

Course Objectives/Course Outline

Spokane Community College

Course Title: Introduction to Fire Science

Prefix and Course Number: FS 211

Course Learning Outcomes:

By the end of the course, a student should be able to:

- Explain Fire Behavior
- Identify firefighting equipment
- Don and Doff PPE and SCBA properly
- Safely utilize ladders, hose, and other firefighting tools and equipment

Course Outline

- I. Firefighter personal protective equipment
 - A. Personal protective equipment
 - B. Respiratory protection
 - C. Donning and doffing protective breathing apparatus
 - D. Inspection and Maintenance of protective breathing apparatus
 - E. Using respiratory protection equipment
- II. Firefighter safety and health Review
- III. Firefighter personal protective equipment
 - F. Personal protective equipment
 - G. Respiratory protection
 - H. Donning and doffing protective breathing apparatus
 - I. Inspection and Maintenance of protective breathing apparatus
 - J. Using respiratory protection equipment
- IV. Fire hose
 - A. Fire hose characteristics
 - B. Causes and prevention of fire hose damage
 - C. Inspection, care and maintenance of fire hose
 - D. Hose appliances and tools
 - E. Hose rolls
 - F. Basic hose loads and finishes
 - G. Preconnected hose loads for attack lines
 - H. Supply hose lays
 - I. Handling hoselines
 - J. Advancing hoselines
 - K. Operating Attack lines
 - L. Service testing fire hose
- V. Fire streams
 - A. Extinguishing properties of water

- B. Pressure loss or gain
- C. Water hammer
- D. Fire stream patterns, nozzles and control valves
- E. Operating and maintaining handline nozzles
- VI. Structural search, victim removal, and firefighter survival
 - A. Structural searches
 - B. Victim removal
 - C. Firefighter survival
- VII. Ground ladders
 - A. Ground ladder construction
 - B. Ladder types
 - C. Ladder inspection, cleaning and maintenance
 - D. Handling ladders
 - E. Ladder carries
 - F. Placement of ground ladders
 - G. Ladder raises
 - H. Procedures for moving ground ladders
 - I. Securing the ground ladder
 - J. Climbing ladders
 - K. Working from a ladder
 - L. Assisting a victim down a ladder
- VIII. Forcible entry
 - A. Lock sets
 - B. Forcible entry tools
 - C. Forcing entry through doors
 - D. Forcing entry through windows
 - E. Breaching walls
 - F. Breaching floors
 - G. Forcing entry thru fences and gates
- IX. Building Construction Review
- X. Fire behavior
 - A. Science of fire
 - B. Thermal energy
 - C. Fuel, Oxygen, chemical reaction
 - D. Stages of fire development
- XI. Fire control
 - A. Suppressing structure fires
 - B. Supporting fire protection systems at protected structures
 - C. Deploying master stream devices
 - D. Suppressing class C and D fires
 - E. Suppressing vehicle fires
 - F. Suppressing fires in other class A materials
 - G. Combating ground cover fires
 - H. Coordinating fireground operations
 - I. Suppressing class B fires

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