Las Positas College
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Course Outline for FST 71A

FIRE COMMAND IA: PRINCIPLES FOR COMPANY OFFICERS

Effective: Spring 2019

I. CATALOG DESCRIPTION:
FST 71A — FIRE COMMAND IA: PRINCIPLES FOR COMPANY OFFICERS — 2.00 units

Provides for company officers with information and experience in command and control techniques, Instruction and simulation time pertaining to the initial decision and action processes at a working fire. Topics include the fire officer and their acts of commanding and authority of command, fire behavior, fire ground resources, operations, and management.

2.00 Units Lecture

Prerequisite
FST 65 - First Respond Haz Mat/Incident
with a minimum grade of C
or

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Grading Methods:
Letter Grade

Discipline:
- Fire Technology

	MIN
Lecture Hours:	36.00
Total Hours:	36.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:
Before entering the course a student should be able to:

A. FST65

IV. MEASURABLE OBJECTIVES:
Upon completion of this course, the student should be able to:

A. Define human resource management;
B. Describe the organizational structure used within the fire service, including the duties and responsibilities within the command structure;
C. Identify and demonstrate communication skills appropriate for reporting on conditions and managing resources at an emergency incident;
D. Define and develop a pre-fire plan;
E. Describe how to utilize pre-fire plan information when responding to an emergency incident;
F. Demonstrate appropriate priorities in emergency scene size-ups;
G. Describe the strategies, tactics, and methods necessary to manage given scenarios;
H. Identify common causes of firefighter deaths and injuries on the fire ground;
I. Identify appropriate safety measures to protect fire fighting personnel on the fire ground.

V. CONTENT:
A. Orientation and Administration
    1. Course Goals and Objectives
    2. CFSTES Certification Tracks
        a. “Company Officer” Certification
B. NFPA 1021, Standard for Fire Officer Professional Qualifications”
    1. Human Resource Management
    2. Organizational Structure
    3. Communication Skills
    4. Planning
    5. Inspection, Investigation and Public Education
    6. Emergency Service Delivery
    7. Safety

C. The Learning Proces
    1. Base of Knowledge
    2. Level of Experience
    3. Synergistic Balance
D. Fire Command Overview
    1. Command Activities
    2. Human Element of Command
E. Fire Chemistry Review
F. Fire Phases
    1. Three Phase Identification
        a. Incipient
        b. Free Burning
        c. Smoldering
    2. Five Phase Identification
        a. Ignition
        b. Development
        c. Flashover
        d. Fully Developed
        e. Decay
    3. Backdraft
G. The Effects of Time
    1. Time temperature-Curve
    2. Fire Department Reflex Time
H. Fire Behavior within Structures
    1. Primary Methods of Fire Spread
        a. Conduction
        b. Convection
        c. Radiation
        d. Path of Least Resistance
I. Extinguishing Agents
    1. Four Classes of Fire
        a. Class A – Ordinary Combustibles
        b. Class B – Flammable and Combustible Liquids and Gasses
        c. Class C – Energized Electrical
        d. Class D – Combustible Metals
    2. Water
    3. Foam
    4. Dry Chemical
    5. Carbon Dioxide
    6. Halon's and Clean Agents
    7. Dry Powders
J. Water Application
    1. Methods of Fire Attack
        a. Direct
        b. Indirect
        c. Combination
    2. Thermal Balance
    3. Hose Stream Characteristics
K. Fire Protection Systems
    1. Automatic Sprinkler Systems
        a. Wet-Pipe
        b. Regular Dry Pipe
        c. Pre-Action
        d. Deluge System
        e. Combination System
    2. Standpipe Systems
        a. Class I
        b. Class II
        c. Class III
    3. Automatic Fire Detectors
        a. Heat Detectors
        b. Smoke Detectors
        c. Gas Sensing
        d. Flame Detection
    4. Alarm Systems
        a. Local
        b. Auxiliary
        c. Proprietary
    5. Smoke Control Systems
L. Building Construction
    1. Construction Types
        a. Type I – Fire Resistive
        b. Type II – Non Combustible
        c. Type III – Ordinary Construction
        d. Type IV – Heavy Timber
        e. Type V – Wood Frame
    2. Fires Affect on Structures and Materials
M. Occupancy Types
    1. Specific Occupant Classifications
    2. Occupant Loading
    3. Fuel Loading
N. Pre-Fire Planning
    1. Types of Pre-Plans
    2. Target Hazards
    3. Special Hazards
    4. Hazardous Materials Management Plans
O. Fire Data
    1. NFIRS
    2. CFIRS
    3. NFPA 901

