

Palo Verde College

Program Outline Report

Program Basics

Program Title:	Fire Science Water & Boat Rescue Certificate
Program Status:	Active from 2021-22 Fall (2021FA)
Department:	Fire Science Technology
Award Type:	Certificate of Achievement (Credit)
Program/Catalog Description	Students who wish to concentrate on meeting the requirements for Water & Boat Rescue for entry level employment in the fire service or promotional opportunities will develop the required knowledge, skills and abilities in the area of Water & Boat Rescue Specialist and in fire suppression, fire prevention, training and administration. Opportunities also exist with private industry safety programs, insurance companies and fire equipment manufacturing firms. Through the expertise of the faculty and the exposure to professional fire service personnel, students can expect to be trained in the latest theories and techniques as a Water & Boat Rescue Specialist, fire technology, firefighting skills and emergency medical training.
Control Number:	41250
Credential ID:	No value
Transferability:	No value
(SP01) Program TOP Code:	2133.00
(SP01) Program TOP Code:	Fire Technology
(SP02) Student Program Award:	Certificate requiring 30 to fewer than 60 semester units
Maximum Credits:	30
Minimum Credits:	30
Curriculum Committee Approval Date:	05/13/2021
Board of Trustees Approval Date:	06/08/2021
External Review Approval Date:	06/08/2021

Proposal Details

Proposal Start:	2021-22 Fall (2021FA)
What changes have been made to the program:	No value
Program Justification:	Currently Palo Verde College only offers a Hazardous Material, Haz Mat, Degree requiring 60 units. Haz Mat is only one of several areas within the fire service. Having an education is Haz Mat is definitely beneficial for the fire service, but does not cover all areas of the fire service required for a well-rounded fire fighter. As a Fire Chief I cannot hire an individual with just Haz Mat training as that would be a disservice to the people of the community we serve. The requirements within this Fire Science Water & Boat Rescue Certificate program will not only meet, but exceed the expectations needed to develop an individual to be successful as a Water & Boat Rescue Specialist. The addition of the Fire Science Water & Boat Rescue will allow students to achieve a Fire Science Water & Boat Rescue Certificate as well. The hope is the student will continue their education and achieve an AS.

Submission Rationale

- New Program

Program Requirements

Fire Science Water & Boat Rescue Certificate (Total 30)

Complete all of the following

Required Courses (Total 13)

Complete the following number of credits: 13

EMS161 - Emergency Medical Technician Refresher	1-1.5
FST090 - Pre-Service Academy	0.25-12
FST111 - River and Flood Rescue Technician	0.75
FST112 - Personal Water Craft Rescue	0.5
FST113 - Rescue Boat Operations	0.5
FST125 - Surface Rescue Boat Technician	0.25-0.75
FST126 - River and Flood Motorized Rescue Boat Technician	0.5
FST276 - Open Water Rescuer--Basic	0.5
FST110 - River and Flood Water Rescue Operations	0.5

Electives (Total 17)

