

Course Outline for FST 2

PRINCIPLES OF FIRE AND EMERGENCY SERVICES SAFETY AND SURVIVAL

Effective: Fall 2019

I. CATALOG DESCRIPTION:

FST 2 — PRINCIPLES OF FIRE AND EMERGENCY SERVICES SAFETY AND SURVIVAL — 3.00 units

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; assessing fire dangers and handling common fire situations; risk abatement and personal preparation for unforeseen fire emergencies; roles and responsibilities in educating the public on fire safety; development of a survival attitude using problem-solving techniques for increased situational awareness and self-reliance in an emergency.

3.00 Units Lecture

Grading Methods:

Letter Grade

Discipline:

- Fire Technology

	MIN
Lecture Hours:	54.00
Expected Outside of Class Hours:	108.00
Total Hours:	162.00

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

III. PREREQUISITE AND/OR ADVISORY SKILLS:

IV. MEASURABLE OBJECTIVES:

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

- Define and describe the need for cultural and behavioral change within the emergency services relating to safety, incorporating leadership, supervision, accountability and personal responsibility
- Explain the need for enhancement of personal and organizational accountability for health and safety, and the logistical role of personal accountability systems and Rapid Intervention Crews
- Define how the concepts of risk management affect strategic and tactical decision-making;
- Describe and evaluate circumstances that might constitute an unsafe act
- Explain the concept of empowering all emergency services personnel to stop unsafe acts
- Validate the need for national training standards as they correlate to professional development inclusive of qualifications, certifications, and re-certifications
- Defend the need for annual medical evaluations and the establishment of physical fitness criteria for emergency services personnel throughout their careers
- Explain the vital role of local departments in national research and data collection systems
- Illustrate how technical advancements can produce higher levels of emergency services safety and survival
- Explain the importance of investigating all near misses, injuries, and fatalities
- Discuss how incorporating the lessons learned from investigations can support cultural change throughout the emergency services, especially when firefighter and civilian injuries and deaths are factors
- Describe how obtaining grants can support safety and survival initiatives
- Formulate an awareness of how adopting standardized policies for responding to emergency scenes can minimize near-misses, injuries, and deaths
- Explain how the increase in violent incidents impacts safety of emergency services personnel when responding to emergency scenes
- Recognize the need for counseling and psychological support for emergency services personnel, their families, as well as identify access to local resources and services
- Describe the importance of public education as a critical component of life safety programs
- Describe the importance of fire sprinklers and code enforcement
- Explain the importance of safety in the design of apparatus and equipment
- Explain the general safety precautions to implement for all emergencies
- Describe the procedures for responding on emergency vehicles
- Describe the safety considerations when handling energized electrical equipment incidents
- Describe the components of structural personal protective equipment and personal alert safety systems
- Describe safety considerations for incidents involving structure fires and structural collapse
- Explain safety considerations when performing fire ground operations involving ventilation, fire extinguishment, and hose line advancement

- Y. Explain safety considerations and procedures for vehicle fires and traffic control devices;
- A@. Identify and explain the 16 safety initiatives
- AA. Explain concepts of risk management and mitigation as it pertains to emergency services

