

FLORIDA STATE COLLEGE AT JACKSONVILLE

COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: FFP 1000

COURSE TITLE: Introduction to Fire Protection

PREREQUISITE(S): None

COREQUISITE(S): None

CREDIT HOURS: 3

CONTACT HOURS/WEEK: 3

CONTACT HOUR BREAKDOWN:

 Lecture/Discussion: 3

 Laboratory:

 Other _____:

FACULTY WORKLOAD POINTS: 3

STANDARDIZED CLASS SIZE ALLOCATION: 25

CATALOG COURSE DESCRIPTION:

This course is a study of the philosophical and historical backgrounds of fire protection services including the role and responsibilities of the fire service; the organization and function of federal, state, county, and private fire protection agencies, a review of municipal fire defenses, fire prevention principles, techniques of fire control, codes and ordinances, the problems for the fire administrator, and a overview of professional fire protection career opportunities.

SUGGESTED TEXT(S): Principles of Fire Protection, 2nd Edition IFSTA

IMPLEMENTATION DATE: November 14, 1987

REVIEW OR MODIFICATION DATE: Fall Term, 2002 (20031)

COURSE TOPICS	CONTACT HOURS <u>PER TOPIC</u>
I. Charting the Organization A. Bureaus/Divisions: Fire, Fire Prevention, Communications, Training, Budget/Finance, EMS B. Management Chart	3
II. Management Principles A. Process of Management: The Organization B. Coordination and Control C. PODCC	3
III. Designing Stations and Drill Grounds A. Building Plan B. Special Features	3
IV. Emergency Communications A. Radio B. Telemetry C. Response	3
V. Apparatus Specification and Maintenance A. Apparatus Testing B. Purchasing and Apparatus	3
VI. Water Supply for Fire Fighting A. Distribution Systems B. Flow Tests C. Grid System	3
VII. Hose Design and Care A. Jacket Construction B. Testing	3
VIII. Fire Service Pumps A. Centrifugal B. Booster C. Relay and Drafting	3

COURSE TOPICS (CONTINUED)

CONTACT HOURS
PER TOPIC

IX.	Driver Training	3
	A. Selecting Drivers	
	B. Apparatus Road-e-o	
X.	Handling Utility Fires	3
	A. Electricity	
	B. Gas	
	C. Public Utility Hazards	
XI.	Respiratory Protection	3
	A. Gases and the Human Body	
	B. Self-Contained Breathing Apparatus	
XII.	Engine Company Operations	3
	A. Fire Streams	
	B. Relay Pumping	
	C. Multiple Lines	
XIII.	Ladder Company Operations	3
	A. Search	
	B. Ventilation	
XIV.	Fire Prevention	3
	A. Fire Prevention Education	
	B. Smoke Detectors	
	C. Monitoring Devices	
XV.	Emergency Medical Service	3
	A. EMS Equipment	
	B. Telemetry	
	C. Patient Management	
	D. Legal Aspects	

PROGRAM TITLE: Fire Science Technology
COURSE TITLE: Introduction to Fire Protection
CIP NUMBER: 0743.020100

LIST PERFORMANCE STANDARD ADDRESSED:

NUMBER(S): TITLE(S):

01.0 DEMONSTRATE KNOWLEDGE OF FIRE DEPARTMENT ORGANIZATION AND PROCEDURES

-- The student will be able to:

- 01.02 Identify the organization of the fire department.
- 01.02 Identify the appropriate size of the fire department, the scope of its operation, and the standard operational procedures.
- 01.03 Identify the fire department rules and regulations that apply to the position of firefighter.
- 01.04 Identify responsibilities of the fire fighter in determining the point of origin, cause, and protection of evidence in fires.
- 01.05 Identify the components of the fire suppression organization in the authority having jurisdiction.
- 01.06 Define the authority and responsibility of each component of the fire suppression organization in the authority having jurisdiction.
- 01.07 Describe the lines of authority within the department.
- 01.08 Describe the duties and responsibilities of each rank in both line and staff functions.
- 01.09 Describe the chain of command for the fireground and the authority having jurisdiction.

