

Course Outline

COURSE: JFT 8 **DIVISION:** 50 **ALSO LISTED AS:** JFT 225

TERM EFFECTIVE: Fall 2018 **Inactive Course**

SHORT TITLE: FIRE FIGHTER I ACAD

LONG TITLE: Fire Fighter I Academy

Units	Number of Weeks		Contact Hours/Week		Total Contact Hours
13.5	18	Lecture:	6.8	Lecture:	122.4
		Lab:	21	Lab:	378
		Other:	0	Other:	0
		Total:	27.8	Total:	500.4

COURSE DESCRIPTION:

This academy includes instruction on basic fire fighting skills, laws and regulations affecting the fire service. The course will provide the student with knowledge and skills to safely perform, under minimal supervision, essential and advanced fire ground tasks, basic rescue, basic fire prevention and fire investigation tasks and to use, inspect, and maintain fire fighting and rescue equipment. Curriculum is intended to provide the minimum required training required for the State of California Fire Marshal in the field of Fire Technology as it relates to firefighters. This course is now listed as JFT 225. **ADVISORY:** Eligible for English 250 and English 420.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

L - Standard Letter Grade

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion

03 - Lecture/Laboratory

04 - Laboratory/Studio/Activity

STUDENT LEARNING OUTCOMES:

1. Explain the theory and fundamentals of heat transfer, fundamentals of combustion, elements of fire and describe how the removal of any one of the elements will result in the extinguishment of the fire.
Measure: Written Exam
PLO:
ILO: 2,1
GE-LO:
Year assessed or anticipated year of assessment: 2014
2. Coordinate the type of personal protective equipment needed for different exposures and locate the equipment on the engine.
Measure: Skills Demonstration
PLO:
ILO: 2, 3
GE-LO:
Year assessed or anticipated year of assessment: 2014
3. Compare the different types and applications of portable fire extinguishers for successful extinguishment of small fires.
Measure: Skills demonstration, exam
PLO:
ILO: 2,3
GE-LO:
Year assessed or anticipated year of assessment: 2014
4. Identify the fire attack methods to combat fires as safely and efficiently as possible and a systematic approach to the fire fighting operations to eliminate confusion and inconsistency on the fire ground.
Measure: Demonstrate , Exam
PLO:
ILO: 2,3
GE-LO:
Year assessed or anticipated year of assessment: 2014
5. Operate and practice with the components, accessories and functions of self-contained breathing apparatus.
Measure: Exam
PLO:
ILO: 2, 3
GE-LO:
Year assessed or anticipated year of assessment: 2014
6. Identify three principal environmental elements affecting the start and spread of a wildland fire.
Measure: Skills Demonstration,
PLO:
ILO: 2,3
GE-LO:
Year assessed or anticipated year of assessment: 2014

7. Identify the steps a fire fighter needs to take as a first responder to remove or mitigate safety hazards that may further threaten victims, bystanders, and public safety personnel while observing information to provide to the investigators that is pertinent to the investigation.

Measure: scenario testing , discussion

PLO:

ILO: 2,3,1

GE-LO:

Year assessed or anticipated year of assessment: 2014

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Inactive Course: 10/23/2017

This course is now listed as JFT 225.

16 Hours

CONTENT:

I. Fire Service Organization & Responsibility

A. Principles of the standardized emergency management system (SEMS)

1. Fire service resources
2. Duties of fire service ranks and positions

B. Relationship of fire department with other local government

1. National, federal, state, and local fire service organizations

C. Fire service agency rules and regulations

1. Discipline in the fire service

2. Fire service labor organizations

D. Training and education programs

1. Work site health and safety legislation
2. Fire fighter safety and physical fitness

STUDENT PERFORMANCE OBJECTIVES (SPO): Identify fire service organizations and their related functions by completing the written test.

OUT-OF-CLASS ASSIGNMENTS: Reading assignments, test preparation

24-32 Hours

CONTENT:

II. Miscellaneous Equipment and Tools

A. Hand Tools

1. Characteristics and functions of fire service hand tools

B. Power Tools

1. Characteristics and functions of fire service power tools
2. Inspection and maintenance of fire service power tools

C. Inspection and maintenance of pneumatic air chisels

D. Safety concerns for utility interruptions

E. Lighting the scene

SPO: Confirm a the characteristics and functions of fire service power tools.

