



High School to College and Career Pathway: Secondary Career and Technical Education

2016-2017
DRAFT 11/5/15

Area of Study: Skilled and Technical Sciences Education

Pathway: Precision Production Trades – Aerospace Manufacturing

<p>Get the Facts Aerospace operations technicians install and maintain equipment used in testing new aircraft and spacecraft. They are physically active in constructing the designs that aerospace engineers develop.</p> <p>Aerospace engineering and operations technicians work directly in manufacturing or industrial plants.</p> <p>Workforce Trends Aerospace operations technicians work on many projects related to national defense and therefore require security clearances.</p>	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			3.00 credit 3.00 credits for completion	<p>Aerospace is:</p> <ul style="list-style-type: none"> > High skill > High wage > High demand <p>Sample Career Occupations</p> <ul style="list-style-type: none"> > Aerospace Engineer > Composite Technician > Drafter > Industrial Engineering Technician > Mechanical Engineering Technician > Skilled Assembler > Weld Engineer > Weld Inspector > Welder
	Course #	Foundation Courses: (required)	Credit		
	08.0211	Leadership Principles	.50		
	15.1351	CAD Mechanical Design 1	.50		
	15.1560	Manufacturing Principles	.50		
	32.9902	CTE Internship	.50		
	48.0514	Metalworking 1 *	.50		
48.0520	Composites 1	.50			
* Course can be taken up to 1.00 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"> > Certificate > Associate degree > Bachelor's degree > Professional degree > On-the-job training > Apprenticeship > Military training <p>For more information on salary projections, labor market demand, and training options, visit UtahFutures.org.</p>
Math * 1.00	Math * 1.00	2.00	Math 3.00	Math * 1.00	Math * 1.00	Math * 1.00		
Science .50	Science 1.00	1.50	Science 3.00	Earth Systems 1.00	Physics 1.00 or Physics with Technology 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	
			General Financial Literacy .50			General Financial Literacy .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			Digital Literacy .50	Comp. Tech. or Exploring Computer Science .50				
College & Career Awareness 1.00	Exploring Technology .50	1.00	CTE 1.00	Refer to Career and Technical Education box above.				

> * Talk to your school counselor about math requirements in the core curriculum. Core curriculum and elective requirements may vary district to district.
 > Many CTE courses may qualify for concurrent enrollment credit, which in some cases may earn up to 1.0 credit toward Pathway completion. Talk to your school counselor about availability.

> 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.

Area of Study: Skilled and Technical Sciences Education

Pathway: Protective Services

Get the Facts

There are over 1 million firefighters in the United States. In Utah, approximately 85 percent of firefighters are volunteers and approximately 14 percent are career firefighters.

In the U.S. approximately 6,200 women currently work as full-time career firefighters and officers. It is estimated that an additional 35- 40,000 women are in the volunteer fire service.

Workforce Trends

In Utah, employment of firefighters is projected to grow 1.8 percent through the year 2022. Those who have completed some firefighter education at a community college and have an EMT certification will have an advantage.



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
51.0810	Emergency Medical Responder	.50
Choose one of the following courses:		
43.0107	Law Enforcement *	.50
43.0203	Fire Science *	.50
Elective Courses:		
10.0203	Video Production 1 *	.50
15.0507	Environmental Technician *	.50
15.1351	CAD Architectural Design 1	.50
43.0102	Introduction to Corrections	.50
43.0103	Introduction to Criminal Justice	.50
43.0105	Careers in Law Enforcement	.50
43.0108	Criminal Law *	.50
43.0301	Homeland Security *	.50
46.0000	Construction Trades Foundation	.50
47.0604	Introduction to Automotive *	.50
50.0407	Basic Digital Photography *	.50
51.1004	Medical Forensics	.50
32.0199	Workplace Skills	.50

1.00 credit

1.50 credits

2.50 credits for completion

Firefighting is:

- > High skill
- > High demand

Sample Career Occupations

- > Battalion Chief
- > Fire Chief's Aide
- > Firefighter Supervisor
- > Firefighting Teacher
- > Fire Inspector
- > Fire Marshall
- > Forest Firefighter

In 2013, 3.5 percent of the people employed as firefighters were women.

* Course can be taken up to 1.00 credit.
Foundation courses taken beyond the required credits can be used as elective credit.

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Math * 1.00	Math * 1.00	2.00	Math 3.00	Math * 1.00	Math * 1.00	Math * 1.00		
Science .50	Science 1.00	1.50	Science 3.00	Earth Systems 1.00	Biological Science 1.00 or Chemistry 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 .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			Digital Literacy .50	Comp. Tech. or Exploring Computer Science .50				
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