V. CONTENT:

- A. Introduction
 - 1. History of fire service culture
 - 2. Organizational culture
 - 3. Individual role in culture/behavior
 - 4. History of line of duty deaths and injuries statistics
 - 5. Defining the nature of the problem
- B. The national context, health and safety
 - 1. National Fire Protection Association (NFPA)
 - 2. Occupational Safety and Health Administration (OSHA)
 - 3. Medical and fitness standards
 - 4. Data collections (National Fire Incident Report System)
 - 5. Research/Investigation
 - a. National Institute of Standards and Technology (NIST)
 - b. National Institute of Occupational Safety and Health (NIOSH)
- C. Training, Equipment, Response
 - 1. Certification and credentialing
 - 2. Fundamental rescue considerations
 - a. Recognition of personal limitations
 - b. Tools of the trade
 - c. Safety considerations during search and rescue
 - d. Basic rescue
 - 1. Emergency procedures
 - 2. Rescue techniques
- D. Fire fighting apparatus and equipment
 - 1. Apparatus
 - a. Design standards for new apparatus
 - b. Licensing and certifications for vehicle operations
 - c. Safety considerations when operating vehicles
 - 2. Equipment
 - 3. Fire fighting devices
 - a. Fire extinguishers
 - b. Hose lines
 - c. Devices improvised in response to specific situations
 - 4. Fire fighters personal protective equipment (PPE)
 - a. Reasons for wearing
 - b. Reasons for failure of clothing
 - c. Self-contained breathing apparatus (SCBA)
 - 1. Air consumption
 - 2. SCBA Emergencies
 - d. Personal alarm safety system (PASS)
- E. Safe and competent response
 - 1. Role of fire department organization
 - a. Policies and procedures
 - b. Enforcement of training standards
 - 2. Responding to emergency scenes
 - 3. Handling emergency situations
 - a. Preplanning for emergencies
 - b. Fire and health danger assessment
 - c. Evacuating premises
 - d. Emergency information report
 - 4. Fire protection in open area
 - a. Wildland
 - b. Transportation
 - c. Storage
 - 5. Safety precautions
 - a. Structure fires
 - b. Vehicle fires
 - c. Wildland fires
 - d. Violent incidents
 - e. All other emergency situations
- F. Firefighter survival training
 - 1. Developing a survival attitude
 - a. Potential for serious injury and death
 - b. Situational awareness
 - 2. Mayday
 - a. Preventing a Mayday
 - 1. Importance of thorough scene size-up
 - 2. Preincident planning procedures
 - b. Situations that create or may create a Mayday
 - c. Mayday procedures
 - 3. SCBA emergencies
 - a. NFPA 1404
 - 1. Standards for fire service respiratory protection training
 - 2. Individual air management program
 - b. Air consumption for survival
 - 1. Consumption rate testing
 - 2. Reducing consumption
 - c. Checking SCBA
 - 1. Daily check
 - 2. Emergency procedures check
 - d. Common SCBA emergencies
 - e. Alternative means of obtaining additional air
- G. Organizational Health and Safety Profile
 - 1. Personal and organizational accountability

2. Present condition/culture
3. Investigations - internal
4. Analyzing your profile
5. Utilizing grants to meet needs
- H. Risk management
 1. Risk management concepts and practices
 2. Unsafe acts
 3. Empowerment definition
- I. Prevention
 1. Common fire and health hazards
 - a. Housekeeping
 - b. Electrical
 - c. Flammable gasses and liquids
 - d. Common hazardous substances
 2. Fire detection devices for the home and/or workplace
 - a. Selection
 - b. Operation
 - c. Maintenance
 3. Home fire sprinklers
 4. Code enforcement
 5. Public education / fire and life safety
 - a. Roles and responsibilities
 - b. Principles of fire behavior
 - c. Human behavior in fire
 6. Counseling and psychological support

VI. METHODS OF INSTRUCTION:

- A. Audiovisual aids
- B. **Lecture** -
- C. Group discussion
- D. **Field Trips** -
- E. Online research assignments
- F. Simulated problem solving

VII. TYPICAL ASSIGNMENTS:

- A. As a member of a research group, prepare and deliver a fire service safety resource contact presentation.
- B. Prepare a written analysis based on research of the 16 Firefighter Life Safety Initiatives.
- C. Explain the need for a cultural change in the firefighting profession.

VIII. EVALUATION:

Methods/Frequency

- A. Exams/Tests
 - one midterm and one written final exam
- B. Quizzes
 - weekly
- C. Oral Presentation
 - one
- D. Group Projects
 - one
- E. Class Participation
 - daily
- F. Home Work
 - weekly

IX. TYPICAL TEXTS:

1. Zimmerman, Don. *Firefighter Safety and Survival*. 2nd ed., Jones and Bartlett Learning, 2015.
2. Ford, Travis. *Fire and Emergency Services Safety and Survival*. 2nd ed., Pearson, 2017.
3. IAFC and NFPA . *Fundamentals of Firefighter Skills*. 4th edition ed., Jones and Barlett Publishing, 2018.

X. OTHER MATERIALS REQUIRED OF STUDENTS:

- A. LPC Fire Service Technology Uniform