03.0 DEMONSTRATE KNOWLEDGE OF FIRE BEHAVIOR -- The student will be able to:

- 03.01 Define the term fire, flashover, flameover.
- 03.02 Define the fire triangle and tetrahedron.
- 03.03 Identify two chemical, mechanical, and electrical energy heat sources.
- 03.04 Define the following potential stages of fire: (a) Incipient; (b) Flame spread; (c) Hot smoldering; (d) Flash over; (e) Steady state; (f) Clear burning.
- 03.05 Define the three methods of heat transfer.
- 03.06 Define the three physical stages of matter in which fuels are commonly found.
- 03.07 Define the hazard of finely divided fuels as they relate to the combustion process.
- 03.08 Define the terms flash point, fire point, and ignition temperature.
- 03.09 Explain concentrations of oxygen in air as it affects combustion.

LIST PERFORMANCE STANDARD ADDRESSED: (CONTINUED)

NUMBER(S): TITLE(S):

- 03.10 Identify three products of combustion commonly found in structural fires which create a life hazard.
- 03.11 Define the following units of heat measurement: (a) British Thermal Unit (BTU); (b) Fahrenheit (F); (c) Celsius (C); (d) Calorie (Cal); (e) Kilowatt (kw); (f) British Thermal Units/second (BTU/s; (g) Watt (w); (h) Magawatt (mw); (i) Joule (j).
- 03.12 Define the terms thermal balance and thermal imbalance.

08.0 DISCUSS PROTECTIVE BREATHING APPARATUS -- The student will be able to:

- 08.01 Identify four hazardous respiratory environments encountered during fire emergencies.
- 08.02 Identify the use, limitations, and safety features of protective breathing apparatus.

09.0 DEMONSTRATE KNOWLEDGE OF FIRE HOSES, NOZZLES, APPLIANCES, AND LADDERS -- The student will be able to:

- 09.01 Identify the sizes, types, amounts, and use of hose carried on a Fire Engine/pumper.
- 09.02 Demonstrate the use of nozzles, hose adapters, and hose appliances.
- 09.03 Demonstrate the connection of a fire hose to a hydrant and open and close the hydrant.
- 09.04 Demonstrate the techniques for coupling and uncoupling fire hose, advancing a hose line from a standpipe, and extending a hose line.
- 09.05 Identify procedures for inspection and maintenance of fire hose, couplings, and nozzles.
- 09.06 Demonstrate hose connections from a hydrant to a Fire Engine/pumper.
- 09.07 Demonstrate the use and explain the limitations of each type of fire department ladder.

15.0 FOLLOW FIRE PREVENTION INSPECTION PRACTICES -- The student will be able to:

- 15.01 Demonstrate clear oral expression.
- 15.02 Demonstrate clear written expression.
- 15.03 Demonstrate through application and / or interview, the ability to interact with the public, under conditions of code enforcement or fire prevention duties, with tact, discretion, and without loss of authority.
- 15.04 Identify the organization of the fire department or the entity for which inspection duties will be performed.
- 15.05 Identify the applicable organizational rules and regulations.
- 15.06 Explain the procedures for conducting fire inspections including evaluation of gathered information and report preparation and proper procedure for conducting fire and exit drills in accordance with regulations within the authority having jurisdiction for the following occupancies; (a) assembly, (b) educational, (c) health care, (d) detention and correctional, (e) residential, (f) mercantile, (g) business, (h) industrial, (i) storage, (j) unusual structures, (k) mixed occupancies.
- 15.07 Identify the leading causes of fire as established by the authority having jurisdiction.
- 15.08 Identify the leading cause of fire spread as established by the authority having jurisdiction.

