

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		
38.01.00.00.041	CAD Architectural Design 1 *	.50	2.00 credits
38.01.00.00.051	CAD Mechanical Design 1 *	.50	
35.02.00.00.030	Computer Programming 1	1.00	
40.08.00.00.050	Electrician 1	1.00	
38.01.00.00.021	Electronics 1 *	.50	
40.09.00.00.070	Industrial Maintenance Technician	1.00	
40.10.00.00.072	Machining 1 *	1.00	
38.01.00.00.011	Manufacturing Principles 1	.50	
38.01.00.00.012	Manufacturing Principles 2	.50	
40.11.00.00.100	Materials Handling	1.00	
38.01.00.00.211	Physics with Technology	.50	
38.01.00.00.320	PLTW Digital Electronics	1.00	
41.00.00.00.030	Workplace Skills	.50	
		3.00 credits for completion	

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.

Robotics is:

> High skill
> High wage

Sample Occupations Requiring:

High School Diploma
> N/A

Certificate
> N/A

Assoc. or Technical Degree
> Electro-Mechanical Technicians

Baccalaureate Degree
> Automation Engineer
> Career and Technical Education Teacher
> Engineer
> Industrial Engineer
> Robotics Engineer

Graduate or Prof. Degree
> Engineer

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

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

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." (*Deseret News*, March 9, 2015)

CTE Skill Certificates

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

In 2015-2016, 96,190 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 2015-2016, the graduation rate for students who concentrated in a CTE Career Pathway was 96.6 percent, compared to Utah's statewide graduation rate of 85 percent.