2019-2020 School Year



(CTE[®] Learning that works for Utah

Pathways.

Career Cluster: Engineering & Technology **CTSO** Information Aeronautical Engineering is: Career and Technical **Career Pathway: Aeronautical Engineering** Student Organizations > Hiah skill (CTSO) align with the > High wage CORE CODE **FOUNDATION COURSES (required)** CREDITS national Career Clusters® > High demand and the Utah CTE Career Aeronautical Component 08.06.00.00.040 Aerospace 1.00 Sample Occupations Or choose the following course: TSA is the CTSO for **Requiring:** 38.01.00.00.350 PLTW Aerospace Engineering 1.00 students in the Aeronautical **High School Diploma** Foundation Component Engineering Career > N/A 38.01.00.00.151 Engineering Principles 1 .50 Pathway. TSA fosters 38.01.00.00.152 3.00 credits **Engineering Principles 2** .50 Certificate personal growth, leadership, Or choose the following course: > N/A and opportunities in 38.01.00.00.310 PLTW Principles of Engineering 1.00 Assoc. or Technical Degree science, technology. **Capstone Component** > Engineering Technician engineering, and 38.01.00.00.990 Engineering Capstone 1.00 > Inspection Technician mathematics (STEM). Or choose the following course: > Testing Technician 38.01.00.00.390 PLTW Engineering Design and Development 1.00 Workforce Trends **Baccalaureate Degree ELECTIVE COURSES** Nationwide, employment of > Aerospace Engineer 38.03.00.00.010 Engineering Technology .50 > Architectural and Engineering aerospace engineers is 38.01.00.00.211 Physics with Technology 1.00 Manager projected to grow 6 percent 41.00.00.00.050 CTE Internship .50 > Career and Technical through the year 2026. 41.00.00.00.030 Workplace Skills .50 Education Teacher Employment opportunities 3.00 credits for completion will be best for those trained Foundation courses taken beyond the required credits can be used as elective credit. in software, such a C++, or Graduate or Prof. Degree > Aerospace Engineer with education and Career and Technical Education provides all students access to high-guality. experience in stress and rigorous career-focused programs that result in attainment of credentials with labor market value. structural engineering. HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING Student Testimonial Utah Business and There are a number of options for education and training beyond high school, depending on your career goals. "CTE classes have shown me **Industry Facts** a clear path for my future, Aerospace and aviation 12th 1-Year 2-Year 4-Year More because I have been able to companies located in Utah experience more than just Associate or Bachelor's Graduate or Prof. Grade Certificate employ more than 42,000 math and English. A CTE **Technical Degree** Dearee workers. Internship, combined with my engineering classes, has Certificates are awarded upon the successful An academic degree is an award for the completion of a program or course of Utah high school seniors given me a great insight to completion of a brief course of study, usually one year study over multiple years at postsecondary education institutions. have the opportunity to what the future holds for me. I or less. Upon completion of a course of study, a participate in the Utah In 2016-2017, 74 percent of secondary students who concentrated in a CTE believe an aerospace certificate does not require any further action to retain. Aerospace Pathways engineering and operations Career Pathway placed in postsecondary education, advanced training, program. The program was technician job is exactly what I In high school a variety of certificates can be earned. military service or employment (October 1-December 31). created by industry to open want. I will be able to build, opportunities for young men test, and maintain aircraft." and women who are Preston Henke interested in the aerospace. UtahFutures: College and Career Planning **CTE Skill Certificates** Competency-based student assessments, measured by core standards and Visit UtahFutures.org for salary projections, labor market demand, and training options. competencies, needed to be successful in the workforce. In 2016-2017, the graduation rate for students who concentrated in a CTE Career Pathway was 95 percent, compared

In 2017-2018, 111,238 CTE skill certificates were awarded to high school students. Students' to Utah's statewide graduation rate of 86 percent. knowledge and performance is demonstrated as part of the Skill Certificate process.