OUT-OF-CLASS ASSIGNMENTS: Reading assignment, quiz preparation, uniform preparation

24-40 Hours

CONTENT:

III. Fire Behavior and Extinguishment Theory

A. Introduction to building construction

1. Building components
2. Sources of heat energy

B. Elements of the combustion process

1. Products of combustion
2. Characteristics of pyrolysis, rollover, flashover, and

backdraft

C. Characteristics and functions of extinguishing agents

1. Properties of water as they relate to fire fighting

SPO: Recognize the dangers inherent in the fire environment and use the appropriate personal protective equipment and equipment in order to operate safely

OUT-OF-CLASS ASSIGNMENTS: Written assignment

32-40 Hours

CONTENT:

IV. Fire Fighter Safety

A. General safety precautions for all emergency situations

1. Personal protective equipment for the fire service
2. Characteristics and functions of personal alarm devices
3. How to don structural PPE within one minute, doff, and Prepare for reuse

B. Fire fighter injuries and fatalities

1. Procedures for using rapid intervention crews
2. Performing an assessment on a downed fire fighter

SPO: Efficiently and expeditiously assess a downed fire fighter and take appropriate action.

OUT-OF-CLASS ASSIGNMENTS: Reading assignment, uniform preparation, test preparation

16-20 Hours

CONTENT:

V. Self-Contained Breathing Apparatus

A. Conditions requiring respiratory protection

B. Types of self-contained breathing apparatus

1. SCBA components and accessories

C. Safe use of SCBA

1. Emergency procedures when using SCBA
2. How to don a SCBA
3. How to change a SCBA air cylinder

D. Inspection and maintenance of SCBA

1. Procedures used to clean and sanitize SCBA

SPO: Don SCBA and appropriate personal protective equipment during scenarios and complete a manipulative performance test at a time determined by the instructor.

OUT-OF-CLASS ASSIGNMENTS: Scenario and test preparation

16 Hours

CONTENT:

VI. Portable Fire Extinguishers

A. Classification of fire and fire extinguishers

1. Classification markings on portable fire extinguishers
2. Safety precautions when using portable fire extinguishers

B. Inspection and maintenance of portable fire extinguishers

1. How to service a gas cartridge portable fire extinguisher
2. How to service a stored-pressure portable fire extinguisher

SPO: Demonstrate use of a fully charged stored-pressure portable fire extinguisher and appropriate personal protective equipment

OUT-OF-CLASS ASSIGNMENTS: Test preparation

24-32 Hours

CONTENT:

VII. Ropes, Knots and Hitches

A. Characteristics and functions of fire service rope and webbing

1. Inspection and maintenance of fire service rope and webbing

B. Introduction to fire service rescue knots

1. Half Hitch
2. Clove Hitch
3. Square Knot
4. Eight Knots

C. Safety considerations when hoisting or lowering equipment

1. Hoisting

SPO: Demonstrate effective use of ropes, knots, and hitches is one of the foundations of a fire fighter's work.

OUT-OF-CLASS ASSIGNMENTS: Test preparation, reading assignments

40-52 Hours

CONTENT:

VIII. Hose, Nozzles, and Appliances

A. Characteristics and functions of fire hose and couplings

1. Fire hose construction
2. Hose coupling components
3. How to couple hoseline
4. Characteristics and functions of the hose clamp

B. Nozzles

1. Characteristics and functions of nozzles
2. Inspection and maintenance of nozzles

C. Safety

1. Safety precautions when laying hose
2. Procedures for inspecting, coupling, and uncoupling hoseline

D. Hose Line

1. How to advance a charged hoseline

2. How to operate a large-size attack line
3. How to advance a hoseline

SPO: Identify the procedures for inspecting, coupling, and uncoupling hoseline during loading operations.

OUT-OF-CLASS ASSIGNMENTS: Reading assignment, test preparation

24-48 Hours

CONTENT:

IX. Ground Ladders

A. Types of ladders used by the fire service

1. Ladder design and construction

B. Removing and Lifting Ladders

1. How to remove a ladder from an apparatus
2. How to lift and lower a ladder
3. How to carry an extension ladder
4. How to raise and extend an extension ladder

C. How to climb a ladder

1. How to work on a ladder
2. How to carry tools on a ladder
3. How to dismount a ladder

SPO: Demonstrate how to carry an extension ladder, three-person, and flat-arm's-length method.