P. Local Resources
    1. Public and Private
Q. State and Federal Resources
    1. State of California OES Mutual Aid Agreement
R. Fire Ground Safety
    1. Statistics
    2. NFPA 1500
    3. California's Workplace Injury & Illness Prevention Program
    4. NIOSH and CAL OSHA
S. Size-Up
    1. Lloyd Layman's Size-up System
T. Strategy, Tactics and Methods
    1. Offensive vs. Defensive or Combination Strategies
U. Report on Conditions
    1. Components of a Report
    2. Radio Procedures
V. Role of the First-In Officer
    1. Company Role
    2. Command Role
W. Company Operations
    1. Engine Company
    2. Truck Company
X. Determining Resource Requirements
    1. Calculating Fire Flow
Y. Apparatus Placement
A@. Initial Attack
AA. Management Overview
    1. Management Concepts
    2. Functions of Management
AB. The Fire Service
    1. Problems Facing the Fire Service
    2. The Systems Approach
AC. The Company Officer
    1. Skills, Knowledge and Abilities Required
    2. Managerial Obligations
AD. Pressure of Command
    1. Managing and Responding to Stress
    2. Critical Incident Stress
    3. Command Presence
AE. Performance Standards
AF. Levels of Emergency
    1. Nuisance Fires
    2. Initial Attack
    3. Sustained Attack
    4. Campaign Fires
AG. Decision Making
    1. Identification of Problem
    2. Evaluating Alternatives and Possible Impacts
    3. Determining Objectives
    4. Prioritizing Objectives
    5. Evaluating Results
    6. Decision Models
    7. Profiling the Decision Maker
AH. Post Incident Analysis
AI. Communications
    1. Communication Methods
    2. Communication Styles
    3. Command Considerations
    4. Conflicting orders
    5. Emergency Evacuation Order
AJ. Management by Objectives
AK. Divisions of Firefighting
    1. Major Goals of Fireground Operations
    2. Keys to Successful Scene Management
    3. Tactical priorities with RECEO
    4. REVAS
AL. Command and Control Components
    1. Organization
    2. Chain of Command
    3. Span of Control
    4. Unity of Command
    5. Command Structure
    6. Supervision/Leadership
AM. Simulation Overview

VI. METHODS OF INSTRUCTION:
A. **Lecture** -
B. **Discussion** -
C. Audio-visual aids
D. Student fire command simulation exercises
E. Group exercises
F. Computer based simulation demonstrations
G. Power point presentations

VII. TYPICAL ASSIGNMENTS:
A. Student will be required to perform twice in the capacity of a First Due, Second Due Engine Company Officer and as a Truck Officer for a total of six computer-based fireground simulation exercises. B. Students shall complete all required course "Activity Sheet" assignments. C. Students shall complete two state format evaluation forms of other student simulation exercise performance presentations.

VIII. EVALUATION:
Methods/Frequency

A. Exams/Tests
B. Quizzes
C. Simulation
D. Home Work
E. Other
    1. Methods
        a. Short quizzes (CFSTES required quizzes)
        b. Completion of computer simulation fire command exercise
        c. Final examination (CFSTES State Certification Final)

IX. TYPICAL TEXTS:
1. - *Fire Command-IA Workbook.*, State Fire Marshal's Office, 1995.
2. - *Engine Company Fireground Operations.* 3rd ed., NFPA, 2008.
3. - *Ladder Company Fireground Operations.* 3rd ed., NFPA, 2008.

X. OTHER MATERIALS REQUIRED OF STUDENTS: