

Course ID	Course Name	Course Outcome
FIRE 1	Fire Protection Organization	<p>Compare and contrast the relative effectiveness of positions in the fire department and their function using paramilitary structure.</p> <p>Define terms, equipment, facilities, and emergency management systems associated with fire service and public safety organizations.</p> <p>Define the field of fire protection technology.</p> <p>Describe career opportunities in fire protection and related fields. (MO)</p> <p>Describe the history, functions, culture and development of local, state, and federal public safety, and emergency s organizations.</p> <p>Describe the overall problems of fire in the United States compared to other countries. (MO)</p> <p>Explain the importance of fire behavior (chemistry) and how it relates to fire extinguishment. (MO)</p> <p>Identify the types of common fire department apparatus, equipment, and personal safety equipment used for firefighting. (SLO)</p> <p>List the educational requirements, duties, and information sources for various occupations in fire protection. (SLO)</p>
FIRE 10	Arson and Fire Investigation	<p>Compare preserved evidence to determine if a fire is arson or accidental. (MO)</p> <p>Identify the various motives used in arson fires and court procedures used to prosecute. (MO)</p> <p>Recognize the difference between cause and origin of fires. (MO)</p> <p>Recognize, protect and preserve evidence of an incendiary fire. (MO)</p> <p>Students will Identify the various motives used in arson fires.</p> <p>The student will be able recognize the difference between the cause and origin of fires.</p> <p>Use the technique of "known to unknown" to distinguish between an arson and incendiary fire. (MO)</p>
FIRE 11	Fire Apparatus and Equipment	<p>Compare and contrast different types of fire apparatus and equipment based on use.</p> <p>Compare and contrast gas vs. diesel engines. (MO)</p> <p>Compare and contrast various pump types. (MO)</p> <p>Compare design types of fire apparatus and equipment and explain construction features and</p> <p>Describe design variances between 2 and 4 cycle engines. (MO)</p> <p>Discuss safety troubleshooting and daily maintenance check on an engine, aerial ladder truck and elevating platform and small motorized equipment. (MO)</p> <p>Students will understand the National Fire Protection Association Standard for Fire Apparatus</p>
FIRE 12	Wildland Fire Control	<p>Evaluate fire loss report procedures for future prevention, attack and control design. (MO)</p> <p>Determine fire forecasts, including interpretation and applications. (MO)</p> <p>Identify atmospheric conditions and the impact of fuel availability and fire behavior. (MO)</p> <p>Identify wildland fire control problems and the functions of fire control organizations and personnel.</p> <p>Identify wildland fire terminology, tools, and equipment. (MO)</p>

		<p>Predict fire behavior based on interpretation of operational data. (MO)</p> <p>Relate fire behavior standards affecting fire line locations and standards. (MO)</p> <p>Student will be able to identify atmospheric conditions and the impact of fuel availability on fire</p> <p>Students will have a basic understanding of wildland fire control problems</p>
FIRE 13	Principles of Fire and Emergency Services Safety and Survival	<p>Defend the need for annual medical evaluations and the establishment of physical fitness criteria for emergency services personnel throughout their careers. (MO)</p> <p>Define and describe the need for cultural and behavioral change within the emergency services relating to safety, incorporating leadership, supervision, accountability and personal responsibility.</p> <p>Describe and evaluate circumstances that might constitute an unsafe act. (MO)</p> <p>Discuss how incorporating the lessons learned from investigations can support cultural change throughout the emergency services. (MO)</p> <p>Discuss the importance of code enforcement in residential structures. (MO)</p> <p>Evaluate the need for counseling and psychological support for emergency services personnel and their families. (MO)</p> <p>Explain standardized policies for responding to emergency scenes can minimize injuries and deaths.</p> <p>Explain the national emergency services worker fatality problem, and the history of the 16-firefighter life safety initiatives.</p> <p>Explain the need for enhancements of personal and organizational accountability for health and</p> <p>Identify access to local psychological resources and services. (MO)</p> <p>Identify the major causes of firefighter's line of duty deaths and injuries in the United States. (SLO)</p> <p>Identify the means of preventing firefighter's deaths and injuries through the prevention of fires.</p> <p>Identify the national training standards as they correlate to professional development in leadership, supervision, and personal responsibility.</p>
FIRE 2	Fire Prevention Technology	<p>Classify the major types of fire hazards that could be found on a commercial fire inspection. (MO)</p> <p>Correlate the relationship between fire prevention efforts and the resulting reduction of life and property loss. (MO)</p> <p>Define the national fire problem, and functions of fire prevention organizations and associations.</p> <p>Define the principal functions of a fire prevention bureau. (MO)</p> <p>Describe the common fire detection signaling systems found in commercial buildings. (MO)</p> <p>Describe the hazard correction process used by a fire prevention bureau. (MO)</p> <p>Determine which fire codes would be applied based on different occupancy types. (MO)</p> <p>Identify the model codes, standards, and regulations related to fire prevention.</p>
FIRE 3	Fire Protection Equipment and Systems	<p>Analyze, prepare, and present diagrams of fire protection systems that demonstrate complete knowledge of residential, commercial, and industrial, sprinkler systems. (MO)</p> <p>Compare detection, alarm, and supervisory devices and systems. (MO)</p> <p>Compare heat and smoke detection devices and hardware. (MO)</p> <p>Describe the required care and maintenance for portable and fixed fire protection systems. (MO)</p>