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



CAD Mechanical Design is:

Sample Occupations

High School Diploma

> Mechanical Drafter

> Mechanical Engineering

Baccalaureate Degree > Aerospace Engineer

> Career and Technical

Education Teacher

> Industrial Designer

> Mechanical Engineer

> Secondary Education

> Mechanical Engineer

> Civil Engineer

Teacher

Assoc. or Technical Degree > Engineering Technician

> High skill

> High wage

Requiring:

Certificate

Technician

> N/A

> N/A

CTE[®] Learning that works for Utah

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

Workforce Trends

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

Student Testimonial

"My training, in CTE courses in high school, prep for life after high sc helping me discove of drafting. I discov need for drafters in world of engineerin focused my CTE Pa toward this career have taken some a drafting classes to both my knowledge field and my employ the field."

Career Cluster: Engineering & Technology

Career Pathway: CAD Mechanical Design

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
38.01.00.00.051	CAD Mechanical Design 1	.50	
38.01.00.00.052	CAD Mechanical Design 2	.50	
38.01.00.00.053	CAD Mechanical Design 3	.50	1.50 credits
	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	
40.13.00.00.030	Industrial Design	1.00	
38.01.00.00.211	Physics with Technology	1.00	1.00 credit
41.00.00.00.050	CTE Internship	.50	
41.00.00.00.030	Workplace Skills	.50	
		2.50 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-guality, rigorous career-focused programs that result in attainment of credentials with labor market value.

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.

Utah Business and Industry Facts

Graduate or Prof. Degree

in high school, prepared me for life after high school by helping me discover my love of drafting. I discovered the	12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	According to the Utah Department of Workforce Services, 620 mechanical drafters are employed by	
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	Certificates are awarded up completion of a brief course or less. Upon completion of certificate does not require In high school a variety of c	on the successful of study, usually one year a course of study, a any further action to retain. ertificates can be earned.	An academic degree is an study over multiple years a In 2016-2017, 74 percent o Career Pathway placed in military service or employn	award for the completion of at postsecondary education of secondary students who postsecondary education, nent (October 1-December	of a program or course of n institutions. n concentrated in a CTE advanced training, r 31).	more than 3,000 businesses throughout the state. The annual median salary for an experienced mechanical drafter is \$51,690.	
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 <u>UtahFutures.org</u> for salary projections, labor market demand, and training options.			nd training options.		
Treid and my employability in the field." Calvin Hill 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. Stuk knowledge and performance is demonstrated as part of the Skill Certificate process.			In 2016-2017, the graduation to Utah's statewide graduation	n rate for students who conc on rate of 86 percent.	entrated in a CTE Career Pat	hway was 95 percent, compared	





Electrical

> Hiah skill

> High wage

Requiring:

Assembler

Certificate

Technician

Repairer

> High demand

Engineering is:

Sample Occupations

High School Diploma

> Electronics Installer

Assoc. or Technical Degree > Electronics Drafter

> Electronics Engineering

Baccalaureate Degree

> Career and Technical

> Electronics Engineer

> Electronics Engineer

Graduate or Prof. Degree

Utah Business and

Industry Facts

Education Teacher > Electrical Engineer

> Electronics Equipment

(CTE[®] Learning that works for Utah

CTSO Information

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

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.

Student Testimonial

"Engineering electronics

Career Cluster: Engineering & Technology

Career Pathway: Electrical Engineering

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
Foundation Com	ponent		
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	2.00 oradita
38.01.00.00.023	Electronics 3	.50	2.00 creats
	Or choose the following courses:		
38.01.00.00.320	PLTW Digital Electronics	1.00	
38.01.00.00.310	PLTW Principles of Engineering	1.00	
Capstone Compo	onent		
38.01.00.00.990	Engineering Capstone	1.00	1 00 oradit
	Or choose the following course:		1.00 credit
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.

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.

an architectural design, I found joy in these courses. These CTE Pathways have shown me many careers	12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	According to the Utah Department of Workforce Services, the median annual salary for an experienced
that provide [income] and most importantly joy and well-being." Michael Contreras	Certificates are awarded up completion of a brief course or less. Upon completion of certificate does not require In high school a variety of c	oon the successful of study, usually one year a course of study, a any further action to retain. ertificates can be earned.	An academic degree is an study over multiple years a In 2016-2017, 74 percent o Career Pathway placed in military service or employn	award for the completion of at postsecondary education of secondary students who postsecondary education, nent (October 1-December	of a program or course of institutions. concentrated in a CTE advanced training, [•] 31).	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.		UtahFutures: College and Career Planning Visit <u>UtahFutures.org</u> for salary projections, labor market demand, and training options.				
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.			In 2016-2017, the graduation to Utah's statewide graduation	n rate for students who conc on rate of 86 percent.	entrated in a CTE Career Pa	thway was 95 percent, compared
52002-DI			LitahCTE org			Published Sentember 2018





