



DEPARTMENT OF FINANCIAL SERVICES

Division of State Fire Marshal
Bureau of Fire Standards and Training

Title: Syllabus for Private Fire Protection Systems I

Revision: March 2022

Section I - Course Information

Course Title: Private Fire Protection Systems I

Course Number(s): BFST/FFP/ATPC1540

Class Days/Time: If being taught at the Florida State Fire College Campus 11655 NW Gainesville Road, Ocala, FL 34482 Bldg. C – Classrooms – Monday - Friday 8 a.m.- 5 p.m. Additional coursework outside the classroom totaling five (5) hours of work may be assigned.

Section II - Points of Contact

Training Supervisor:

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Section III - Course Description

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 uses.

Section IV - Course Materials, Grading, and Attendance

Recommended Book: *Fire Protection Systems (3rd ed.)*; A. Maurice Jones, Jr. Jones & Bartlett
ISBN: 978-128418013-8

Prerequisite(s): None

Contact Hours: This class has 45 contact hours.

Continuing Educations Units (CEU's): 45 hours towards Fire Safety Inspector, Instructor I, II, III, and Fire Code Administrator renewal.

Pre-Course Assignment: None

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Required Materials: Paper, pens, USB portable storage device (thumb drive)

Grading: Students must achieve a minimum cumulative score of 70% to pass this course. Course grades are determined from assignments and activities including, projects, quizzes, exams, and presentations. Below is the breakdown of the final accumulative grading:

- Individual Exercises 30 points
- Group Exercises 20 points
- Final Group project 30 points
- Final Written Exam 20 points

Attendance: Students are required to attend all sessions of the course.

- Excused absences - Students are permitted excused absences totaling no more than 10% of class (4.5 hours maximum); the instructor shall be the sole determining authority in the determination of an excused absence and may assign supplemental work to make up for missed class time.
- Unexcused absences - The instructor shall be the sole determining authority in the determination of an unexcused absence (i.e. “no call, no show”). The instructor has no obligation to offer the student an opportunity to make up assignments, including quizzes and/or exams, but may do so at his/her discretion.

Section VI – Job Performance Requirements

Given information from discussion and reading materials, the student will satisfy the Job Performance Requirements (JPR) of the applicable National Fire Protection Association (NFPA) standards.

An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A of the cited NFPA

NFPA 1021, *Standard for Fire Officer Professional Qualifications*, 2014 Edition

4.5.1 Describe the procedures of the authority having jurisdiction (AHJ) for conducting fire inspections, given any of the following occupancies, so that all hazards, including hazardous materials, are identified, approved forms are completed, and approved action is initiated:

- (1) Assembly
- (2) Educational
- (3) Health care
- (4) Detention and correctional
- (5) Residential
- (6) Mercantile
- (7) Business
- (8) Industrial
- (9) Storage
- (10) Unusual structures
- (11) Mixed occupancies

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(A) Requisite Knowledge. Inspection procedures; fire detection, alarm, and protection systems; identification of fire and life safety hazards; and marking and identification systems for hazardous materials.

(B) Requisite Skills. The ability to communicate and to apply the appropriate codes and standards.

4.5.2 Identify construction, alarm, detection, and suppression features that contribute to or prevent the spread of fire, heat, and smoke throughout the building or from one building to another, given an occupancy, and the policies and forms of the AHJ so that a pre-incident plan for any of the following occupancies is developed:

- (1) Assembly
- (2) Educational
- (3) Institutional
- (4) Residential
- (5) Business
- (6) Industrial
- (7) Manufacturing
- (8) Storage
- (9) Mercantile
- (10) Special properties
- (11) Mixed Occupancies

(A) Requisite Knowledge. Fire behavior; building construction; inspection and incident reports; detection, alarm, and suppression systems; and applicable codes, ordinances, and standards.

(B) Requisite Skills. The ability to use evaluative methods and to communicate.

NFPA 1031, *Standard for Professional Qualifications for Fire Inspector and Plan Examiner*, 2014 Edition

3.3.20.1 Fire Protection Systems. Systems, devices, and equipment used to detect a fire and its by-products, actuate an alarm, or suppress or control a fire and its by-products, or any combination thereof.

