



FIRE FIGHTER I/II CERTIFICATION COURSE SYLLABUS

COURSE INFORMATION

Days and hours of instruction:

CAVIT Main Campus – 2 hours daily
M/T/W/Th/Fr- 0700-0900- First Session
M/T/W/Th/Fr- 0930-1130- Second Session
M/T/W/Th/Fr- 1230-230- Third Session

CONTACT INFORMATION

CAVIT staff and contact email:

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CAVIT web address www.cavitschools.org

TEXTBOOK/OTHER MATERIALS

Required Text:

1. IFSTA's *Essentials of Fire Fighting*, 5th edition
2. IAFF Hazardous Materials First Responder OPS, 2005 Ed.
3. State of AZ/CAVIT Performance Objective Checklist, 2005
4. Brady's *Emergency Medical Responder (EMR)*.

Supplementary reading:

NFPA 1001, *Standard for Fire Fighter Professional Qualifications*, 2010 edition, available from NFPA at www.nfpa.org.

Special Equipment Required:

NFPA compliant turnout gear, SCBA and spare bottle and PASS device (provided by CAVIT)
CAVIT Uniforms (provided by CAVIT)

Please note: Test questions are taken from the instructor's lecture AND the assigned reading. While some questions from the assigned reading may not be covered during class due to time constraints, students are responsible for knowing and understanding ALL information assigned in the syllabus.

Instructor materials:

Teaching Outline and PowerPoint: Rev. 9/2010

COURSE DESCRIPTION/OBJECTIVES

Pre-requisites:

Successful completion Respiratory Evaluation- 29CFR-1910.134
Signed Medical Physical Examination
Signed Waiver and Release and Liability

Description:

This is an entry level course for fire fighters. This two year course consists of a combination of classroom study, drill field practice, and training evolutions that will prepare the fire fighters to perform most fireground functions under the supervision of

an officer or experienced fire fighter. Medical First Responder will be taught as part of this course. Successful completion of all written exams, practical exercises, and a passing score on the state ADE exam is required for graduation.

Goals:

The purpose of this course is to specify, in terms of performance objectives, the minimum requirements for professional service as a fire fighter. This course shall cover the requirements for the Fire Fighter I and II level of progression.

Instructional methods:

Classroom instruction and hands-on practical evolutions

ARIZONA CTE CAREER PREPARATION STANDARDS & MEASUREMENT CRITERIA- FIRE SERVICE, 43.0200.0

STANDARD 1.0 – ANALYZE THE ROLE AND ORGANIZATION OF FIRE SERVICE

- 1.1 Explain fire service history
- 1.2 Explain fire service culture
- 1.3 Describe the fire service mission and organization
- 1.4 Identify career tracks within fire service
- 1.5 Diagram a fire department organizational chart
- 1.6 Describe fire department standard operating procedures and policies
- 1.7 Explain the fire agency's interactions with other agencies in the community

STANDARD 2.0 – KNOW AND COMPLY WITH FIRE SERVICE SAFETY POLICIES AND PROCEDURES

- 2.1 Examine annual firefighter injuries and fatalities
- 2.2 Identify safety standards related to fire service, such as NFPA 1500 and OSHA
- 2.3 Know the fire department risk management model
- 2.4 Explain appropriate safety precautions in fire stations and facilities
- 2.5 Practice personal safety in learning and training
- 2.6 Describe basic principles of Crew Resource Management (CRM) and the Error-chain

STANDARD 3.0 – EXAMINE RESPONSIBILITY FOR PERSONAL WELLNESS

- 3.1 Analyze sources of stress and stress management in fire service
- 3.2 Develop skills for dealing with crisis in fire service
- 3.3 Describe fire service health and wellness programs and Employee Assistance Programs (EAP)
- 3.4 Apply nutrition principles to wellness
- 3.5 Evaluate risk-taking behaviors in the fire service

STANDARD 4.0 – EXHIBIT PHYSICAL FITNESS

- 4.1 Develop a plan for personal fitness
- 4.2 Perform warm-up and flexibility exercises
- 4.3 Perform cardiovascular exercises
- 4.4 Perform functional training exercises related to firefighting
- 4.5 Perform basic core strengthening techniques
- 4.6 Know the components that make up common physical fitness exams in fire service
- 4.7 Perform a physical ability assessment or related assessment

