COURSE INFORMATION FORM

DISCIPLINE: Fire Science

COURSE TITLE: Principles of Fire and Emergency Services Safety and Survival

CR.HR  3  LECT HR  3  LAB HR  CLIN/INTERN HR  CLOCK HR

CATALOG DESCRIPTION

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

PREREQUISITES

None
EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)

Upon completion of this course, the student will be able to:

1. Define and describe the need for cultural and behavioral change within the emergency services relating to safety, incorporating leadership, supervision, accountability and personal responsibility.

2. Explain the need for enhancements of personal and organizational accountability for health and safety.

3. Define how the concepts of risk management affect strategic and tactical decision-making.

4. Describe and evaluate circumstances that might constitute an unsafe act.

5. Explain the concept of empowering all emergency services personnel to stop unsafe acts.

6. Validate the need for national training standards as they correlate to professional development inclusive of qualifications, certifications, and re-certifications.

7. Defend the need for annual medical evaluations and the establishment of physical fitness criteria for emergency services personnel throughout their careers.

8. Explain the vital role of local departments in national research and data collection systems.

9. Illustrate how technological advancements can produce higher levels of emergency services safety and survival.

10. Explain the importance of investigating all near misses, injuries and fatalities.

11. Discuss how incorporating the lessons learned from investigations can support cultural change throughout the emergency services.

12. Describe how obtaining grants can support safety and survival initiatives.

13. Formulate an awareness of how adopting standardized policies for responding to emergency scenes can minimize near-misses, injuries and deaths.

14. Explain how the increase in violent incidents impacts safety for emergency services personnel when responding to emergency scenes.

15. Recognize the need for counseling and psychological support for emergency services personnel, their families, as well as, identify access to local resources and services.

16. Describe the importance of public education as a critical component of life safety programs.

17. Discuss the importance of fire sprinklers and code enforcement.

18. Explain the importance of safety in the design of apparatus and equipment.
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.

2. Critical Thinking
   A. Formulate a hypothesis:
      • Generate relevant questions (18)
      • Provide supporting arguments, evidence, and/or experimentation (18)
      • Construct and verify logically sound arguments (18)

3. Lifelong Learning
   B. Personal and Professional Development
      • Pursue structured learning opportunities, certification, and/or degrees (1-18)
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
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.)

Students will be evaluated for mastery of learning objectives by written examination and assignments.
CATALOG NO. FSTE 204

DISCIPLINE Fire Science

COURSE TITLE: Principles of Fire and Emergency Services Safety and Survival

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

**Principles of Firefighter Safety and Survival**

I. Introduction
   A. History of fire service culture
   B. Organizational culture
   C. Individual role in culture/behavior
   D. History of line of duty deaths and injuries statistics
   E. Defining the nature of the problem

II. The national context, health and safety
   A. NFPA, OSHA
   B. Medical and fitness standards
   C. Data Collection (NFIRS)
   D. Research/Investigation NIST, NIOSH

III. Training, equipment, response
   A. Training, certification, credentialing
   B. Apparatus and equipment
   C. Emergency response – response to emergency scenes
   D. Violent incidents
   E. Emerging technologies

IV. Organizational health and safety profile
   A. Personal and organizational accountability
   B. Present condition/culture
   C. Investigations - internal
   D. Analyzing your profile
   E. Utilizing grants to meet needs

V. Risk Management
   A. Risk management concepts and practices
   B. Unsafe acts
   C. Empowerment definition

VI. Prevention
   A. Home fire sprinklers
   B. Code enforcement
   C. Public education/ fire and life safety

D. Counseling and psychological support