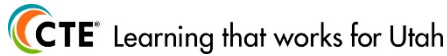


# Utah Career and Technical Education Career Pathway

## 2019-2020 School Year



### Career Cluster: Information Technology

#### Career Pathway: Programming & Software Development

CORE CODE	FOUNDATION COURSES (required)	CREDITS	
<b>Choose 1.00 credit from the following courses:</b>			2.00 credits
35.02.00.00.030	Computer Programming 1	.50	
35.02.00.00.035	Computer Science Principles *	.50	
35.02.00.00.036	Computer Science and Software Engineering	1.00	
<b>Choose 1.00 credit from the following courses:</b>			
35.02.00.00.041	AP Computer Science	1.00	
35.02.00.00.032	Computer Programming 2	.50	1.00 credit
35.02.00.00.040	Computer Programming 3	1.00	
35.02.00.00.045	Gaming Development Fundamentals	.50	
<b>ELECTIVE COURSES</b>			
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	3.00 credits for completion
35.02.00.00.007	Exploring Computer Science 1	.50	
35.02.00.00.008	Exploring Computer Science 2	.50	
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	
41.00.00.00.050	CTE Internship	.50	
41.00.00.00.030	Workplace Skills	.50	

\* Course can be taken up to 1.00 credit.

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

Visit [UtahCTE.org](http://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 Programming and 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.

#### 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 using 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
<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>		<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 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

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.

#### 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](http://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.