

# High School to College and Career Pathway: Secondary

Career and Technical Education: Preparing Students for College and Career!



## Area of Study: Information Technology Education

### Pathway: Programming/Software Development

#### Get the Facts

A 3D graphics programmer must have a firm grasp of advanced mathematical concepts.

#### Workforce Trends

Demand for programmers to help organizations keep up with changing technology will continue. Prospects should be best for college graduates with knowledge of various programming languages and tools; those with less formal education or work experience should face keen competition.



#### CAREER AND TECHNICAL EDUCATION

##### Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit
11.0201	Computer Programming I	1.00
<i>Choose one of the following courses:</i>		
11.0202	Computer Programming II	1.00
11.0301	Database Development I	1.00
<b>Elective Courses:</b>		
11.0101	Information Technology, Introduction	.50
11.0210	Digital Media I	1.00
11.0230	Web Development I	1.00
32.0199	Student Internship (Critical Workplace Skills)	.50

2.00 credits

1.00 credit

3.00 credits for completion

Visit [UtahCTE.org](http://UtahCTE.org) to learn how to earn industry certification in this Pathway.

#### Programming/Software Development is:

- > High skill
- > High wage
- > High demand
- > Nontraditional for females

#### Sample Career Occupations

- > Computer Programmer
- > Computer Systems Analyst
- > Game Programmer
- > Information Technology Education Teacher
- > Software Engineer

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

Middle School		State Requirements			High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School	High School		9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>&gt; Certificate</li> <li>&gt; Associate degree</li> <li>&gt; Bachelor's degree</li> <li>&gt; Professional degree</li> <li>&gt; On-the-job training</li> <li>&gt; Apprenticeship</li> <li>&gt; Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://www.utahfutures.org">www.utahfutures.org</a>.</p>
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	Computer Programming 1.00	
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Biological Science 1.00	Additional credit 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50				
Keyboarding .50			Computer Tech.	.50	Computer Technology .50				
CTE Intro 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.				

\* Talk to your school counselor about math requirements in the new common core curriculum. Core curriculum and elective requirements may vary district to district.

Concurrent enrollment course offerings vary by school and district. Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.