

Palo Verde College

Program Outline Report

Program Basics

Program Title:

Hazardous Materials Specialist Associate of Science

Program Status:

Active from 2025-2026 Fall (2025FA)

Department:

Fire Science Technology

Award Type:

A.S. Degree Major (Credit)

Program/Catalog Description

The program prepares individuals to perform the duties of fire fighters. This includes instruction in fire-fighting equipment operation and maintenance, principles of fire science and combustible substances, methods of controlling different types of fires, hazardous material handling and control, fire rescue procedures, public relations and applicable laws and regulations.

Control Number:

09819

Credential ID:

No value

Transferability:

No value

(SP01) Program TOP Code:

0303.00

(SP01) Program TOP Code:

Environmental Technology

(SP02) Student Program Award:

Associate of Science (A.S.) degree

Maximum Credits:

64

Minimum Credits:

60

Curriculum Committee Approval Date:

04/10/2025

Board of Trustees Approval Date:

05/13/2025

External Review Approval Date:

05/13/2025

Proposal Details

Proposal Start:

2025-2026 Fall (2025FA)

What changes have been made to the program:

Updating units due to CalGETC

Program Justification:

No value

Submission Rationale

No value

Program Requirements

Hazardous Materials Specialist Associate of Science (Total 59.5-64)

Complete all of the following**Required Core Courses (Total 13.5-14)****Complete the following number of credits: 13.5-14**

FST150 - Hazardous Materials First Responder Operational Level	0.75-1
FST152 - Haz Mat Technician 1A: Basic Chemistry	2
FST153 - Haz Mat Technician 1B: Applied Chemistry	1.75
FST154 - Haz Mat Technician 1C: Incident Considerations	1.75
FST157 - Haz Mat Specialist 1F: Specialized Mitigation Techniques	1.75
FST155 - Haz Mat Technician 1D: Tactical Field Operations	1.75
FST158 - Haz Mat Specialist 1G: Tactical Field Operations	1.75
FST162 - I-300: Intermediate Incident Command System (ICS)	1-1.25
FST183 - Terrorism, Weapons of Mass Destruction	1

Unrestricted Electives: 12 additional units in any of the FST 100 level or above (Total 12)**Complete the following number of credits: 12**

FST100 - American Red Cross - Emergency Medical Response	2.5
FST102 - Introduction to Fire Science	3
FST106 - Auto Extrication	0.5
FST107 - Driver/Operator: Aerial/Truck Operations	1.25
FST111 - River and Flood Rescue Technician	0.75
FST112 - Personal Water Craft Rescue	0.5
FST113 - Rescue Boat Operations	0.5
FST115 - Fire Apparatus Driver/Operator 1A: Emergency Vehicle Operations	1.5
FST116 - Fire Apparatus Driver/Operator 1B Pump Operations	1.5
FST119 - Fire Control 6 Wildland Firefighting Essentials	0.75
FST120 - Firefighter Survival	0.5
FST123 - Fire Control 3B: Structural Firefighting in Live-Fire Simulators	0.25
FST124 - Fire Control 3A: Structural Firefighting in Acquired Structures	0.25
FST125 - Surface Rescue Boat Technician	0.25-0.75
FST126 - River and Flood Motorized Rescue Boat Technician	0.5
FST148 - S-190: Introduction to Wildland Fire Behavior	0.25
FST151 - Hazardous Materials First Responder Awareness Level	0.25
FST156 - Trench Rescue Technician	0.5
FST159 - I-200 Basic Incident Command System (ICS)	0.5-0.75
FST161 - Hazmat Incident Command System	1
FST162 - I-300: Intermediate Incident Command System (ICS)	1-1.25
FST163 - I-400: Advanced Incident Command System (ICS)	0.75
FST165 - Confined Space Rescue Technician	1
FST166 - Confined Space Rescue Awareness	0.25
FST173 - Rescue Systems 1: Basic Rescue Skills	2
FST174 - Rescue Systems 2: Advanced Rescue Skills	2
FST175 - Low Angle Rope Rescue Operational	0.5
FST219 - Rescue Systems 3: Structural Collapse Technician	0.5
FST222 - Hazardous Materials Technician for Industry	2
FST223 - Hazardous Materials Incident Commander	0.75
FST224 - Instructor 1: Instructional Methodology	2
FST226 - Instructor II: Instructional Development	2

FST229 - CERT - Community Emergency Response Team	0.5-1
FST240 - Fire Prevention 1:Fire and Life Safety Inspections For Company Officer	1.5
FST241 - Fire Investigation 1A: Fire Origin and Cause Determination	2
FST242 - Fire Investigation 1B: Techniques of Fire Investigation	2
FST243 - Fire Investigation 2A: Criminal and Legal Procedures	2
FST245 - Company Officer 2A: Human Resource Management	2
FST246 - Company Officer 2B: General Administrative Functions	1
FST247 - Company Officer 2C: Fire Inspections and Investigations	2
FST248 - Company Officer 2D: All-Risk Command Operations	2
FST249 - Company Officer 2E: Wildland Incident Operations	2
FST251 - Hazardous Material Technician Specialist Refresher II	1
FST252 - Chief Fire Officer 3A: Human Resource Management	1.25
FST253 - Chief Officer 3B: Budget and Fiscal Responsibilities	1
FST254 - Chief Fire Officer 3C: General Administration Functions	1.25
FST256 - Chief Fire Officer 3D: Emergency Service Delivery Responsibilities	1.25
FST257 - Fire Inspector 1A: Duties and Administration	1.25
FST259 - Fire Inspector 1C: Field Inspection	1.25
FST258 - Fire Inspector 1B: Fire and Life Safety	1.25
FST261 - Fire Inspector 2A: Fire Prevention Administration	0.75
FST263 - Fire Inspector 2C:Inspect New & Exist Fire & Life Safety Sys & Equip	0.75
FST266 - Haz Mat Emergency Response: First Responder Operations-Decontamination	0.25
FST268 - HazMat/Weapons of Mass Destruction: Assist Safety Officer	0.75
FST269 - Hazardous Materials Emergency Response Technician-Private Industry	1
FST272 - S-290: Intermediate Wildland Fire Behavior	1.75
FST273 - Fire Instructor III: Instructional Program Management	2
FST274 - Fire Control 5A; Aircraft Rescue and Firefighting Initial Training	1.75
FST276 - Open Water Rescuer-Basic	0.5
FST275 - Fire Control 5B; Aircraft Rescue and Firefighting Live Fire Drill	0.25
FST277 - Rope Rescue Technician/High Angle Rescue	1
FST250 - HAZ MAT-Technician/Specialist Refresher I	0.2-0.75
FST260 - Fire Inspector 1D: Field Inspection-California Specific	0.75
FST262 - Fire Inspector 2B: Fire and Life Safety Requirements	1.25
FST263 - Fire Inspector 2C:Inspect New & Exist Fire & Life Safety Sys & Equip	0.75
FST290 - Selected Studies in Fire Science Technology	0.25-6
FST110 - River and Flood Water Rescue Operations	0.5
FST221 - S404 Safety Officer	1.5

In addition to the Core Courses required for the A.S. Degree Hazardous Materials Specialist, students will also be required to meet the Associate Degree Requirements and the General Education Requirements.

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Recommended Sequences

Hazardous Materials Specialist Associate of Science

Term 1 (Total 0.75-2)

Required Core Courses (Total 0.75-2)**Take one of the following**

FST150 - Hazardous Materials First Responder Operational Level	0.75-1
FST152 - Haz Mat Technician 1A: Basic Chemistry	2
FST153 - Haz Mat Technician 1B: Applied Chemistry	1.75
FST154 - Haz Mat Technician 1C: Incident Considerations	1.75
FST155 - Haz Mat Technician 1D: Tactical Field Operations	1.75

Term 2 (Total 1.75)**Required Core Courses (Total 1.75)****Take one of the following**

FST157 - Haz Mat Specialist 1F: Specialized Mitigation Techniques	1.75
FST158 - Haz Mat Specialist 1G: Tactical Field Operations	1.75

Term 3 (Total 1-1.25)**Required Core Courses (Total 1-1.25)****Take one of the following**

FST162 - I-300: Intermediate Incident Command System (ICS)	1-1.25
FST183 - Terrorism, Weapons of Mass Destruction	1

Term 4 (Total 0.2-6)**Unrestricted Electives: 12 additional units in any of the FST 100 level or above (Total 0.2-6)****Take one of the following**

FST100 - American Red Cross - Emergency Medical Response	2.5
FST102 - Introduction to Fire Science	3
FST106 - Auto Extrication	0.5
FST107 - Driver/Operator: Aerial/Truck Operations	1.25
FST111 - River and Flood Rescue Technician	0.75
FST112 - Personal Water Craft Rescue	0.5
FST113 - Rescue Boat Operations	0.5
FST115 - Fire Apparatus Driver/Operator 1A: Emergency Vehicle Operations	1.5
FST116 - Fire Apparatus Driver/Operator 1B Pump Operations	1.5
FST119 - Fire Control 6 Wildland Firefighting Essentials	0.75
FST120 - Firefighter Survival	0.5
FST123 - Fire Control 3B: Structural Firefighting in Live-Fire Simulators	0.25
FST124 - Fire Control 3A: Structural Firefighting in Acquired Structures	0.25
FST125 - Surface Rescue Boat Technician	0.25-0.75
FST126 - River and Flood Motorized Rescue Boat Technician	0.5
FST148 - S-190: Introduction to Wildland Fire Behavior	0.25
FST151 - Hazardous Materials First Responder Awareness Level	0.25
FST156 - Trench Rescue Technician	0.5
FST159 - I-200 Basic Incident Command System (ICS)	0.5-0.75
FST161 - Hazmat Incident Command System	1
FST162 - I-300: Intermediate Incident Command System (ICS)	1-1.25
FST163 - I-400: Advanced Incident Command System (ICS)	0.75
FST165 - Confined Space Rescue Technician	1