4.2.1 Prepare inspection reports, given agency policy and procedures, and observations from an assigned field inspection, so that the report is clear and concise and reflects the findings of the inspection in accordance with the applicable codes and standards and the policies of the jurisdiction.

4.2.5* Identify the applicable code or standard, given a fire protection, fire prevention, or life safety issue, so that the applicable document, edition, and section are referenced.

4.3.1 Identify the occupancy classification of a single-use occupancy, given a description of the occupancy and its use, so that the classification is made according to the applicable codes and standards.

4.3.5* Determine the operational readiness of existing fixed fire suppression systems, given test documentation and field observations, so that the systems are in an operational state, maintenance is documented, and deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the jurisdiction.

4.3.7* Determine the operational readiness of existing portable fire extinguishers, given field observations and test documentation, so that the equipment is in an operational state, maintenance is documented, and deficiencies are identified, documented, and reported in accordance with the policies of the jurisdiction.

4.3.9 Compare an approved plan to an existing fire protection system, given approved plans and field observations, so that any modifications to the system are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the jurisdiction.

4.3.15* Determine code compliance, given the codes, standards, and policies of the jurisdiction and a fire protection issue, so that the applicable codes, standards, and policies are identified and compliance is determined.

4.3.16 Verify fire flows for a site, given fire flow test results and water supply data, so that required fire flows are in accordance with applicable codes and standards and deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the jurisdiction.

5.3.4* Evaluate fire protection systems and equipment provided for life safety and property protection, given field observations of the facility and documentation, the hazards protected, and the system specifications, so that the fire protection systems provided are approved for the occupancy or hazard being protected.

Section VII –Plan of Instruction

The following is the plan of instruction used during course offerings held at the Florida State Fire College. It also serves as the suggested instructional block format for other approved training providers who use the recommended text book. All class offerings **must** satisfy the JPRs listed in *Section VI – Job Performance Requirements* regardless of textbook used.

Day/Date	Chapters	Activities
Day 1	<p>Class Introductions and Orientation</p> <p>Chapter 1 – Basics of Fire Behavior</p> <p>Chapter 2 – Fire Protection Systems and the Model Code Process</p> <p>Chapter 3 – Fire Alarm Systems Codes and Components</p> <p>Chapter 4 – Types of Fire Alarm and Detection Systems</p> <p>Group/Individual Project Discussion and Assignment</p>	<ul style="list-style-type: none"> • Introductions • Group project discussion

Day 2	Quiz – Chapters 1-4 Chapter 5 – Water Supplies for Fire Protection Systems Chapter 6 – Standpipe and Hose Systems Chapter 7 – Automatic Fire Sprinkler Systems Chapter 8 – Specialized Water-Based Fire Protection Systems	<ul style="list-style-type: none"> • Quiz 1 • Videos
Day 3	Quiz – Chapters 5-8 Chapter 9 – Fixed Wet and Dry Chemical Extinguishing Systems Chapter 10 – Gaseous Agent Extinguishing Systems Chapter 11 – Portable Fire Extinguishers Walk through of on-campus system	<ul style="list-style-type: none"> • Quiz 2 • Videos • Walk through
Day 4	Quiz – Chapters 9-11 Chapter 12 – Smoke Control and Management Systems Chapter 13 – Property Security, Emergency Response, and Fire Protection Systems Review of Laws and Rules governing inspectors <ul style="list-style-type: none"> • Chapter 633, Florida Statutes • <u>Title 69A</u>, Florida Administrative Code Florida Fire Prevention Codes 	<ul style="list-style-type: none"> • Quiz 3 • Videos • Legislative review
Day 5	Quiz – Chapters 12-13 Review of materials covered Final Exam Final Project Presentations Course Completion	<ul style="list-style-type: none"> • Quiz 4 • Final exam • Project presentations

Section VIII – Final Presentation and Grading Rubric

Description of Assignment:

The final project for this class involves a group presentation in PowerPoint format. All members are expected to contribute equally. The presentation should take no longer than 5-10 minutes and groups must submit a written summary of their work to accompany their presentation.