LIST PERFORMANCE STANDARD ADDRESSED: (CONTINUED)

- | NUMBER(S): | TITLE(S): |
|------------|--|
| 15.09 | Describe the components and procedures for the development and implementation of a public fire prevention education program. |
| 15.10 | Define the importance of public relations relative to the inspection programs. |
| 15.11 | Define dwelling inspection procedures. |
| 15.12 | Prepare diagrams or sketched of buildings to record the locations of items of concern during pre-fire planning. |
| 15.13 | Collect and record in writing information required for the purpose of preparing a report on a building inspection or survey. |
| 15.14 | Explain school exit drill procedures. |
| 15.15 | Identify life safety programs for the home. |
| 15.16 | Identify the requirements relative to fire drills that may be required within the jurisdiction. |
| 15.17 | Explain how to conduct, evaluate, or both, fire frills in various occupancies. |
| 15.18 | Identify common fire hazards and make recommendations for their correction. |
| 15.19 | Write a building inspection report. |
| 15.20 | Demonstrate accepted filing techniques. |
| 15.21 | Identify that the fire extinguishers in an inspected premise conform to fire code requirement. |
| 15.22 | Explain the procedures to be used whenever fire hazards, or suspected fire hazards, are encountered during inspections. |
| 15.23 | Explain the procedure for preparing a pre-fire plan. |
| 15.24 | Identify the duties and responsibilities of a firefighter assigned to a fire prevention detail in places of public assembly. |
| 15.25 | Identify the fire exit requirements for different types of occupancies. |
| 15.26 | Identify the use and operation of various roof vents, both manual and automatic. |
| 15.27 | Inspect standpipe systems for fire protection, including visual inspection of hose (if provided), nozzles, hose outlet threads, and fire department connections. |
| 15.28 | Identify private water systems for fire protection, including fire pumps, yard hydrants, hose houses, gravity and pressure types of water storage tanks, reservoirs, and drafting sources. |
| 15.29 | Identify local and state fire codes concerning subjects to be noted in fire company inspections. |
| 15.30 | Identify the areas of responsibility of other municipal and state inspection agencies. |
| 15.31 | Identify the fire hazards commonly found in manufacturing, commercial, residential, and public assembly occupancies. |
| 15.32 | Identify standard types of chimneys and flues, and recognize deficiencies likely to cause fires. |
| 15.33 | Identify and define fire spread through air conditioning and utility ducts and the functions of automatic and manual controls of these systems. |
| 15.34 | Identify local code requirements covering the proper storage and use of flammable liquids and gases. |
| 15.35 | Identify storage codes and practices contributing to fire safety in buildings, including proper piling, aisles, clearances, access to fire equipment and exits. |
| 15.36 | Identify proper outside storage requirements and how it affects fire fighting, including aisles, roadways, access to hydrants, access to buildings, and exposure hazards. |
| 15.37 | Identify water and smoke damage potential to goods, office and manufacturing machinery, and other valuable objects. |
| 15.38 | Demonstrate the procedures for the inspection of stationary fire pumps according to the authority having jurisdiction. |

LIST PERFORMANCE STANDARD ADDRESSED: (CONTINUED)

NUMBER(S): TITLE(S):

- 15.39 Identify the special extinguishing systems within the authority having jurisdiction and demonstrate the procedure for the inspection of the systems.
- 15.40 Identify and describe the operating principles of special fixed extinguishing systems, fire detection systems, and special communications systems as defined by the NFPA.
- 15.41 Explain the legally established responsibilities and empowerment related to the performance of the inspector's duties.
- 15.42 Explain the established appeals procedure and judicial review process for the jurisdiction of which the inspector is employed.
- 15.43 Identify other agencies that may be referred to for assistance in correcting hazards.
- 15.44 Identify other jurisdictional authorities that may be required to, conduct inspections involving life safety or fire protection.
- 15.45 Initiate corrective procedures for fire hazards discovered during fire inspections.
- 15.46 Demonstrate how to operate the essential equipment necessary to accomplish code enforcement including, but not limited to, basic photographic equipment and portable flammable and combustible atmosphere detection equipment.
- 15.47 Explain procedures required for the processing of plans and specifications.

35.0 PARTICIPATE IN FIRE TRAINING EXAMINATIONS -- The student will be able to:

- 35.01 Pass an examination (written/oral) on each academic portion of the outline.
- 35.02 Pass a performance examination on certain portions of the outline.