(CTE[®] Learning that works for Utah

CTSO Information		Career Cluster:	: Engineering &	Technolog	У	Manufacturing
Career and Technical Student Organizations (CTSO) align	С	areer Pathway	: Manufacturing	Engineerii	ng	Engineering is: > High skill
Clusters [®] and the Utah CTE	CORE COL	E FOUNDATIO	N COURSES (required)	CREDITS		> High wage > High demand
Career Pathways.	38.01.00.00 (11 Manufacturing Princ	ciples 1	50		
TSA is the CTSO for students	38.01.00.00.0	12 Manufacturing Prince	siples 1	50		Sample Occupations
n the Manufacturing		Or choose the follo	owing course:	.00	1.00 credit	Requiring:
Engineering Career Pathway.	38.01.00.00.3	40 PI TW Computer-Ai	ded Manufacturing	1.00		High Oaks at Distance
I SA fosters personal growth,		ELEC				Fign School Diploma Production Technician
n science, technology	40 10 00 00 1	40 Composites		50		> FIOULCION TECHNICIAN
engineering, and mathematics	38.03.00.00.0	10 Engineering Techno	alogy	50		<u>Certificate</u>
STEM).	40 10 00 00 0	72 Machining 1 *	Jogy	50		> Production Technician
·· · · · ·	38 03 00 00 0	60 Manufacturing Tech	nology	50	-	Assoc. or Technical Degre
Norkforce Trends	40 11 00 00 2	00 Material Handling	literegy	1.00		> N/A
a manufacturing engineer	40.10.00.00	85 Metalworking		.50	2.00 credits	Baccalaureate Degree
lesigns, documents and	38.01.00.00 3	11 Physics with Technol	ology	1.00	1	> Career and Technical
tandardizes manufacturing	40.10.00.00.0	50 Plastics		.50	1	Education Teacher
processes, along with	40.10.00.00.1	10 Welding Technician	– Entry Level	.50		> Manufacturing Engineer
elated tooling, for	41.00.00.00.0	50 CTE Internship		.50	1	Graduate or Prof. Degree
mployed. This is a niche	41.00.00.00.0	30 Workplace Skills		.50		> Manufacturing Engineer
amployed. This is a fliche				3 00 credits	for completion	
pecialized skills are	* O			5.00 creatts	tor completion	
equired.	² Course can be	taken up to 1.00 credit.		5		
	Foundation cou	ses taken beyond the requir	ed credits can be used as elect	ive credit.		
		Career and Technical Ed	ucation provides all studen	ts access to high-q	uality,	
	rigorous c	areer-locused programs	that result in attainment of	credentials with lab	oor market value.	
Student Testimonial	HIGH SCH There are a number of	OOL TO POSTS	ECONDARY EDUC and training beyond high	SATION AND school, dependir	TRAINING ng on your career goals.	Utah Business and Industry Facts
manufacturing engineer and	12th	1-Year	2-Year	4-Year	More	In 2017, Northrop Grumman
Jo on to pursue my own	Grade	Cartificate	Associate or	Bachelor's	Graduate or Pro	purchased aerospace
Jusiness in the	Grade	Certificate	Technical Degree		Degree	manufacturer Orbital ATK (who
TE dave me experience			Technical Degree	Degree	Degree	for \$0.2 billion. The company
or what my career will be ke. CTE also [allowed me]	Certificates are awarded upor completion of a brief course o	the successful study, usually one year	An academic degree is an a study over multiple years a	award for the comple t postsecondary edu	etion of a program or course of cation institutions.	has nearly 3,000 employees with a payroll of approximately
be able to work on the	or less. Upon completion of a	course of study, a	In 2016-2017 74 percent of	f secondary students	who concentrated in a CTE	\$250 million.
skills that I need to improve on in that specific area." In t Garret Maycock	certificate does not require an	/ further action to retain. ficates can be earned.	Career Pathway placed in postsecondary education, advanced training, military service or employment (October 1-December 31).			Northrop Grumman not only develops and tests propulsion systems for rockets and missiles, they manufacture advanced composite components for commercial and militany careratt
			+			and minuty dioran.
Competency-based stu competencies	CTE Skill Certificates dent assessments, measured by o , needed to be successful in the v	ore standards and orkforce.	Visit <u>UtahFutur</u>	UtahFutures: es.org for salary proj	College and Career Plannin jections, labor market deman	n g d, and training options.
n 2017-2018, 111,238 CTE skil nowledge and performance is (l certificates were awarded to high demonstrated as part of the Skill C	school students. Students' ertificate process.	In 2016-2017, the graduation to Utah's statewide graduatic	rate for students who n rate of 86 percent.	concentrated in a CTE Career	Pathway was 95 percent, compared
006-DI			UtabCTE org			Published September 201