Describe the types, and the design of fire detection and alarm systems, and the codes and standards that regulate them.

Explain the application, use and maintenance of portable fire suppression systems.

Identify types, components, and operation of automatic and special sprinkler systems. (MO)

Students will identify types of standpipe systems and water supply requirements. (SLO)

Students will understand the five fire protection systems. (SLO)

FIRE 4 Building Construction for Fire Protection

Analyze, prepare, and present building construction systems that include building materials, occupancy requirements, and occupant and fire safety. (MO)

Define flame spread, its hazards, contributing factors and possible solutions. (MO)

Demonstrate fire inspection practices that are applicable to individual buildings. (MO)

Describe building construction as it relates to firefighter safety, building codes and inspections, fire prevention, and firefighting strategies.

Differentiate between the loads that are placed on a building and describe each type of load.

Identify building design, materials, systems and their relationship to fire behavior and potential structural failure.

Identify firefighting practices and procedures that have developed for different types of construction.

List and compare the structural members on various types of construction. (MO)

Students will understand five types of building construction. (SLO)

Students will understand the dangers of light-weight building construction. (SLO)

FIRE 5 Fire Behavior and Combustion

Analyze the transportation of hazardous materials; determine the proper placarding is in place. (MO)

Define classifications of fire and associated methods of extinguishment.

Define in the physical properties of dangerous chemicals. (MO)

Define the terms and concept associated with the chemistry, and dynamics of fire.

Explain the importance of the various properties of the three physical states of matter. (MO)

Explain the theory of fire and compare the applications of various extinguishing techniques. (MO)

Identify the Department of Transportation warning placards and labeling systems. (MO)

Students will be able to explain the theory of fire and compare the applications of various extinguishing techniques. (SLO)

Students will understand the four phases of fire. (SLO)

FIRE 6 Hazardous Materials/ICS

Analyze, and then conduct scene isolation, scene stabilization and incident control. (MO)

Compare and contrast importance of evaluation, non-commitment by the fire department, and total withdrawal procedures. (MO)

Describe the various DOT Hazard classifications. (MO)

Identify OSHA mandated safety training requirements for employers and employees when handling, storing, and using hazardous materials in the work environment. (MO)

Students will be able to identify and describe the difference between flammable, combustible, and toxic materials.

Students will understand the importance of the three haz mat zones of operation.

Write a technical report on the health dangers within chemical classes, and describe their resultant symptoms during physical human contact. (MO)

FIRE 7 Fire Fighting Tactics and Strategy

Analyze and apply the incident command system at structure fires, wildland and Haz Mat incidents. Analyze the principles of fire ground tactics and strategy and how they relate to fire behavior. (MO)

Determine appropriate staffing requirements for structure fire situations. (MO)

Determine scene size-up requirements for commercial fires. (MO)

Evaluate different extinguishing agents and their effectiveness. (MO)

Recognize and describe the need to implement rapid intervention at the fire scene. (MO)

The student will apply the incident command system at structure fires, wildland fires and HazMat

The student will develop pre-fire plans for various types of occupancies.

