



**DEPARTMENT OF FINANCIAL SERVICES**

*Division of State Fire Marshal  
Bureau of Fire Standards and Training*

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**Title: Syllabus for Private Fire Protection Systems II**

**Revision: September 2019**

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*Section I - Course Information*

**Course Title: Private Fire Protection Systems II**

**Course Number(s): BFST/FFP/ATPC2541**

**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.

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*Section II - Points of Contact*

**Training Supervisor:**

Name: Frank Ennist  
Email: [Frank.Ennist@myfloridacfo.com](mailto:Frank.Ennist@myfloridacfo.com)  
Work Phone: 352-369-2838  
Bldg. C Room 158

**Program Manager/Instructor:**

Name:  
Email:  
Work Phone:

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*Section III - Course Description*

This is a study of private fire protection and detection systems such as extinguishers, pre-engineered systems, chemical extinguishing systems, detection and alarm systems and devices, and newer systems available. Each system is discussed as to its need, construction, how it works, and individual uses.

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*Section IV - Course Materials, Grading, and Attendance*

**Recommended Book:** *Private Fire Protection: Systems II* printed by Florida State Fire College.  
*Purchase at Florida State Fire College Book Store.*

**Prerequisite(s):** None

**Contact Hours:** This class has 45 contact hours.

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

**Pre-Course Assignment:** None

**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, homework, projects, quizzes, exams, and presentations. Below is the breakdown of the final accumulative grading:

- Individual Exercises 20 points
- Group Exercises 30 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.

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### *Section V - Instructor Qualifications*

As per Rule 69A-37065, *Programs of Study and Vocational Courses*, instructors must meet the following qualifications to be authorized to teach this course:

Rule 69A-37.065 Instructor Qualifications:

- a. An Instructor I must hold a certificate of competency as a Fire Safety Inspector II.
- b. Instructor II or III may teach provided he or she has successfully completed the course.

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### *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, any applicable skill sheets.

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

**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) Public assembly
- (2) Educational
- (3) Institutional
- (4) Residential
- (5) Business
- (6) Industrial
- (7) Manufacturing
- (8) Storage
- (9) Mercantile
- (10) Special properties

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

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codes and standards and the policies of the jurisdiction.

**4.3.6\*** Determine the operational readiness of existing fire detection and alarm 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 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.

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### *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><b>Class Introductions and Orientation</b></p> <p>Welcome and Orientation</p> <p>Unit 1 Private Protection Systems II Intro</p> <p>Unit 2 Ethics and Professional Development</p> <p>Unit 3 Special Hazard Suppression</p> <p>Unit 4 Low, Medium, &amp; High Expansion Foam</p> <p>    How a bladder tank works</p> <p>    AAAF Foam Test Ellsworth</p> <p>    Foam Test Goes Wrong Ellsworth (PowerPoint)</p>	<ul style="list-style-type: none"> <li>• Introductions</li> <li>• Videos imbedded</li> </ul>
Day 2	<p><b>Quiz – Chapters 1-4</b></p> <p>Unit 5 Water Mist Systems</p> <p>    Hi-Fog water mist fire protection for hotels</p> <p>    Hi-Fog overview</p> <p>    Auto mist by Plumis</p> <p>Unit 6 Ultra-High-Speed Explosion Suppression &amp; Ultra-High-Speed Water Spray</p> <p>    What led to the Imperial Sugar explosion</p> <p>    Grain dust explosion</p> <p>    Fauske lab- MEC</p> <p>    Fike ATEX explosion suppression</p> <p>Unit 7 Clean Agent, Halon, Inert Gas</p> <p>Unit 8 Carbon Dioxide</p>	<ul style="list-style-type: none"> <li>• Quiz 1</li> <li>• Videos</li> </ul>