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



> High skill

> High wage

Requiring:

> Lab Tech

Certificate

> N/A

> N/A

Materials Science is:

Sample Occupations

High School Diploma

Baccalaureate Degree

> Career and Technical Education Teacher

Graduate or Prof. Degree

> Materials Engineer

> Materials Scientist

> Materials Engineer

> Materials Scientist

Assoc, or Technical Degree

(CTE[®] Learning that works for Utah

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.

Student Testimonial

"Materials Science is an

Career Cluster: Engineering & Technology

Career Pathway: Materials Science

CORE CODE	FOUNDATION COURSES (required)	CREDITS			
38.01.00.00.281	Materials Science	1.00			
38.01.00.00.211	Physics with Technology	1.00	2.00 credits		
	ELECTIVE COURSES				
40.11.00.00.140	Composites	.50			
38.03.00.00.010	Engineering Technology	.50			
40.10.00.00.050	Industrial Plastics	.50	1.00 credit		
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.

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.

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.

Utah Business and Industry Facts

amazing course. If you are blanning on a career in naterials science this [Career Pathway] is for you. I learned ar much that I didt't know	12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	Utah is home to Hexcel Corporations largest carbon fiber and matrix manufacturing plant. The
about the world around me. [I earned] how things are made, why things are made of what hey are made of, and the structure of the molecules in a biece of wire I made." Daniel Floyd	Certificates are awarded up completion of a brief course or less. Upon completion of certificate does not require a In high school a variety of co	on the successful of study, usually one year a course of study, a any further action to retain. ertificates can be earned.	An academic degree is an study over multiple years a In 2016-2017, 74 percent o Career Pathway placed in military service or employr	award for the completion of the postsecondary education of secondary students who postsecondary education, nent (October 1-December	of a program or course of institutions. concentrated in a CTE advanced training, 31).	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.		UtahFutures: College and Career Planning Visit <u>UtahFutures.org</u> for salary projections, labor market demand, and training options.				
n 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.			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.			

2019-2020 School Year



PATHWAYS TO COLLEGE & CAPEER DE LOUIS 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 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	
38.01.00.00.052	CAD Mechanical Design 2	.50	1.00 credit
	Or choose the following course:		
38.01.00.00.300	PLTW Introduction to Engineering Design	1.00	
Foundation Compo	nent		
38.01.00.00.151	Engineering Principles 1	.50	
38.01.00.00.152	Engineering Principles 2	.50	1.00 credit
	Or choose the following course:		
38.01.00.00.310	PLTW Principles of Engineering	1.00	
Capstone Compone	ent		
38.01.00.00.990	Engineering Capstone	1.00	1.00 crodit
	Or choose the following course:		1.00 crean
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.

Mechanical Engineering is:

> Hiah 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

Utah Business and **Industry Facts**

Student Testimonial

"I have always liked doing

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.

