Utah Career and Technical Education Career Pathway

2018-2019 School Year

CTE Learning that works for Utah

CareerClusters PATHWAYS TO COLLEGE & CAREER READINESS
Information Technology

Career Cluster: Information Technology

Career Pathway: Information Technology Systems

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
	Choose 2.00 credits from the following courses:		
35.01.00.00.040	A+ (Computer Maintenance)	1.00	2.00 credits
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	
	ELECTIVE COURSES		
35.02.00.00.021	Database Development	1.00	1.00 credit
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	
		3.00 credits for completion	

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

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 Network and IT Support Career Pathway choose among the following CTSOs, depending upon what is available at their school:

FBLA | SkillsUSA | TSA

Workforce Trends

Growth will be driven by rapid increases in the computer and data processing services industry.

In Utah, the average annual employment growth rate for computer systems analysts is 5 percent through the year 2024.

According to the Utah Technology Council, IT occupations account for $6.9 billion (14.3 percent) of Utah's total payroll.

Network & IT Support is:

> High skill
> High wage
> High demand

Sample Occupations Requiring:

High School Diploma
> N/A

Certificate
> N/A

Assoc. or Technical Degree
> Computer Network Support Specialist

Baccalaureate Degree
> Career and Technical Education Teacher
> Computer Network Architect
> Computer and Information Systems Manager
> Computer Systems Analyst
> Database Administrator
> Network and Computer Systems Administrator

Graduate or Prof. Degree
> Computer and Information Research Scientist

Student Testimonial

"This program helped me earn many industry-level certifications including: CompTIA, IT Strata Fundamentals, IC3, Microsoft Technical Associate (MIT), OS Fundamentals, and Security and Academy of Information Technology certifications."

Parker Kingsford

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

In 2017, Forbes named Utah "cloud computing's new capital." Forbes ranked six Utah tech companies in the top 100 and three of the Utah tech companies were ranked in the top 20—Qualtrics (No.6), Domo (15), Pluralsight (20), Workfront (58), Health Catalyst (64), and InsideSales (92).

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 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.

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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 CTSOs, 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	
	Choose 1.00 credit from the following courses:		
35.02.00.00.035	Computer Science Principles	1.00	
35.02.00.00.030	Computer Programming 1	.50	
35.02.00.00.036	PLTW Computer Science and Software Engineering	1.00	
	Choose 1.00 credit from the following courses:		2.00 credits
35.02.00.00.041	AP Computer Science	1.00	
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	
	ELECTIVE COURSES		
35.02.00.00.037	Algorithms and Data Structures	1.00	
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	1.00 credit
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	
			3.00 credits for completion

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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 suing 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.

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

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.

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

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

Workforce Trends

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.

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.

Career Cluster: Information Technology

Career Pathway: Web Development

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
35.02.00.00.060	Web Development 1	.50	1.50 credits
	Choose 1.00 credit of the following courses:		
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	
		3.00 credits for completion	

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Web Development & Administration 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 and Information Systems Manager
> Computer Programmer
> Database Administrator
> Graphic Designer
> Multimedia Artists and Animators
> Software Developer

Graduate or Prof. Degree
> Web Developer

Student Testimonial

"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."

Zachary Crocker

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Utah Business and Industry Facts

Utah has deep consumer software roots. Ancestry.com, Overstock.com, Backcountry.com, and Vivint.com all started in the Beehive State.

"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. *Silicon Slopes Magazine*, Spring 2017

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