Day 3	<p><b>Quiz – Chapters 5-8</b></p> <p>Unit 9 Dry Chemical &amp; Wet Chemical Pre-UL vs UL300 fryer test</p> <p>Unit 10 Fire Detection &amp; Alarm</p> <p>Unit 11 Fire Alarm System Initiating How VESDA works OSID open area smoke detection Signafire</p> <p>Unit 12 Fire Alarm System Notification Fire alarms will they wake your children Exitpoint</p>	<ul style="list-style-type: none"> <li>• Quiz 2</li> <li>• Videos</li> </ul>
Day 4	<p><b>Quiz – Chapters 9-12</b></p> <p>Unit 13 Smoke Control Systems Mechanical smoke ventilation demonstration</p> <p>Unit 14 Fire Detector Placement</p> <p>Unit 15 Fire Alarm Circuit Design</p> <p>Unit 16 Pre-engineered Systems Kitchen suppression system inspection</p>	<ul style="list-style-type: none"> <li>• Quiz 3</li> <li>• Videos</li> </ul>
Day 5	<p><b>Quiz – Chapters 13-15</b></p> <p>Finish and uncovered material Chapter 13-15</p> <p><b>Final Exam</b></p> <p><b>Final Project Presentations</b></p> <p><b>Course Completion</b></p>	<ul style="list-style-type: none"> <li>• Quiz 4</li> <li>• Final exam</li> <li>• Project presentations</li> </ul>

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*Section VIII – Final Presentation and Grading Rubric*

**>>>>2541 Private Fire Protection Systems II  
Group Presentation Assignment**

During the course students will learn additional information about private protection systems. They will be formed into teams to put their new learned book knowledge to the test in the real world.

On Day Two, the teams will meet prior to class and assign individual task, such as group leader, computer operator, scribe, and other needed positions. They will appoint one person to draw at random a card with a large loss fire.

Within their team they will research and analyze the case study and prepare a PowerPoint presentation in which each person will have an active speaking role.

The building in question will be reconstructed in the exact footprint of the existing building at the time. If the building did not contain private fire protection systems, what would your team recommend for inclusion in the replacement building.

Find and identify the following:

1. What is the occupancy of the building(s) your case study involved?
2. Were there any immediate life safety concerns that you found?
3. What is the unique fire protection problem the systems are meant to protect?
4. What NFPA Standard(s) will the system be based on?

On the Last Day, the teams will present their findings to the class in a 20-35 minute presentation. Each person is expected to have an equal speaking role in the presentation. The following shall be identified in the presentation:

1. Summary of the incident
2. Fuel sources
3. Cause of ignition
4. Systems present and result of system operations in initial incident
5. Special hazard systems to be installed in new building

Presentation shall be in electronic form and will be archived for future learning opportunities. Please include a title slide with the team members' names so that proper credit may be given.



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**Rubric for Private Protection Systems II**

Criteria	1 – Poor	2 – Below Average	3 – Average	4 – Excellent	Student Total
<b>Information</b>	Presentation contains barely any information of the private protection system used at location	Presentation contains little information of the private protection system used at location	Presentation contains most of the information of the private protection system used at location	Presentation contains detailed information of the private protection system used at location	
<b>Clear connection</b>	No attempt to make a connection between presentation and class work is evident	An attempt to make a connection between presentation and class work is evident	Connection between presentation and class work is understandable	Connection between presentation and class work is very clear	
<b>Visual interest</b>	Presentation does not use visuals at all	Presentation uses visuals, but there are either too many (and are distracting) or not enough (and do not support the information); needs major editing before distribution	Presentation uses visuals to reinforce information without being a distraction; needs minor editing before distribution	Presentation uses visuals effectively and could be distributed as is with no further editing	
<b>Participation</b>	Only one presents	Only a couple of members of the team participate in presentation	Most members of the team participate in presentation	All members of the team participated	

Total Score

Team Members:

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**Section IX – Revisions**

**Revision Dates:**

September 12, 2019  
January 11, 2017

**Author:**

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