hands-on projects and thinking of different ways to make something better. With the CTE classes I was able to	12th Grade	1-Year Certificate	2-Year Associate or Technical Degree	4-Year Bachelor's Degree	More Graduate or Prof. Degree	The Engineering Initiative, established by the Utah State Legislature in 2001, aimed to triple engineering and computer science oraduates. Since 2015. Utah state
see whole processes, from the design stage on paper to transferring that design and idea into a computer applica- tion, then all the way to building a prototype." Hunter Okerlund	Certificates are awarded up completion of a brief course or less. Upon completion of certificate does not require a In high school a variety of c	on the successful of study, usually one year a course of study, a any further action to retain. ertificates 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).		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.		UtahFutures: College and Career Planning Visit <u>UtahFutures.org</u> for salary projections, labor market demand, and training options.				
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.			In 2016-2017, the graduatic to Utah's statewide graduat	n rate for students who conc ion rate of 86 percent.	centrated in a CTE Career Pa	thway was 95 percent, compared

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



CTE[®] Learning that works for Utah

CTSO Information		Career Cluster	Engineering &	Technolog	У	Ro	botics is:
Career and Technical Student Organizations		Career	Pathway: Robo	otics		> H > H	igh skill igh wage
(CISO) align with the national Career Clusters®	CORE CO	DE FOUNDATIO	N COURSES (required)	CREDITS		Sa	nole Occupations
and the Utah CTE Career	38.01.00.00	.031 Robotics 1		.50		Re	auirina:
Pathways.	38.01.00.00.	.032 Robotics 2		.50	1.00 credit	Hig	h School Diploma
TSA is the CTSO for		ELEC					
students in the Robotics	35 02 00 00	030 Computer Program	ming 1	1.00			tificato
Career Pathway. TSA	38 01 00 00	021 Electronics 1		50			achine Operator
fosters personal growth,	38.03.00.00	010 Engineering Techno	bloav	.50		- 10	
leadership, and	40.09.00.00	.070 Industrial Maintenar	nce Technician	1.00	2.00 credits	Ass	Soc. or Technical Degree
opportunities in science,	38.01.00.00.	.211 Physics with Techno	plogy	1.00	2.00 0.000	> E	lectro-Mechanical
technology, engineering,	41.00.00.00.	.050 CTE Internship		.50		Tec	TITICIALIS
and mathematics (STEM).	41.00.00.00.	.030 Workplace Skills		.50		Bac	calaureate Degree
Workforce Trends		· ·		3.00 credits f	or completion	> A	utomation Engineer
employed by private companies and work in laboratory or production settings.	rigorous	career and recinical Ed career-focused programs	that result in attainment of	credentials with lab	or market value.	> E > In > R	ngineer dustrial Engineer obotics Engineer
Student Testimonial	HIGH SC	HOOL TO POSTS	ECONDARY EDU	CATION AND	TRAINING g on your care	er goals.	Itah Business and
degree in mechatronics.	12th	1-Voar	2-Voar	1-Voar	М	ore From	n "smart" shoes to flying
After completing my degree				H-ICal Decholoria			ts to self-driving cars,
I plan on finding work with a	Grade	Certificate	Associate or	Bachelor S	Graduat	te or Prof. thro	ughout Utah there are
company designing			Technical Degree	Degree	De	gree	tics to streamline the
high school engineering instructor was an amazing	Certificates are awarded upo completion of a brief course of or less. Upon completion of a	n the successful of study, usually one year a course of study, a	An academic degree is an study over multiple years a	award for the complete at postsecondary educ	tion of a program ation institutions.	or course of man good easi	ufacturing process, produce ds, and make daily tasks er.
my love of this field and the path that I have chosen." Connor Hendry	certificate does not require and In high school a variety of certain the school a variety of certain the school and school a variety of certain the school and school	ny further action to retain. rtificates can be earned.	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).			d in a CTE "We aining, help Min Univ futu und (Des	have this idea that robots wi us in the future," said Mark or, associate professor, rersity of Utah. "Well, the re is here. You just have to erstand what they're doing." <i>eret News</i> , March 9, 2015)
Competency-based stu competencies	CTE Skill Certificates udent assessments, measured by s, needed to be successful in the	core standards and workforce.	Visit <u>UtahFutt</u>	UtahFutures: (res.org for salary proj	College and Care ections, labor man	eer Planning rket demand, and tra	aining options.
In 2017-2018, 111,238 CTE ski knowledge and performance is	Il certificates were awarded to hig demonstrated as part of the Skill	h school students. Students' Certificate process.	In 2016-2017, the graduatio to Utah's statewide graduati	n rate for students who on rate of 86 percent.	concentrated in a	CTE Career Pathway	was 95 percent, compared