FIRE 8 Fire Company Organization and Management

Apply appropriate safety regulations and standards. (MO)

Assess firefighting capability. (MO)

Classify specific management principles that impact the organization's productivity. (MO)

Demonstrate accurate report writing and record keeping. (MO)

Demonstrate effective written communication skills. (MO)

Describe the principles of conflict resolution. (MO)

Explain different leadership styles and their impact on meeting organizational goals and objectives.

Identify skills necessary for successful transition from firefighter to supervisor. (MO)

Students will be able to explain principles of group dynamics and their impact on the function of the organization.

Students will describe the principles of conflict resolution.

FIRE 86 Basic Fire Academy

Analyze and describe differences between certificate, two-year, and four-year degree programs, and state certification. (MO)

Analyze relationships between fire prevention efforts and resulting reduction of life and property loss.

Assess fire prevention, how to protect of life and property, and hazardous materials procedures. (MO)

Define and describe the purpose and scope of fire departments. (MO)

Describe educational requirements, duties, and information sources for various occupations in fire protection. (MO)

Develop skills in: managing hose, using fire-fighting hand tools, knot-tying for hoisting and securing, and using power tools, the Hurst tool, jaws of life, generators, and power saws. (MO)

Identify basic components of fire as a chemical reaction, the major phases of fire, and the main factors that influence fire spread and fire behavior. (MO)

Students will be able to pass the Comprehensive Physical Agility Test

Students will be able to pass the State Firefighter 1 written and manipulative skills certification exam.

FIRE 9	Fire Hydraulics	<p>Calculate friction loss in various types of fire hoses, required engine pressure at ground level, engine pressure for elevated streams and pump capacity. (MO)</p> <p>Calculate the area and volume of appliances. (MO)</p> <p>Calculate the horizontal reach of fire streams, water flow velocity, nozzle directions and hydrant and nozzle discharge. (MO)</p> <p>Calculate the number of pumpers required in relay operations and calculate the remaining pump pressure in drafting operations. (MO)</p> <p>Calculate volume and capacity of fire hoses, water systems. (MO)</p> <p>Students will be able to calculate engine and pump pressure during fire fighting operations.</p> <p>Students will be able to calculate the horizontal reach of fire streams, water flow velocity, nozzle pressure, and hydrant discharge.</p> <p>Summarize principles of hydraulic operations.</p>
FIRE 91	Fire Academy Ladders	<p>Analyze ladder placement. (MO)</p> <p>Demonstrate ladder maintenance, cleaning and inspection of ladders. (MO)</p> <p>Demonstrate ladder safety. (MO)</p> <p>Describe the function of the different types of ground ladders. (MO)</p> <p>Identify the parts of a ladder. (MO)</p> <p>Raise, carry and climb ladders. (MO)</p> <p>Students will be able to understand ladder terminology, analyze ladder placement, and determine proper climbing angles when placed against buildings.</p> <p>Students will understand maintenance, cleaning and inspection functions for ladders.</p>
FIRE 93	Firefighter 1 Skills Review and Testing	<p>Appropriately request the retake through the AHJ. (MO)</p> <p>Complete paperwork per Authority Having Jurisdiction (AHJ) regulations in accordance with the National Firefighter 1 Certification process. (MO)</p> <p>Perform all manipulative skills in accordance with safety requirements. (MO)</p> <p>Perform basic firefighting skills at an AHJ approved level. (MO)</p> <p>Prepare for and pass a summative written exam set by the AHJ. (MO)</p> <p>Students will prepare for and be able to pass the IFSAC/PROBOARD manipulative certification exam.</p> <p>Students will prepare for and be able to pass the IFSAC/PROBOARD written certification exam.</p>
FIRE 96	Work Experience Fire Science	<p>Apply theories of fire service technology to real work-place scenarios. (MO)</p> <p>Compare and contrast "real world" work experience with fire service technology theoretical concepts.</p> <p>Determine depth and type of experiences required by fire service employers for potential employees.</p> <p>Determine personal characteristics desired by fire service employers for potential employees. (MO)</p>

Employers of Fire Technology Work Experience Students will rate the technical skills of their students as above average.

Employers of Fire Technology Work Experience Students will rate the work habits of their students as above average.

Examine career opportunities in fire service technology or related fields. (MO)

Maximize opportunities for potential permanent employment through direct contact with the employer. (MO)