COURSE INFORMATION FORM

DISCIPLINE: Fire Science
COURSE TITLE: Principles of Emergency Services
CR.HR. 4 LECT HR. 3 LAB HR. 2 CLIN/INTERN HR. 0 CLOCK HR. 0

CATALOG DESCRIPTION

This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; life safety initiatives.

This course is also designed to instruct the student in all phases of basic firefighter techniques. The student will be eligible for Fire Fighter I state certification upon completion of the course and successful completion of the Fire Fighter I state certification exam.

PREREQUISITES

None
EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:

1. Illustrate and explain the history and culture of the fire service.

2. Analyze the basic components of fire as a chemical chain reaction, the major phases of fire, and examine the main factors that influence fire spread and fire behavior.

3. Differentiate between fire service training and education and explain the value of higher education to the professionalization of the fire service.

4. List and describe the major organizations that provide emergency response service and illustrate how they interrelate.

5. Identify fire protection and emergency-service careers in both the public and private sector.

6. Define the role of national, state and local support organizations in fire and emergency services.

7. Discuss and describe the scope, purpose, and organizational structure of fire and emergency services.

8. Describe the common types of fire and emergency service facilities, equipment, and apparatus.

9. Compare and contrast effective management concepts for various emergency situations.

10. Identify and explain the components of fire prevention including code enforcement, public information, and public and private fire protection systems.

11. Recognize the components of career preparation and goal setting.

12. Describe the importance of wellness and fitness as it relates to emergency services.
GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

3 Lifelong Learning

B. Personal and Professional Development
   • Seek and participate in special interest groups and professional organizations (4-8)
   • Pursue structured learning opportunities, certification, and/or degrees (1-12)
PROGRAM-LEVEL OUTCOMES
CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.
The student will explain the history and origins of the Fire and Emergency Services

- Accurately interprets historical events that have lead to the development of the fire service industry, equipment and fire Codes
- Accurately interprets the mission and organization used in the fire service
- Demonstrates the use of fire service communications during emergency and non-emergency operations

The student will be able to explain and demonstrate the safety and health procedures/requirements set by the National Fire Protection Association

- Recognize the appropriate use and care of personal protective equipment, (Bunker gear, SCBA)
- Develop effect skills used for self-rescue in emergency operations
- Develop effect skills used for safe operations in fire station and on fire apparatus’
- Identify the National Fire Protection Administration’s standard on fire service health and safety (NFPA 1500)

The student will be able to explain fire behavior and demonstrate the ability to extinguish class A, B, C, & D fires

- Recognize the elements of fire behavior and growth, the transfer of heat and energy, and The control theories if fire extinguishment
- Demonstrate the handling, care, and testing of fire service hose, nozzles and appliances
- Demonstrate the handling, care, and testing of fire service extinguishers
- Recognize the elements of building construction and its relationship to fire spread and behavior
- Demonstrate the use of, care of, and testing of fire service water supply systems
- Demonstrate the ability to remove fire byproducts including smoke, heat and toxic gasses from structures
- Demonstrate the use of various fire streams in the extinguishment of fires

The student will be able to explain and demonstrate the ability to conduct loss control operations during emergency operations

- Demonstrates the ability to fire service tarp and other loss control equipment during salvage operations
- Demonstrates the ability to located and extinguish hidden fires (hot spots) during emergency operations

The student will be able to explain and demonstrate the ability to Investigate a fire scene as to its cause and origin

- Recognize the responsibilities of the firefighter and fire department as it relates to fire investigations
- Recognize the laws, statues’, case studies and standards (NFPA 921) that apply to fire investigations
- Demonstrate the ability to evidence preservation on collection related to fire investigations

The student will be able to explain and demonstrate the ability to conduct, fire inspection and public relation events

- Recognize the fire codes, elements and procedures relating to fire inspections
- Demonstrate the ability to prepare a residential and commercial pre-incident survey
- Demonstrate the ability to present fire safety lectures and educational classes for adults and children
- Recognize the elements and parts of a fire sprinkler and detection system

The student will be able to explain and demonstrate the ability to perform basic pre-hospital care

- Demonstrate the ability to render basic patient care including infection control, CPR, Acute Stress, bleeding control, airway obstruction, and shock.

The student will be able to explain and demonstrate the ability to recognize, analyze, isolate, and mitigate hazardous materials incidents

- Accurately interprets Haz-Mat placards, labels, markers, and transport vehicles
- Recognize the appropriate action for containment and mitigation of Hazardous Materials
- Demonstrates the ability to construct a hasty and mass decontamination site

The student will demonstrate the ability to develop and maintain professionalism in the field of Public Safety

- Demonstrate the ability to conduct the duties as a fire fighter in professional manner

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CLASS-LEVEL ASSESSMENT MEASURES

Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

All of the expected student outcomes will be measured by a series or combination of written assessments and practical examinations.
Course Outline

Principles of Emergency Services

I. Careers in the Fire Protection/Emergency Services
   A. Opportunities/Private, Industrial, Local, Municipal, State and Federal
   B. Pay, Hours of Duty, Benefits, Promotion and Retirement Qualifications
   C. Work Ethics and Human Relations Education and Training
      1. Certificates
      2. Degrees
   D. Selection Process

II. History
   A. Evolution of the Fire Protection
   B. The U.S. Fire Problem: Life and Property

III. Fire Prevention and Public Fire Education
   A. Fire Investigation
   B. Code Enforcement
   C. Public Education

IV. Scientific Terminology
   A. Fire Behavior
   B. Flammability and Characteristics of Solids, Liquids and Gases.

V. Building Design and Construction

VI. Fire Detection and Suppression Systems

VII. The Role of Public and Private Support Organizations
   A. Local
   B. State
   C. Federal and National
   D. International

VIII. Fire and Emergency Services Equipment and Facilities

IX. Management
   A. Emergency Operations
   B. Organizational Structure of Fire and Emergency Services