Complete the following number of credits: 17

FST106 - Auto Extrication	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
FST148 - S-190: Introduction to Wildland Fire Behavior	0.25
FST150 - Hazardous Materials First Responder Operational Level	0.75-1
FST151 - Hazardous Materials First Responder Awareness Level	0.25
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
FST156 - Trench Rescue Technician	0.5
FST157 - Haz Mat Specialist 1F: Specialized Mitigation Techniques	1.75
FST158 - Haz Mat Specialist 1G: Tactical Field Operations	1.75
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
FST167 - Confined Space Refresher	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
FST183 - Terrorism, Weapons of Mass Destruction	1
FST219 - Rescue Systems 3: Structural Collapse Technician	0.5
FST223 - Hazardous Materials Incident Commander	0.75
FST224 - Instructor 1: Instructional Methodology	2
FST226 - Instructor II: Instructional Development	2
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
FST245 - Company Officer 2A: Human Resource Management	2
FST243 - Fire Investigation 2A: Criminal and Legal Procedures	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
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
FST258 - Fire Inspector 1B: Fire and Life Safety	1.25
FST259 - Fire Inspector 1C: Field Inspection	1.25
FST261 - Fire Inspector 2A: Fire Prevention Administration	0.75
FST262 - Fire Inspector 2B: Fire and Life Safety Requirements	1.25
FST275 - Fire Control 5B; Aircraft Rescue and Firefighting Live Fire Drill	0.25
FST274 - Fire Control 5A; Aircraft Rescue and Firefighting Initial Training	1.75
FST273 - Fire Instructor III: Instructional Program Management	2
FST272 - S-290: Intermediate Wildland Fire Behavior	1.75
FST268 - HazMat/Weapons of Mass Destruction: Assist Safety Officer	0.75
FST266 - Haz Mat Emergency Response: First Responder Operations-Decontamination	0.25
FST263 - Fire Inspector 2C: Inspect New & Exist Fire & Life Safety Sys & Equip	0.75
FST277 - Rope Rescue Technician/High Angle Rescue	1
FST107 - Driver/Operator: Aerial/Truck Operations	1.25
FST080 - First Responder Skills	0.25-24
FST260 - Fire Inspector 1D: Field Inspection-California Specific	0.75
FST264 - Fire Inspector 2D: Hazardous Materials, Operations, and Processes	1.75
FST290 - Selected Studies in Fire Science Technology	0.25-6

Recommended Sequences

Fire Science Water & Boat Rescue Certificate

Term 1 (Total 1.25-13.5)

Required Courses EMS161 - Emergency Medical Technician Refresher 1-1.5

Required Courses FST090 - Pre-Service Academy 0.25-12

Term 2 (Total 5-5.25)

Required Courses FST111 - River and Flood Rescue Technician 0.75

Required Courses FST112 - Personal Water Craft Rescue 0.5

Electives FST115 - Fire Apparatus Driver/Operator 1A: Emergency Vehicle Operations 1.5

Electives FST120 - Firefighter Survival 0.5

Electives FST148 - S-190: Introduction to Wildland Fire Behavior 0.25

Electives FST156 - Trench Rescue Technician 0.5

Electives FST159 - I-200 Basic Incident Command System (ICS) 0.5-0.75

Required Courses FST113 - Rescue Boat Operations 0.5

Term 3 (Total 8.25)

Electives FST154 - Haz Mat Technician 1C: Incident Considerations 1.75

Electives FST155 - Haz Mat Technician 1D: Tactical Field Operations 1.75

Electives FST157 - Haz Mat Specialist 1F: Specialized Mitigation Techniques 1.75

Electives FST158 - Haz Mat Specialist 1G: Tactical Field Operations 1.75

Electives FST107 - Driver/Operator: Aerial/Truck Operations 1.25

Term 4 (Total 6.5-7)

Required Courses FST125 - Surface Rescue Boat Technician 0.25-0.75

Required Courses FST126 - River and Flood Motorized Rescue Boat Technician 0.5

Required Courses FST276 - Open Water Rescuer-Basic 0.5

Electives FST165 - Confined Space Rescue Technician 1

Electives FST240 - Fire Prevention 1:Fire and Life Safety Inspections For Company Officer 1.5

Electives FST241 - Fire Investigation 1A: Fire Origin and Cause Determination 2

Electives FST263 - Fire Inspector 2C:Inspect New & Exist Fire & Life Safety Sys & Equip 0.75

Program Outcomes

PSLO	Performance
Successfully complete a written test with a minimum 80% passing score.	80
Demonstration of the proper techniques required to perform on a Hazardous Materials incident with an 80% success rate.	80
Identify Hazardous Materials and their potential impacts on fire personnel and the community with a minimum 80% passing score.	80

Program Narrative

Narrative Item 1. Program Goals and Objectives

Students completing this program will be able to identify and discuss the concepts and theories related to being an Water & Boat Rescue Specialist in the fire service including its history and development, fire prevention techniques and protection equipment, fire behavior and chemistry and firefighter safety. Students will also be able to recognize the tools and equipment used in the fire service and demonstrate their safe and proper use. Students will also demonstrate the interpersonal and communication skills necessary to function within the fire service, as well as, display the values, ethics and professionalism required to be successful.