OUT-OF-CLASS ASSIGNMENTS: Reading assignments, test preparation, uniform preparation

24-56 Hours

CONTENT:

X. Forcible Entry

A. Principles of breaking or pulling locks

1. Forcing single-entry doors
 2. Forcing overhead doors
- ##### B. How to force open and remove security bars

1. Operating principles for various window styles

C. Dangers of forcing entry through doors, windows, and walls

SPO: Perform forcible entry operations in the job breakdown while under supervision during scenarios.

OUT-OF-CLASS ASSIGNMENTS: Reading assignment, test/scenario preparation

40-80 Hours

CONTENT:

XI. Rescue

A. Components of rescue operations

1. Safety considerations during a rescue search in a burning building
2. Search and rescue procedures in a burning, smoked-filled building
3. Search and rescue procedures in a burning, smoked-filled building

B. How to lift and carry a victim

1. One person
2. two-person, chair-carry method
3. How to construct an improvised stretcher

C. USAR Incident Command System

1. Basic, light, medium, and heavy operational levels for USAR teams
2. Search marking systems used by USAR teams
3. Supporting USAR teams during deployment

SPO: The students will carry a victim using the two-person, chair-carry method, and three-person method in class scenarios.

OUT-OF-CLASS ASSIGNMENTS: Test preparation, reading assignments

24-48 Hours

CONTENT:

XI. Ventilation

A. Safety considerations during ventilation operations

1. Fireground use of forced ventilation equipment
2. Horizontal ventilation principles and procedures

B. Roof Ventilation

1. Principles and procedures for ventilating various roof designs

designs

C. Smoke Ejector

1. How to use a smoke ejector to force ventilation through a horizontal opening
2. How to hang a smoke ejector

C. Built-in ventilation devices

1. Controlling the spread of smoke and fire through duct systems

systems

SPO: Identify safety considerations during mock ventilation procedures to determine the success or failure of structure fire fighting operation.

OUT-OF-CLASS ASSIGNMENTS: Reading assignments, uniform preparation

56-80 Hours

CONTENT:

XII. Fire Control

A. Various modes of fire attack

1. Types of fire streams and point of application for Class A fires

fires

B. Basic guidelines for initial attack

1. Why water extinguishes Class A fires
2. Safety precautions when using water to extinguish a fire

C. Vehicle Fire

1. Basic considerations for vehicle fires
2. Safety precautions for vehicle fires

D. Physical properties of combustible and flammable liquids and gases

gases

1. Extinguishing Class B fires
2. How to control a flammable liquid gas cylinder fire while operating as a member of a crew

operating as a member of a crew

SPO: Identify various fire attack methods and combat fires as safely and efficiently as possible.

OUT-OF-CLASS ASSIGNMENTS: Reading assignment, test preparation
32-48 Hours

CONTENT:

XIII. Salvage and Overhaul

A. Purpose and value of salvage operations

1. Commonly performed overhaul procedures and their purpose
2. Characteristics and functions of fire service salvage equipment

B. Procedures for detecting hidden fires

1. Procedures for using an infrared scanner

C. Inspection and maintenance of fire service salvage covers

1. How to spread a salvage cover

D. Characteristics and functions of catchalls, catch basins, sumps, and dikes

1. How to make a catch basin and catchall
2. How to make a sump
3. How to make a dike

E. Characteristics and functions of water removal devices

SPO: Identify the purpose and value of salvage operations.

OUT-OF-CLASS ASSIGNMENTS: Test preparation

16 Hours

CONTENT:

XIV. Fire Protection Water Systems

A. Principal features of water systems

1. Factors affecting fire hydrant usability
2. Sources of water supply other than hydrants

B. NFPA hydrant color-coding system

1. Characteristics of wet and dry-barrel hydrants

C. Inspection and maintenance of fire hydrants

1. How to connect a hard suction hoseline for drafting

SPO: Identify the determination of available fire flow, the dependability of the water system, how to cope with system problems, and how to anticipate the need for alternate methods of obtaining an adequate water supply.

OUT-OF-CLASS ASSIGNMENTS: Reading assignment, test preparation

16 Hours

CONTENT:

XV. Fire Protection Systems

A. Automatic sprinkler system

1. Capabilities and limitations of sprinkler systems
2. Functions of wet-pipe sprinkler systems
3. Functions of dry-pipe and pre-action sprinkler systems
4. Functions of standpipe systems
5. How to operate a sprinkler system's control valves

B. Fire service support activities and safety measures for fire

protection systems

C. Principles of Halon systems

1. Characteristics and functions of clean agent and Halon

Characteristics and functions of automatic carbon dioxide systems

SPO: Identify the components of an automatic sprinkler system

OUT-OF-CLASS ASSIGNMENTS: Reading assignment

4 Hours

XVI. Fire Prevention and Investigation

A. Basic techniques for public education

1. Role of the first responder in fire investigations

SPO: Assist public safety personnel by providing emergency services at a fire scene and assist in any subsequent investigations of the incident during role play exercise.

