



## Career Cluster: Advanced Manufacturing & Engineering

### Career Pathway: Engineering

JUNIOR HIGH / MIDDLE SCHOOL			
College and Career Awareness			
Exploring Technology			
HIGH SCHOOL			
<b>SUPPORTING COURSES:</b> Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Pathway)			
Chemistry	Math 1050	Physics	
<b>EXPLORER COURSES:</b> Choose one or more of the following courses.			
3D Print Technology	Electromechanical 1	Manufacturing Principles 1 +	Robotics 1 +
Architectural Design 1 *	Electronics, Intro * +	Mechanical Design and Engineering 1 *	Robotics Technology
CAM Automated Manufacturing	Engineering Principles 1 +	Metalworking 1	Unmanned Aerial Systems
Composites 1	Engineering Technology	Physics (AP)	Welding Technician, Entry *
Computer Programming 1	Machining 1 *	Plastics 1	Woodworking, Beginning
<b>CONCENTRATOR COURSES:</b> To be a concentrator you must pass one of the following courses AND one explorer course.			
Aerospace Engineering	Electromechanical 2	Materials Science	Robotics 2_*
Digital Electronics *	Engineering Principles 2 *	Mechanical Design and Engineering 2 *	
<b>COMPLETER COURSES:</b> To be a completer you must pass a concentrator course and enough courses to equal 3.0 credits in this Pathway.			
Automation Principles	Electronics, Advanced *	Unmanned Aerial Systems Lab: Design, Build, Maintain	
Calculus (AP)	Engineering Capstone		
Computer Programming, Advanced	Mechanical Design and Engineering 3 *		
CTE Internship		<a href="#">Apprenticeship</a>	
<b>POSTSECONDARY:</b> There are many options for education and training beyond high school.			
Utah System of Higher Education: <a href="http://ushe.edu">ushe.edu</a> (Utah's public colleges and universities)		UtahMajors.org: <a href="#">Majors Guide</a>	

\* concurrent enrollment course + recommended explorer course

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING

There are several options for education and training beyond high school, depending on your career goals.

	Certificate	2-Year Associate Degree	4-Year Bachelor's Degree
	<ul style="list-style-type: none"> <li>&gt; Machine Operator</li> <li>&gt; Production Technician</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Electro-Mechanical Technicians</li> <li>&gt; Electronics Equipment Assembler</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Automation Engineer</li> <li>&gt; CTE Teacher</li> <li>&gt; Electrical Engineer</li> <li>&gt; Electronics Drafter</li> </ul>

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. [Credentials of Value](#)

Utah CTE classes are open to all qualified students without regard to race, color, national origin, sex, disability, or age.

### Advice to Students

“Taking a CTE course is not for the faint of heart. It is difficult and time consuming. However, through the courses you will fall in love with the subject you are studying. My advice is to never give up no matter how hard it gets..”

Ashley Zolnik  
 Future Manufacturing Engineer

### LEARN MORE ABOUT OCCUPATIONS AND WAGES

#### Advanced Manufacturing & Engineering

Department of Workforce Services  
[Utah Occupational Explorer](#)

### TSA

is the Career and Technical Student Organization (CTSO) for students in the Engineering Career Pathway.

[TSAweb.org](http://TSAweb.org) | [UtahTSA.org](http://UtahTSA.org)  
[Utah TSA flyer](#)