STANDARD 5.0 – EXPLAIN FIRE BEHAVIOR

- 5.1 Describe the fire triangle and fire tetrahedron
- 5.2 Describe transmission of heat
- 5.3 Explain various states of "fuel"
- 5.4 Outline the classifications of fire—A,B,C,D,K
- 5.5 Explain the phases of fire growth
- 5.6 Describe factors that affect fire development
- 5.7 Describe fire control theory

STANDARD 6.0 – DEMONSTRATE THE PROPER USE AND MAINTENANCE OF FIREFIGHTING PERSONAL PROTECTIVE EQUIPMENT (PPE)

- 6.1 Identify various protective equipment that comprises the firefighter's ensemble
- 6.2 Demonstrate the care of personal protective equipment
- 6.3 Demonstrate donning and doffing of PPE within one minute
- 6.4 Identify the components of a self-contained breathing apparatus (SCBA)
- 6.5 Describe respiratory hazards and when an SCBA shall be "used"

- 6.6 Practice donning and doffing SCBA
- 6.7 Explain principles of Air Management consistent with NFPA 1404
- 6.8 Demonstrate replacement of SCBA air cylinders

STANDARD 7.0 – DEMONSTRATE THE USE OF PORTABLE FIRE EXTINGUISHERS

- 7.1 List the types of portable fire extinguishers
- 7.2 Recall fire classifications A,B,C,D,K
- 7.3 Describe fire extinguisher rating systems
- 7.4 Use a portable fire extinguisher safely, PASS method of application
- 7.5 Explain how to inspect a portable fire extinguisher

STANDARD 8.0 – ANALYZE FIRE DETECTION, ALARM, AND SUPPRESSION SYSTEMS

- 8.1 Describe types of alarm systems
- 8.2 Describe automatic sprinkler systems
- 8.3 Explain sprinkler system fundamentals
- 8.4 Discuss applications of sprinkler systems
- 8.5 Research careers in fire detection, alarm, and suppression

STANDARD 9.0 – CONDUCT A CAREER SURVEY OF FIRE SERVICE

- 9.1 Examine trends in fire service occupations through the labor market research
- 9.2 Identify several careers that support firefighters and public safety
- 9.3 Examine personal aptitudes and interests for a fire service/public safety career
- 9.4 Examine the role of education in fire service career preparations
- 9.5 Research various employments opportunities in the fire service

STANDARD 10.0 – EXPLAIN AND DESCRIBE PRINCIPLES OF WATER SUPPLY

- 10.1 Describe sources of water supply
- 10.2 Explain different means of moving water
- 10.3 Examine personal aptitudes and interests for a fire service/public safety career
- 10.4 Identify different types of fire hydrants, markings, locations, inspection, and maintenance
- 10.5 Discuss alternative and rural water supplies

STANDARD 11.0 – DEMONSTRATE THE SELECTION, USE, AND CARE OF FIRE HOSE

- 11.1 Identify various fire hose sizes and applications
- 11.2 Describe fire hose damage and general care
- 11.3 Identify types of fire hose couplings (male, female) and care of couplings
- 11.4 Describe various hose appliances and hose tools
- 11.5 Demonstrate a straight roll, donut roll, twin donut roll, and self-locking twin donut roll
- 11.6 Recognize an accordion, horseshoe, and flat hose load
- 11.7 Recognize a preconnected attack line flat load and a triple layer load

STANDARD 12.0 – DESCRIBE AND DEMONSTRATE FIRE STREAMS

- 12.1 Explain extinguishing properties of water, steam conversion, and friction loss
- 12.2 Demonstrate advancing a hose line in various scenarios
- 12.3 Demonstrate one and two firefighter operation of hose lines for small and large diameter
- 12.4 Identify principles of fire streams
- 12.5 Identify types, design, operation, nozzle pressure effects, and flow capabilities of nozzles
- 12.6 Demonstrate opening, closing, and adjusting nozzle flow and patterns
- 12.7 Describe indirect, combination, and direct fire attack with fire streams