As a group, you will visit a business in the area and request permission to review their fire alarm and suppression system. Examples of businesses include strip malls, restaurants, medical facilities, schools, and other types of businesses. Apply the information learned in class and do an inspection/preplan of the system in place. **DO NOT SUBMIT A DEPARTMENT ORIGINATED DRAWING. ALL WORK MUST BE ORIGINAL IN ORDER TO RECEIVE CREDIT.**

Format and Grading of Assignment:

Students will conduct and create a drawing of a pre-fire plan of a building fire protection system within their response district. The drawing may be completed utilizing any drawing program (i.e. Microsoft Publisher, Visio, etc.) available. Students may create the drawing by hand.

The final project is worth 100 points towards the final grade. Scoring will be assigned according to the grading rubric. To receive full credit, the following elements need to be present:

- Business name and address
- Type of alarm system
- Location of the Fire Alarm Control Panel (FACP)
- Location and type(s) of alarm devices
- Type of suppression system(s)
- Standpipes and Fire Department Connection (FDC)
- Water supply
- Location of portable fire extinguishers
- Fire department access
- Communication system
- Any special hazards
- Legend of symbols used

Section IX – Review Date and Author

March 2022

Robert Coyne

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	Rating					Score
	20	15	10	5	0	
Building Layout	Building layout is clearly defined and easy to understand; drawing provides clear indication of street and building access	Building layout is clearly defined and moderately easy to understand; drawing provides indication of street and building access	Building layout is moderately defined but easy to understand; drawing provides indication of street or building access but not both	Building layout is moderately defined and difficult to understand; drawing provides indication of street or building access but not both	Building layout is poorly defined and difficult to understand; drawing does not provide indication of street or building access	
Symbols Used	Legend is present and includes all symbols in drawing; symbols are unique respective to one another, clearly identified, and reflect locations on drawing; drawing specifically identifies location of water shut offs for utilities	Legend is present and includes most symbols in drawing; symbols are unique respective to one another, fairly identified, and reflect locations on drawing; drawing specifically identifies location of water shut offs for utilities	Legend is present and includes most symbols in drawing; symbols are not unique respective to one another, fairly identified, or reflect locations on drawing; drawing generally identifies location of water shut offs for utilities	Legend is present and includes less than 50% of symbols in drawing; symbols are not unique respective to one another, poorly identified, or do not reflect locations on drawing; drawing fails to identify location of water shut offs for utilities	Legend absent from drawing; symbols absent or unclear what they are indicating; drawing fails to identify location of water shut offs for utilities	
Water Supply and Fire Protection Systems	Drawing provides clear hydrant locations and distance from structure; drawing provides clear indication of sprinkler system status; drawing indicates presence of FACP AND FDC locations (should indicate if not present in building)	Drawing provides hydrant locations and distance from structure; drawing provides clear indication of sprinkler system status; drawing indicates presence of FACP OR FDC locations or fails to indicate absence of either system in building	Drawing provides hydrant locations and distance from structure; drawing provides no indication of sprinkler system status; drawing indicates presence of FACP OR FDC locations or fails to indicate absence of either system in building	Drawing provides hydrant locations without distance from structure; drawing provides no indication of sprinkler system status; drawing does not indicate presence of FACP OR FDC locations or fails to indicate absence of either system in building	Drawing does not provide hydrant locations and distance from structure; drawing provides no indication of sprinkler system status; drawing does not indicate presence of FACP OR FDC locations or fails to indicate absence of either system in building	
General Formatting	Business name and address are present in the upper left-hand corner; directional indicator is present at the top of the page; drawing provides a clear idea of hazards, access, and informational messages	Business name and address are present but not in the upper left-hand corner; directional indicator is present but not at the top of the page; drawing provides an idea of hazards, access, and informational messages	Business name and address OR directional indicator is not included in drawing; drawing provides a moderate idea of hazards, access, and informational messages	Business name and address OR directional indicator is not included in drawing; drawing provides a poor idea of hazards, access, and informational messages	Business name and address AND directional indicator is not included in drawing; drawing provides no idea of hazards, access, and informational messages	
Fire Protection System Factors	Student provides a minimum of seven (7) fire protection system factors	Student provides 5-6 fire protection system factors	Student provides four (4) fire protection system factors	Student provides three (3) fire protection system factors	Student fails to provide a minimum of two (2) fire protection system factors	
TOTAL POINTS						