FST166 - Confined Space Rescue Awareness	0.25
FST173 - Rescue Systems 1: Basic Rescue Skills	2
FST174 - Rescue Systems 2: Advanced Rescue Skills	2
FST175 - Low Angle Rope Rescue Operational	0.5
FST219 - Rescue Systems 3: Structural Collapse Technician	0.5
FST222 - Hazardous Materials Technician for Industry	2
FST223 - Hazardous Materials Incident Commander	0.75
FST224 - Instructor 1: Instructional Methodology	2
FST226 - Instructor II: Instructional Development	2
FST229 - CERT - Community Emergency Response Team	0.5-1
FST240 - Fire Prevention 1: Fire and Life Safety Inspections For Company Officer	1.5
FST241 - Fire Investigation 1A: Fire Origin and Cause Determination	2
FST242 - Fire Investigation 1B: Techniques of Fire Investigation	2
FST243 - Fire Investigation 2A: Criminal and Legal Procedures	2
FST245 - Company Officer 2A: Human Resource Management	2
FST246 - Company Officer 2B: General Administrative Functions	1
FST247 - Company Officer 2C: Fire Inspections and Investigations	2
FST248 - Company Officer 2D: All-Risk Command Operations	2
FST249 - Company Officer 2E: Wildland Incident Operations	2
FST251 - Hazardous Material Technician Specialist Refresher II	1
FST252 - Chief Fire Officer 3A: Human Resource Management	1.25
FST253 - Chief Officer 3B: Budget and Fiscal Responsibilities	1
FST254 - Chief Fire Officer 3C: General Administration Functions	1.25
FST256 - Chief Fire Officer 3D: Emergency Service Delivery Responsibilities	1.25
FST257 - Fire Inspector 1A: Duties and Administration	1.25
FST259 - Fire Inspector 1C: Field Inspection	1.25
FST258 - Fire Inspector 1B: Fire and Life Safety	1.25
FST261 - Fire Inspector 2A: Fire Prevention Administration	0.75
FST263 - Fire Inspector 2C: Inspect New & Exist Fire & Life Safety Sys & Equip	0.75
FST266 - Haz Mat Emergency Response: First Responder Operations-Decontamination	0.25
FST268 - HazMat/Weapons of Mass Destruction: Assist Safety Officer	0.75
FST269 - Hazardous Materials Emergency Response Technician-Private Industry	1
FST272 - S-290: Intermediate Wildland Fire Behavior	1.75
FST273 - Fire Instructor III: Instructional Program Management	2
FST274 - Fire Control 5A: Aircraft Rescue and Firefighting Initial Training	1.75
FST276 - Open Water Rescuer-Basic	0.5
FST275 - Fire Control 5B: Aircraft Rescue and Firefighting Live Fire Drill	0.25
FST277 - Rope Rescue Technician/High Angle Rescue	1
FST250 - HAZ MAT-Technician/Specialist Refresher I	0.2-0.75
FST260 - Fire Inspector 1D: Field Inspection-California Specific	0.75
FST262 - Fire Inspector 2B: Fire and Life Safety Requirements	1.25
FST263 - Fire Inspector 2C: Inspect New & Exist Fire & Life Safety Sys & Equip	0.75
FST290 - Selected Studies in Fire Science Technology	0.25-6
FST110 - River and Flood Water Rescue Operations	0.5
FST221 - S404 Safety Officer	1.5

Program Outcomes

Hazardous Materials Specialist Associate of Science

PSLO

Performance

1. Acquired fundamental grounding in communications, science, mathematics, humanities, the social sciences and self-development in preparation for an occupation, and possible transfer to a four-year institution.

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2. Demonstrated knowledge of fire-fighting equipment, operation and maintenance, principles of fire science and combustible substances, methods of controlling different types of fires hazardous materials handling, fire rescue procedures, public relations and applicable laws and regulations.

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Program Narrative

Narrative Item 1. Program Goals and Objectives

The purpose of the program is to provide first responders and public safety officers of California with the necessary skills to work in their ever-changing environment. Palo Verde College will continue to contract with the most highly skilled educators to provide state-of-the-art fire training and hazardous materials training in the State of California. Most job openings will be created by the need to replace Fire Fighters who retire, transfer to supervisory positions, or leave the field for other reasons. Fire Fighting occupations attract many job seekers because the work is challenging, a high school diploma is sufficient for entry, and pensions are offered upon retirement.