STANDARD 13.0 – CHARACTERIZE FIRE CONTROL METHODS FOR VARIOUS CLASSES OF FIRE

- 13.1 Describe methods of suppressing structure fires
- 13.2 Explain master stream devices and water flows through "big" lines
- 13.3 Describe suppressing Class B, Class C, and Class D fires
- 13.4 Recall fire department risk management model
- 13.5 Explain tactical priorities in order
- 13.6 Describe engine, ladder, and rescue company functions on fires

STANDARD 14.0 – ASSESS BUILDING CONSTRUCTION AND FIRE GROUND APPROACH

- 14.1 Define and know construction terminology
- 14.2 Identify common building materials
- 14.3 Describe principles of building construction and types of construction
- 14.4 Contrast strengths and weaknesses of different types of construction

- 14.5 Identify dangerous building conditions that can lead to firefighter injury and fatality
- 14.6 Research a firefighter fatality (NIOSH) report where building construction was a factor

STANDARD 15.0 – ANALYZE FIRE GROUND TACTICS AND STRATEGY

- 15.1 Recall the risk management model
- 15.2 Recall tactical priorities in order
- 15.3 Explain the three fire ground strategies
- 15.4 Discuss IRIC, RIC, and On-Deck and related OSHA requirements
- 15.5 Discuss rescue profiles
- 15.6 Explain deployment of engines, ladders, and rescues on a fire ground
- 15.7 Complete NIMS IC-100, 200, and 700.A

STANDARD 16.0 – DEMONSTRATE FIRE GROUND SEARCH AND RESCUE (NONFIRE ENVIRONMENT)

- 16.1 Explain fire ground search safety guidelines
- 16.2 Explain fire ground search safety guidelines
- 16.3 Explain procedures for conducting a search in a multistory building
- 16.4 Demonstrate several methods of victim removal
- 16.5 Discuss search and rescue marking systems
- 16.6 Analyze rapid intervention crews and removal of downed firefighters

STANDARD 17.0 – DESCRIBE FIRE DEPARTMENT COMMUNICATIONS

- 17.1 Explain the role of the fire department dispatcher
- 17.2 Research job responsibilities and career opportunities in public safety dispatch
- 17.3 Know fire department orderm
- 17.4 Demonstrate proper radio procedures in receiving and transmitting radio messages
- 17.5 Demonstrate the ability to operate fire department communications equipment
- 17.6 Demonstrate writing fire department reports

STANDARD 18.0 – DISCUSS VEHICLE EXTRICATION AND RESCUE EXTRICATION TOOLS AND EQUIPMENT

- 18.1 Describe emergency power and lighting equipment
- 18.2 Discuss hydraulic and nonhydraulic extrication tools
- 18.3 Discuss cribbing for extrication
- 18.4 Describe various pneumatic tools
- 18.5 Describe scene size-up, stabilizing a vehicle, and gaining access to victims
- 18.6 Explain disentanglement and patient management

STANDARD 19.0 – DESCRIBE VENTILATION ON THE FIRE GROUND

- 19.1 Describe the reasons for fire ground ventilation
- 19.2 List considerations affecting the decisions to ventilate
- 19.3 Explain vertical ventilation
- 19.4 Explain horizontal ventilation
- 19.5 Explain forced ventilation
- 19.6 Examine the effects of building systems on fires

STANDARD 20.0 – DEMONSTRATE PROPER USE OF GROUND LADDERS

- 20.1 Define the basic parts of a ladder
- 20.2 Demonstrate ladder inspection and maintenance
- 20.3 Demonstrate one and two firefighter ladder carries
- 20.4 Demonstrate ground ladder positioning
- 20.5 Demonstrate procedures for raising and climbing ladders
- 20.6 Demonstrate one and two firefighter ladder raises
- 20.7 Demonstrate procedures for moving ground ladders

STANDARD 21.0 – APPLY APPROPRIATE FORCIBLE ENTRY TECHNIQUES

- 21.1 Identify various forcible entry tools
- 21.2 Describe the use of various forcible entry tools
- 21.3 Describe door size up and construction features
- 21.4 Explain locks and locking devices
- 21.5 Describe (or demonstrate) conventional forcible entry through doors
- 21.6 Describe (or demonstrate) forcing windows
- 21.7 Describe (or demonstrate) breaching walls

