Course Competency

FFP 1540 Private Fire Protection Systems 1

Course Descripttion

This is a study of private fire protection and detection systems such as sprinkler and standpipe systems, chemical extinguishing systems, and detection systems and devices. Each system is discussed as to its need, construction, preventative maintenance and individual use. (3 hr. lecture)

Course Competency	Learning Outcomes
Competency 1: Explore the theories and fundamentals of how and why fires start, spread, and how they are controlled by:	1. Critical thinking
a. Identifying physical properties of the threestates of matter. b. Describing the components of fire. c. Recalling the physical and chemical properties of fire. d. Describing the basic terms and concepts associated with the chemistry and dynamics of fire and combustion. e. Discussing various materials and their relationship to fires as fuel. f. Summarizing the characteristics of water as a fire suppression agent. g. Discussing other-than-water suppression agents and strategies. 8. Comparing methods and techniques of fire extinguishments.	
Competency 2: Understand the history and philosophy of fire prevention, including code enforcement, public information, organization and operation of a fire prevention bureau, utilization of fire codes, identification and correction of fire hazards, and the relationships of fire prevention with built-in fire protection systems, fire investigation, and fire and life-safety education by:	1. Critical thinking 2. Information Literacy 3. Ethical Issues
a. Identifying the laws, rules, codes, another regulations relevant to fire protection of the authority having jurisdiction.	

Competency 3: Understand the principles of the use of water in fire protection and how to apply hydraulic principles to analyze and to solve water supply problems by:	1. Critical thinking
a. Describing the basic elements of a public water supply system including sources, distribution networks, piping, hydrants and the community fire flow demand criteria. b. Describing the principles of forces that affect water at rest and in motion.	
Competency 4: Describe the features of the design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, and water supply for fire protection and portable fire extinguishers by:	1. Critical thinking
a. Explaining the benefits of fire protection systems in various types of structures. b. Analyzing the elements of a public water supply system. c. Identifying the different types and components of sprinkler, standpipe and foam systems. d. Defining the benefits of residential sprinkler legislation in NFPA 13. e. Identifying sprinkler design requirements for residential occupancies NFPA 13R. f. Analyzing the different types of non-water-based fire suppression systems and how these extinguish fire. g. Describing the basic components of a fire alarm system. h. Describing testing procedures used to establish ratings for fire resistance and flame spread. Analyzing different types of fire and smoke detectors and how they detect fire. i. Describing the hazards of smoke and the factors that can influence smoke movement in a building. j. Recognizing the appropriate application of the different sprinkler-system designs and head types. k. Explaining the operation and appropriate application for the different types of portable fire extinguishing systems.	

l. Identifying portable fire extinguisher inspection and testing requirements for all types of extinguishers.	
Competency 5: Discuss fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/service; fire loss analysis; organization, management, 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; and introduction to fire strategy and tactics by:	1. Communication 2. Social Responsibility 3. Ethical Issues
a. Identifying local, regional, state, and national organizations that provide emergency response service and their interrelation to how they impact policies rules, training and laws.	
Competency 6: Discuss the federal, state, and local laws that regulate emergency services, national standards influencing emergency services, standard of care, tort, liability, and a review of court cases by:	1. Social Responsibility 2. Ethical Issues
a. Describing federal, state, and local laws,which regulate or influence emergency services.	
Competency 7: Identify the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the fire setter, and types of fire causes by:	1. Communication 2. Critical thinking 3. Information Literacy
a. Identifying the responsibilities of airefighter when responding to the scene of a fire. b. Describing how fire progression is affected by fire protection systems and building construction and design.	