Narrative Item 2. Catalog Description

The program prepares individuals to perform the duties of fire fighters. This includes instruction in fire-fighting equipment operation and maintenance, principles of fire science and combustible substances, methods of controlling different types of fires, hazardous material handling and control, fire rescue procedures, public relations and applicable laws and regulations.

PROGRAM STUDENT LEARNING OUTCOMES:

Upon successful completion of the A.S. Degree in Hazardous Materials Specialist program students will have:

1. Acquired fundamental grounding in communications, science, mathematics, humanities, the social sciences and self-development in preparation for an occupation, and possible transfer to a four-year institution.
2. Demonstrated knowledge of fire-fighting equipment, operation and maintenance, principles of fire science and combustible substances, methods of controlling different types of fires hazardous materials handling, fire rescue procedures, public relations and applicable laws and regulations.

Narrative Item 3. Program Requirements

HAZARDOUS MATERIAL SPECIALIST

A.S. DEGREE

Requirements	Dept. Name#	Name	Units
Required Core	FST 150	Haz-Mat First Responder Operations	
	FST 152	Basic Chemistry	1
	FST 153	Applied Chemistry	2
	FST 154	Incident Considerations	2
	FST 155	Tactical Field Operations	2
	FST 157	Specialized Mitigation Techniques, Module F1, Haz-Mat Specialist	2
	FST 158	Advanced Field Operations, Module 1G, Haz-Mat Specialist	2
	FST 162	ICS 300, Intermediate Incident Command System	1.0-1.25
	FST 183	Terrorism: Weapons of Mass Destruction	1
12 Additional Units in FST (unrestricted electives)	Any of the FST 100 level or above courses		12
		Total units required in major	27 – 27.25

Required Major Total (units for degree major minimum-maximum):	27 - 27.25
Required Local GE Requirements (Option A):	24 - 25
Electives (as needed to reach 60 unit)s:	7.25 – 9
Total Required Units:	60

Required Units for Major:

37-38 units

Completion of General Education Requirements (Option A):

24-26 units (see Option A next page)

TOTAL REQUIRED UNITS:

61-64 units

Proposed Course Sequence: AS Degree in Hazardous Material Specialist

Term	Course	Units	Major	GE
1	GE Course	3-4		x
1	GE Course	3		x
1	FST 150 HazMat First Responder	.75-1	x	
1	FST 152 HazMat Tech 1A	2	x	
1	FST 153 HazMat Tech 1B	1.75	x	
1	FST 154 HazMat Tech 1C	1.75	x	
1	FST 155 HazMat Tech 1D	1.75	x	
TERM 1 TOTAL UNITS		14-15.25		
2	GE Course	3		x
2	GE Course	3		x
2	GE Course	3		x
2	GE Course	3		x
2	FST 157 HazMat Specialist 1F	1.75	x	
2	FST 158 HazMat Specialist 1G	1.75	x	
TERM 2 TOTAL UNITS		15.5		
3	GE Course	3-4		x
3	GE Course	3		x
3	FST 162 I-300 Intermediate Incident Command	1-1.25	x	
3	FST 183 Terrorism: Weapons of Mass Destruction	1-1.25	x	
3	Electives	3	x	x
TERM 3 TOTAL UNITS		11-12.5		
4	Electives	15	x	x

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	TERM 4 TOTAL UNITS	15		

Narrative Item 4. Master Planning (Not needed for Certificates of Career Preparation)

This Fire Science Hazardous Material Specialist Certificate of Education provides opportunities for personal and professional growth to a diverse community of students in an academic environment committed to student success. The award of a Fire Science Hazardous Material's Certificate is more than an accumulation of units. It symbolizes a successful attempt on the part of the college to lead students through patterns of learning experiences designed to develop certain capabilities and insights in the fire service world and more specifically, Hazardous Materials.

Narrative Item 5. Enrollment and Completer Projections (Not needed for Certificates of Career Preparation)

40 -80 students annually.

Narrative Item 6. Place of Program in Curriculum/Similar Programs (Not needed for Certificates of Career Preparation)

Currently all of the required curriculum for this Fire Science Hazardous Material's certificate resides in the course catalog. After properly organizing and categorizing the material, students may now receive recognition through a certificate of achievement that will help them meet criteria for hiring, as well as, promotional opportunities.

Narrative Item 7. Similar Programs at Other Colleges in Service Area (Not needed for Certificates of Career Preparation)

There are no other colleges teaching the curriculum in the area; however State Fire Training offers certifications for the attached classes. Please see attached: State Fire Training Algorithm

LMI and Analysis

attached

Advisory Committee Recommendations (Not needed for Certificates of Career Preparation)

attached

Regional Consortia Recommendations (Not needed for Certificates of Career Preparation)

attached