STANDARD 22.0 – DEMONSTRATE PRINCIPLES OF LOSS CONTROL (SALVAGE)

- 22.1 Identify salvage covers and equipment
- 22.2 Demonstrate care and maintenance of salvage covers
- 22.3 Demonstrate folding, rolling, and spreading salvage covers with one and two firefighters
- 22.4 Describe fire safety during overhaul
- 22.5 Describe locating hidden fires and overhaul procedures

STANDARD 23.0 – DESCRIBE ROLES AND RESPONSIBILITIES OF PROTECTING THE FIRE SCENE

- 23.1 Describe observations to look for enroute and on scene of a fire
- 23.2 Describe conduct during firefighting to protect the evidence
- 23.3 Describe responsibilities after the fire in protecting evidence and securing the scene
- 23.4 Research career pathways to become an arson investigator with fire or law enforcement
- 23.5 Explain the use of canines in the use of arson investigation

STANDARD 24.0 – EXPLAIN FIRE PREVENTION AND PUBLIC EDUCATION IN FIRE SERVICE

- 24.1 Explain the role of a fire department public education specialist and public information officer
- 24.2 Explain the role of a fire inspector
- 24.3 Research job responsibilities and career opportunities in public education and fire inspection
- 24.4 Describe the importance of prevention in mitigating emergencies

STANDARD 25.0 – REVIEW BASIC PRINCIPLES OF HAZARDOUS MATERIALS OPERATIONS

- 25.1 Complete a Hazardous Materials First Responder course meeting requirements of NFPA 472

STANDARD 26.0 – DESCRIBE BASIC EMERGENCY MEDICAL CARE FOR FIREFIGHTERS/FIRST RESPONDERS

- 26.1 Demonstrate proper use of body substance isolation (BSI) and use of PPE
- 26.2 Describe scene safety at emergency medical incidents
- 26.3 Describe common infectious diseases
- 26.4 Describe various body systems—muscular, nervous, cardiovascular, respiratory, and digestive
- 26.5 Complete a basic Cardiopulmonary Resuscitation (CPR) course through AHA or equivalent
- 26.6 Complete basic First Aid course through Red Cross or equivalent

STANDARD 27.0 – DEMONSTRATE BASIC PRINCIPLES OF WILDLAND FIREFIGHTING

- 27.1 Complete Wildland S130/190 course or equivalent

STANDARD 28.0 – DEMONSTRATE SELECTION AND USE OF ROPES AND KNOTS

- 28.1 Describe types of ropes and their uses
- 28.2 Describe types of rope construction
- 28.3 Demonstrate rope care, cleaning, and maintenance
- 28.4 Describe the elements of a knot
- 28.5 28.6 Demonstrate hoisting tools and equipment

STANDARD 29.0 – DESCRIBE ELEMENTS AND SUPPORT OF TECHNICAL RESCUE TEAMS

- 29.1 Explain the various disciplines that comprise technical rescue in fire service
- 29.2 Research careers in search and rescue disciplines, including canine handling
- 29.3 Evaluate film and video of technical rescues
- 29.4 Explain the importance of air management in technical rescue

COURSE SCHEDULE

(Tentative, subject to change depending on the progress of the class)

First Year

Quarter 1

- Career Survey of the Fire Service
- Physical Fitness (PT)-ongoing
- Emergency Medical First Responder
- Components of Emergency Medical Services (EMS)
- Well-being of the Responder
- Legal and Ethical Issues for First Responders
- Human Body
- Lifting/Moving Patients
- Patient Airways

Patient Assessment

Quarter Two:

- Human Circulation
- Practices in Medical Emergencies
- Bleeding and Soft Tissue Injuries
- Childbirth Practices
- Emergency Medical Services (EMS)
- Personal Wellness
- Firefighter I & II
- PT- Ongoing

National Incident Management Systems (NIMS)- FEMA IS100

Quarter Three

Role and Organization of the Fire Service
Fire Service Safety
Fire Behavior
Ropes and Knots
Personal Protective Equipment (PPE)
Portable Fire Extinguishers
PT-Ongoing