Narrative Item 2. Catalog Description

Students who wish to concentrate on meeting the requirements for Water & Boat Rescue for entry level employment in the fire service or promotional opportunities will develop the required knowledge, skills and abilities in the area of Water & Boat Rescue Specialist and in fire suppression, fire prevention, training and administration. Opportunities also exist with private industry safety programs, insurance companies and fire equipment manufacturing firms. Through the expertise of the faculty and the exposure to professional fire service personnel, students can expect to be trained in the latest theories and techniques as a Water & Boat Rescue Specialist, fire technology, firefighting skills and emergency medical training.

Narrative Item 3. Program Requirements

		FIRE SCIENCE WATER AND BOAT RESCUE CERTIFICATE	
Requirements	Name/#	Course Title	Units
Required Core (13 Units)	EMS 161	EMERGENCY MEDICAL TECHNICIAN 1 (REFRESHER)	1.50
	FST 090	PRE-SERVICE FIRE ACADEMY	7.50
	FST 110	RIVER AND FLOOD WATER RESCUE OPERATIONS	0.5
	FST 111	RIVER AND FLOOD RESCUE TECHNICIAN	0.75
	FST 112	PERSONAL WATER CRAFT RESCUE OPERATIONS	0.5
	FST 113	RESCUE BOAT OPERATIONS	0.5
	FST 125	SURFACE RESCUE BOAT TECHNICIAN	0.75
	FST 126	RIVER AND FLOOD MOTORIZED RESCUE BOAT TECHNICIAN	0.5
	FST 276	OPEN WATER RESCUER	0.5
			13.00
Electives (17 Units)	FST 080	FIRST RESPONDER	12
	FST 106	AUTO EXTRICATION	0.5
	FST 115	FIRE APPARATUS/OPERATOR 1A/EMERGENCY VEHICLE OPERATIONS	1.5
	FST 116	FIRE APPARATUS/OPERATOR 1B PUMP OPERATIONS	1.5
	FST 119	FIRE CONTROL 6 WILDLAND FIREFIGHTING ESSENTIALS	0.75
	FST 120	FIREFIGHTER SURVIVAL	0.5
	FST 123	FIRE CONTROL 3B: STRUCTURAL FIREFIGHTING IN LIVE FIRE SIMULATORS	0.25
	FST 124	FIRE CONTROL 3A STRUCTURAL FIREFIGHTING IN ACQUIRED STRUCTURES	0.25
	FST 148	S-190 INTRODUCTION TO WILDLAND FIRE BEHAVIOR	0.25
	FST 150	HAZARDOUS MATERIALS FIRST RESPONDER OPERATIONAL LEVEL	1
	FST 151	HAZARDOUS MATERIAL FIRST RESPONDER AWARENESS LEVEL	0.25
	FST 152	HAZ MAT TECHNICIAN 1A BASIC CHEMISTRY	2
	FST 153	HAZ MAT TECHNICIAN 1B APPLIED CHEMISTRY	1.75
	FST 154	HAZ MAT TECHNICIAN 1C INCIDENT CONSIDERATIONS	1.75
	FST 155	HAZ MAT TECHNICIAN 1D TACTICAL FIELD OPERATIONS	1.75
	FST 157	HAZ MAT SPECIALIST 1F SPECIALIZED MITIGATION TECHNIQUES	1.75
	FST 158	HAZ MAT SPECIALIST 1G TACTICAL FIELD OPERATIONS	1.75
	FST 156	TRENCH RESCUE TECHNICIAN	0.5
	FST 159	I-200 BASIC INCIDENT COMMAND SYSTEM (ICS)	0.75
	FST 161	HAZ MAT - INCIDENT COMMAND SYSTEMS	1
	FST 162	I-300: INTERMEDIATE INCIDENT COMMAND SYSTEM (ICS)	1
	FST 163	I-400: ADVANCED INCIDENT COMMAND SYSTEM (ICS)	0.75
	FST 165	CONFINED SPACE RESCUE TECHNICIAN	1
	FST 166	CONFINED SPACE RESCUE AWARENESS	0.25
	FST 167	CONFINED SPACE REFRESHER	0.5
	FST 173	RESCUE SYSTEMS 1: BASIC RESCUE SKILLS	2
	FST 174	RESCUE SYSTEMS 2: ADVANCED RESCUE SKILLS	2
	FST 175	LOW ANGLE ROPE RESCUE OPERATIONAL	0.5
	FST 183	TERRORISM, WEAPONS OF MASS DESTRUCTION	1
	FST 219	RESCUE SYSTEMS 3 STRUCTURAL COLLAPSE TECHNICIAN	0.5
	FST 223	HAZARDOUS MATERIALS INCIDENT COMMANDER	0.75
	FST 224	INSTRUCTOR 1 INSTRUCTIONAL METHODOLOGY	2
	FST 226	INSTRUCTOR II INSTRUCTIONAL DEVELOPMENT	2
	FST 240	FIRE PREVENTION 1 FIRE AND LIFE SAFETY INSPECTIONS FOR COMPANY OFFICER	1.5
	FST 241	FIRE INVESTIGATION 1A FIRE ORIGIN AND DETERMINATION	2
	FST 242	FIRE INVESTIGATION 1B TECHNIQUES OF FIRE INVESTIGATION	2
	FST 243	FIRE INVESTIGATION 2A CRIMINAL AND LEGAL PROCEDURES	2
	FST 245	COMPANY OFFICER 2A HUMAN RESOURCE MANAGEMENT	2
	FST 246	COMPANY OFFICER 2B GENERAL ADMINISTRATIVE FUNCTION	1
	FST 247	COMPANY OFFICER 2C FIRE INSPECTIONS AND INVESTIGATIONS	2
	FST 248	COMPANY OFFICER 2D ALL RISK COMMAND OPERATIONS	2