OUT-OF-CLASS ASSIGNMENT: Reading assignments, written assignment

8 Hours

XVII. Communications

A. Characteristics and functions of a fire department radio

1. How to operate a fire department radio

B. Clear radio text and common terminology

1. Methods of receiving fire alarms

2. Telephone and communication procedures

SPO: Identify the fire department emergency communication systems by completing the written test.

OUT-OF-CLASS ASSIGNMENT: Reading assignment, test preparation

16 Hours

XVIII. Vehicle Extrication

A. Introduction to the principles of vehicle extrication

1. Vehicle anatomy

2. New vehicle safety systems

B. Principles of victim disentanglement

1. How to stabilize a vehicle

2. How to remove a channel mounted vehicle windshield

C. Characteristics and functions of light rescue hand tools

1. Air chisel

2. Powered hydraulic ram

3. Powered hydraulic spreader

D. Considerations for preparing, packaging, and removing a victim from a vehicle

SPO: Review the phases of vehicle extrication: size-up, hazard control, new vehicle technology, hazards airbags, support operations, gaining access, emergency care, disentanglement, and removal. Emphasize safety requirements of all phases.

OUT-OF-CLASS ASSIGNMENT: Reading Assignment, Uniform preparation

24-48 Hours

XVI. Wildland Fire

A. Wildland fire behavior

1. Fire Weather
 2. Wildland fire fighter preparedness and personal protective equipment
- B. Wildland fire fighting safety
1. Lookouts, communications, escape routes, and safety zones (LCES)
 2. How to deploy a fire shelter, standing method
 3. Characteristics and functions of fire shelters
- C. Wildland fire strategy
1. Handline construction
- SPO: Recognize potential changes in fire behavior so weather can be anticipated, tactics can be adjusted accordingly and control efforts can be reduced.
- OUT-OF-CLASS ASSIGNMENTS: Test preparation, reading assignments, uniform preparation
- 4 Hours
- Final

METHODS OF INSTRUCTION:

Lecture, discussion and documentations/simulations will serve as the medium of instruction. Audio-visual aids will be utilized as they facilitate meaningful instruction. Regular assignments will be made for out-of-class study and research. Individual guidance will be provided as required.

METHODS OF EVALUATION:

CATEGORY 1 - The types of writing assignments required:

Percent range of total grade: 15 % to 25 %

Written Homework

Reading Reports

CATEGORY 2 -The problem-solving assignments required:

Percent range of total grade: 30 % to 40 %

Homework Problems

Lab Reports

Quizzes

Exams

CATEGORY 3 -The types of skill demonstrations required:

Percent range of total grade: 30 % to 60 %

Class Performance/s

Performance Exams

CATEGORY 4 - The types of objective examinations used in the course:

Percent range of total grade: 20 % to 30 %

Multiple Choice

True/False

REPRESENTATIVE TEXTBOOKS:

Required:

Jones and Bartlett. Fundamentals of Firefighting Skill Workbook, Jones and Bartlett, 2014. Or other appropriate college level text.

Reading level of text, Grade: 12 Verified by: Doug Achterman

Other textbooks or materials to be purchased by the student:

Recommended:

Fire Engineering's Handbook for Fire Fighter I and Fire Fighter II

(Corbett, Glenn, PennWell Corporation, First Edition, ISBN: 978-1-59370-135-2)

Wildland Firefighting Fundamentals

(Teie, Willam C, Deer Valley Press, Second Edition, ISBN: 978-1931301268)

IS-100 Introduction to Incident Command System, I-100, Student Manual

(<http://training.fema.gov/EMIweb/IS/is100lst.asp>)

IS-700 National Incident Management System, An Introduction, Student Manual

(<http://training.fema.gov/EMIWeb/is/is700alst.asp>)

Full structural and wildland personal protective equipment

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Transferable CSU, effective 200630

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 1 Program Applicable

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department: JFT

CSU Crosswalk Course Number: 8

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: C

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000559375

Sports/Physical Education Course: N

Taxonomy of Program: 213300