Hazardous Materials First Responder Operations-NFPA 472
NIMS- FEMA IS200

Quarter Four

Building Construction, Ventilation
Forcible Entry
Vehicle/Rescue Extrication Tools and Equipment
Fire Ground Search and Rescue
National Wildfire Coordinating Group (NWCG) S130/190 Course
Technical Rescue Overview

Second Year

Quarter One

Fire Hoses
Fire Streams
Fire Control Methods
Fire Ground Tactics and Strategy
Ground Ladders
Loss Control
Health and Fitness for Firefighters
PT- Ongoing

Quarter Two

Ventilation
Fire Scene Protection
Fire Prevention
Water Supply

Fire Detection, Alarm and Suppression Systems
PT-Ongoing

Quarter Three

Fire Apparatus
Company Skills and Practices
Simulated Calls
PT-Ongoing

Quarter Four

Fire Pump Theory, Maintenance and Operations
Fire Ground Hydraulics
Company Skills
PT-Ongoing
Skills Practical
Final Exam

COURSE POLICIES

Attendance:

Students are expected to attend all classes. See CAVIT Student Handbook on Attendance.

Tardiness:

Students must adhere to class schedules. Students are required to be punctual for all classes and class activities. Classes will begin promptly at the scheduled time unless specific instructions are given otherwise.

Class Participation:

This course will involve discussion, questions and answers on the materials, and case study. Class participation is expected from all students.

Safety:

Safety of the student is top priority to CAVIT. Students must adhere to safety regulations while attending a class on or off the campus. Any deviation from safety procedures will be dealt with in accordance with the Student Handbook section on discipline

Academic Misconduct:

Academic misconduct or dishonesty such as cheating and plagiarism is not permitted in class. Suspected cases of academic misconduct will be reported to the CAVIT Superintendent. Conduct detrimental to the fire service on or off campus will not be tolerated. . Students will be provided instruction on what will be expected during class time, exercise periods, inspections, drills, and examinations (both written and practical).

Grades: Grades will be earned by the students in accordance with the following grading chart:

Quiz Grades	=55%
Skill Practical	=20%
Class Participation	=10%
Tests	=15%

Letter grades are assigned according to the following system for all certification courses for which students have registered.

A – Excellent (90-100)

B – Good (80-89)

C – Average (70-79)

F - Failing

Satisfactory grades for certification are A and B. A grade below B may result in removal from the program.

Classroom Rules:

CAVIT classes are organized to replicate the fire service work environment. Students are required to conduct themselves in the same manner that is required by fire service employees.

Students are expected to arrive in class on time prepared to engage in active learning with the appropriate homework assignments and materials, including textbooks, paper, pencil or pen, or project materials and students are expected to remain in class until the end of class.

Cheating will not be tolerated. Students are expected to do their own work.

Students are expected to follow directions given by any staff member.

Students are expected to demonstrate courtesy and respect toward themselves, other students, guests, staff members, and substitute teachers as well as respect for school property and equipment.

Students are expected to refrain from using inappropriate language, including profanity, both in and out of the classroom. In a fire service work environment, this is a serious violation.

Inappropriate displays of affection will not be tolerated.

Respect Code:

Every person has the right to learn in a comfortable and safe environment. At CAVIT, we expect all staff members, students, and visitors to encourage positive self-esteem by:

Practicing courtesy and friendliness at all times;

Being cooperative, attentive and supportive in class, and in all school related activities; and

Being supportive of one another in pursuit of academic activities, and personal goals.

Abuse to others will not be tolerated in the classroom, or during school related activities.

Certification:

There will be an examination for state certification provided by the Arizona Center for Fire Service Excellence. The Arizona Center for Fire Service Excellence is an approved IFSAC Certification member. All testing will be performed in accordance with AzCFSE procedures.

STUDENT FEEDBACK

Students are expected to be active participants in the program, and your feedback is important to us. You will have formal opportunities for feedback in the form of student satisfaction surveys. Your informal feedback is also welcome at any point in the program. This can be done verbally, anonymously by placing a note in my box or through email.