

COURSE OUTLINE

**Fire Technology 155
Fire Command 1B**

Catalog Statement

FIRE 155 contains instruction in tactics, strategies, and scene management principles for hazardous materials incidents, emergency medical services (EMS) multi-casualty incidents, and wildland fire fighting incidents. This course also includes simulation time pertaining to the initial decision processes at a working incident. The course includes areas of discussion on the fire officer, components of triage, fire behavior, fire ground resources, operations, and management. This course applies to California Fire Service Training and Education System certifications.

Total Lecture Units: 2.0
Total Laboratory Units: 0.0
Total Course Units: 2.0

Total Lecture Hours: 32.0
Total Laboratory Hours: 0.0
Total Laboratory Hours To Be Arranged: 0.0
Total Faculty Contact Hours: 32.0

Prerequisite: Incident Command Systems (ICS) 200, or employment in a fire related occupation.

Recommended preparation: Eligibility for ENGL 120 or ESL 151.

Course Entry Expectations

Skills Level Ranges: Reading 5; Writing 5; Listening/Speaking 5; Mathematics 3.

Prior to enrolling in the course, the student should be able to:

- describe human resource management;
- describe the organizational structure used within the fire service, including duties and responsibilities;
- identify communication skills appropriate for reporting on conditions and managing resources at an emergency scene;
- analyze and evaluate information on how to compile a pre-fire plan, and how to utilize that information when responding to an emergency incident;
- analyze and evaluate the opportunity to size-up emergency situations; and identify the strategies, tactics and methods necessary to manage given scenarios;
- identify the common causes of fire fighter deaths and injuries, and appropriate safety measures to protect personnel.

Course Exit Standards

Upon successful completion of the required coursework, the student should be able to:

- identify management strategies in the successful mitigation of:
 - multi-casualty emergencies;
 - hazardous materials incidents;
 - wildland fires;
 - major disaster incidents;
- analyze the common causes of firefighter deaths and injuries, and appropriate safety measures to protect personnel.

Course Content

Total Faculty Contact Hours = 32.0

Introduction: Orientation and Administration (**1 hour**)

Fire Command 1A Review (**2 hours**)

Concept of ICS Organization (**3 hours**)

History

Purpose of ICS

Command structure

Components of Triage and Start (**2 hours**)

Triage

Simple triage and rapid treatment (START)

ICS and EMS Multi-Casualty (**1 hour**)

Conditions which cause medical emergency incidents

Mutual aid agreements

Types of emergencies

ICS-Multiple Casualty Implementation (MCI) (**2 hours**)

ICS multi-casualty branch

First officer

First ambulance

Battalion Chief (Incident Commander)

Additional equipment

Hazardous Materials (**1 hour**)

Properties of hazardous materials

Site control/work zones

Evacuation considerations

Decision-making process

ICS and the hazmat incident

Properties of Hazardous Materials (**1 hour**)

Main groupings

Physical hazards

Chemical hazards

Health hazards

Environmental hazards

Toxicology (**1 hour**)

Definition

Time frames

Actions

Factors influencing toxicity

- Dose response relationships
- Dose response terms
- Cancer causing agents
- Oxygen deficient atmosphere
- Site Control/Work Zones **(1 hour)**
- Evacuation Considerations **(1 hour)**
 - When to evacuate
 - Whom to evacuate
 - Types of evacuations
- Decision-Making Process **(1 hour)**
 - D.E.C.I.D.E.
- ICS and the Hazardous Materials Incident: hazardous materials organization **(1 hour)**
- Factors Affecting Wildland Fires **(1 hour)**
 - Fuel classification
 - Fuel rate of burning
 - Weather
 - Weather warning signs
 - Topography
- Defensive and Offensive Strategies in Wildland Fire Fighting **(1 hour)**
 - Defensive strategies
 - Offensive strategies
- Use of Direct and Indirect Attack Methods on Wildland Fires **(2 hours)**
 - Direct attack
 - Indirect attack
 - Parallel attack
 - Methods of Direct Attack
 - Flanking attack
 - Pincer attack
 - Tandem attack
 - Envelopment action
 - Methods of Indirect Attack
 - Burning out
 - Backfiring
- Structure Protection and Triage in Wildland Fires **(3 hours)**
 - Choosing the engine for the job
 - Personnel on the engine
 - Type of assignments
 - Strike team and engine tactics
 - Structure protection triage
- Wildland Fire Safety **(4 hours)**
 - Ten standard firefighting orders
 - Situations that shout “watch out”
 - Safety around aircraft
 - Fixed wing aircraft
 - Rotary winged aircraft
 - Use of structures for refuge
 - Using a vehicle for refuge
- Skill Session Exercise Overview **(3 hours)**

Methods of Instruction

The following methods of instruction may be used in the course:

- classroom lecture and demonstration;
- multimedia lab demonstration.

Out of Class Assignments

The following out of class assignments may be used in the course:

- individual projects (i.e. written assignment, reading reports);
- group projects (i.e. Homework problems, problem solving demonstrations, discussion on textbook topics).

Methods of Evaluation

The following methods of evaluation may be used in the course:

- daily verbal evaluation of instructor;
- quizzes;
- midterm examination;
- student teaching demonstrations;
- final examination.

Textbooks

International Fire Service Training Association (IFSTA), *Fire and Emergency Services Company Officer* [4th Edition]. Stillwater, OK: Fire Protection Publications, 2008. 10th Grade Textbook Reading Level. ISBN: 0135021022

California Department of Forestry and Fire Protection, *Fire Command 1B, Student Manual*, [2nd Edition]. California Department of Forestry and Fire Protection, Office of State Fire Marshal, 1998
10th Grade Textbook Reading Level. ISBN:

Student Learning Outcomes

Upon successful completion of the required coursework, the student will be able to:

- student will be able to identify management strategies in the successful mitigation of multi-casualty emergencies; hazardous materials incidents; wildland fires; and major disaster incidents;
- student will be able to analyze the common causes of firefighter deaths and injuries, and appropriate safety measures to protect personnel.