FST 249	COMPANY OFFICER 2E WILDLAND INCIDENT OPERATIONS	2
FST 252	CHIEF FIRE OFFICER 3A HUMAN RESOURCE MANAGEMENT	1.25
FST 253	CHIEF FIRE OFFICER 3B BUDGET AND FISCAL RESPONSIBILITIES	1
FST 254	CHIEF FIRE OFFICER 3C GENERAL ADMINISTRATION FUNCTIONS	1.25
FST 256	CHIEF FIRE OFFICER 3D EMERGENCY SERVICE DELIVERY RESPONSIBILITIES	1.25
FST 257	FIRE INSPECTOR 1A DUTIES AND ADMINISTRATION	1.25
FST 258	FIRE INSPECTOR 1B FIRE AND LIFE SAFETY	1.25
FST 259	FIRE INSPECTOR 1C FIELD INSPECTION	1.25
FST 260	FIRE INSPECTOR 1D FIELD INSPECTION CALIFORNIA SPECIFIC	0.75
FST 261	FIRE INSPECTOR 2A FIRE PREVENTION ADMINISTRATION	0.75
FST 262	FIRE INSPECTOR 2B FIRE AND LIFE SAFETY REQUIREMENTS	1.25
FST 263	FIRE INSPECTOR 2C INSPECT NEW AND EXISTING FIRE & LIFE SAFETY SYSTEMS AND EQUIPMENT	0.75
FST 264	FIRE INSPECTOR 2D HAZARDOUS MATERIALS OPERATION S AND PROCESSES	1.75
FST 266	HAZ MAT EMERGENCY RESPONSE FIRST RESPONDER OPERATIONS DECONTAMINATION	0.25
FST 268	HAZ MAT WEAPONS OF MASS DESTRUCTION ASSISTANT SAFETY OFFICER	0.75
FST 272	S-290 INTERMEDIATE WILDLAND FIRE BEHAVIOR	1.75
FST 273	FIRE INSTRUCTOR III INSTRUCTIONAL PROGRAM MANAGEMENT	2
FST 274	FIRE CONTROL 5A: AIRCRAFT RESCUE AND FIREFIGHTING INITIAL TRAINNG - 40 HRS.	1.75
FST 275	FIRE CONTROL 5B: AIRCRAFT RESCUE AND FIREFIGHTING LIVE FIRE - 8 HRS.	0.25
FST 277	ROPE RESCUE TECHNICIAN/HIGH ANGLE RESCUE	1
FST 290	SELECTED STUDIES IN FIRE SCIENCE TECHNOLOGY	2

