

## Connecting High School to College and Career

Career and Technical Education (CTE) provides critical learning and hands-on skills through Career Pathways within eight Areas of Study. Students who focus on a Pathway acquire the skills necessary for entry into well-paid careers with high potential for rapid financial growth, increased levels of responsibility, and a high degree of personal satisfaction.

### CTE Pathways:

- Will jump-start your future career.
- Will give you unlimited opportunities.
- Will help you plan for life after high school—before graduation.
- Will save you time and money.

### What is a Pathway?

- A Pathway is a sequence of courses within your area of interest.
- A Pathway will connect your career interests from high school to college and/or career.
- A Pathway will help you acquire the depth of knowledge and skill linked with specific postsecondary programs that will lead to a certificate or degree and/or career.

### CTE: Keeping it REAL

- Classroom instruction connects to the REAL world of work and future career opportunities.
- Statistics indicate that CTE graduates are worth higher wages because they are more productive than other workers.

### Did you know?

Ninety percent of jobs require training beyond high school.

### Top 5 reasons to participate in CTE Career Pathways:

1. To acquire technical skills training.
2. To participate in hands-on learning.
3. To jump-start your future career.
4. To earn college credit while in high school through concurrent enrollment classes.
5. To save time and money!

### Ask yourself:

- What do I want to be doing in 5 years?
- What do I want to be doing in 10 years?

### Ask yourself:

- What classes should I take to get ready for life after high school—college and career?
- What does it cost to go to college?

### Ask yourself:

- Why should I take this class?
- Why should I plan?
- Why should I study?
- Why should I graduate from high school?

### Ask yourself:

- How can Pathways help me?
- How do I find the options that are right for me?
- How do I find a satisfying career?

*Acquiring critical learning and hands-on skills through education and training will open doors of opportunity for obtaining employment within your area of interest. Stay in school and finish your education. Your future depends on it.*

For more information log onto  
[UtahCTE.org](http://UtahCTE.org).

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Technology and Engineering Education  
*Project Lead the Way*

## High School to College and Career PATHWAYS



CAREER AND TECHNICAL EDUCATION  
*Giving Students the Edge*



# High School to College and Career Pathway: Secondary

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



## Area of Study: Technology and Engineering Education

### Pathway: Project Lead the Way (National Pre-Engineering Program)

**Get the Facts**  
Project Lead the Way is offered in over 45 states and the District of Columbia.

In Utah, an engineer, professional or structural, must be licensed.

**Workforce Trends**  
Nationally, engineering is the second largest of all professions. In Utah, it is one of the fastest-growing industries, having a projected growth rate of 2.2 percent through the year 2018, creating 17,200 jobs.

**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
21.0120	Engineering Design, Introduction (required)	1.00
21.0122	Principles of Engineering (required)	1.00
<i>Choose one of the following courses:</i>		
14.0201	Aerospace Engineering	1.00
21.0121	Digital Electronics	1.00
21.0123	Computer Integrated Manufacturing	1.00
21.0124	Engineering Design & Development *	1.00
21.0125	Civil Engineering & Architecture	1.00
<b>Elective Courses:</b>		
21.0105	Physics with Technology	1.00
32.0199	Student Internship (Critical Workplace Skills)	.50

\* Recommended capstone course. However, Pathway may be completed by taking 1.00 credit from elective courses.

3.00 credits

Additional credits

3.00 credits for completion

**Pre-Engineering is:**

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

**Sample Career Occupations**

- > Civil Engineer
- > Complex Analysis
- > Complex Design
- > Development Manufacturing Research
- > Electrical Engineer
- > Mechanical Engineer
- > Technology and Engineering Education Teacher

### 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	There are a number of options for education and training beyond high school, depending on your career goals. <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> For more information on salary projections, labor market demand, and training options, visit <a href="http://www.utahfutures.org">www.utahfutures.org</a> .
Math * 1.00	Math * 1.00	2.00	Math 3.00	Math * 1.00	Math * 1.00	Math * 1.00	Math * 1.00	
Science .50	Science 1.00	1.50	Science 3.00	Earth Systems 1.00	Biology 1.00	Chemistry 1.00	Physics or Physics with Technology 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 .50 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.