Required Major Total 30 Units

College GE Requirements None

Transferrable Electives As Needed to Reach 30

TOTAL UNITS 30 Units

Term	Course #	PROPOSED SEQUENCE Course Title	Units	Major	GE
1	EMS 161	EMERGENCY MEDICAL TECHNICIAN 1 (REFRESHER)	1.5	X	
1	FST 090	PRE-SERVICE FIRE ACADEMY	7.5	X	
2	FST 115	FIRE APPARATUS/OPERATOR 1A/EMERGENCY VEHICLE OPERATIONS	1.5	X	
2	FST 120	FIREFIGHTER SURVIVAL	0.5	X	
2	FST 148	S-190 INTRODUCTION TO WILDLAND FIRE BEHAVIOR	0.25	X	
2	FST 110	RIVER AND FLOOD WATER RESCUE OPERATIONS	0.5	X	
2	FST 111	RIVER AND FLOOD RESCUE TECHNICIAN	0.75	X	
2	FST 112	PERSONAL WATER CRAFT RESCUE OPERATIONS	0.5	X	
2	FST 156	TRENCH RESCUE TECHNICIAN	0.50	X	
2	FST 159	I-200 BASIC INCIDENT COMMAND SYSTEM (ICS)	0.75	X	
2	FST 113	RESCUE BOAT OPERATIONS	0.5	X	
3	FST 154	HAZ MAT TECHNICIAN 1C INCIDENT CONSIDERATIONS	1.75	X	
3	FST 155	HAZ MAT TECHNICIAN 1D TACTICAL FIELD OPERATIONS	1.75	X	
3	FST 157	HAZ MAT SPECIALIST 1F SPECIALIZED MITIGATION TECHNIQUES	1.75	X	
3	FST 158	HAZ MAT SPECIALIST 1G TACTICAL FIELD OPERATIONS	1.75	X	
3	FST 107	DRIVER/OPERATOR AERIAL/TRUCK OPERATIONS	1.25	X	
4	FST 125	SURFACE RESCUE BOAT TECHNICIAN	0.75	X	
4	FST 126	RIVER AND FLOOD MOTORIZED RESCUE BOAT TECHNICIAN	0.5	X	
4	FST 276	OPEN WATER RESCUER	0.5	X	
4	FST 263	FIRE INSPECTOR 2C INSPECT NEW AND EXISTING FIRE & LIFE SAFETY SYSTEMS AND EQUIPMENT	0.75	X	
4	FST 240	FIRE PREVENTION 1 FIRE AND LIFE SAFETY INSPECTIONS FOR COMPANY OFFICER	1.5	X	

4	FST 241	FIRE INVESTIGATION 1A FIRE ORIGIN AND DETERMINATION	2	X
4	FST 165	CONFINED SPACE RESCUE TECHNICIAN	1	X
TERM 4		TOTAL UNITS	30.00	

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

This Fire Science Water & Boat Rescue 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 Water & Boat Rescue 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, being a Water & Boat Rescue Specialist.

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 Water & Boat Rescue 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