



BROWARD COMMUNITY COLLEGE COURSE OUTLINE

LAST REVIEW: 2008 - 2009 NEXT REVIEW: 2013 - 2014 STATUS: A

COURSE TITLE: Fire Protection and Detection Systems

COMMON COURSE NUMBER: FFP 1540

CREDIT HOURS: 3

CONTACT HOUR BREAKDOWN

(per 16 week term)

CLOCK HOURS:

(Voc. Course ONLY)

Lecture: **48**

Lab:

Clinic:

Other:

PREREQUISITE(S): None

COREQUISITE(S): None

PRE/COREQUISITE(S):

COURSE DESCRIPTION *(750 characters, maximum):*

The course examines requirements for and testing of fire sprinkler and standpipe systems, chemical systems, detection and alarm systems.

General Education Requirements – Associate of Arts Degree (AA), meets Area(s): Area

General Education Requirements – Associate in Science Degree (AS), meets Area(s): Area

General Education Requirements – Associate in Applied Science Degree (AAS), meets Area(s): Area

UNIT TITLES

1. Automatic Sprinkler Systems
2. Wet-pipe Sprinkler Systems
3. Dry-pipe Sprinkler Systems
4. Special Extinguishing Systems
5. Standpipe and Fire Extinguishing Systems
6. Fire Detection System
7. Alarm Systems
8. Inspection and Testing of Systems



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ASSESSMENT:

Please provide a brief description (250 characters maximum) that details how students will be assessed on the course outcomes.

1. Quizzes, Test, and/or Final Exam (cumulative/comprehensive);
2. Selected faculty may assess homework, projects, class participation/attendance, and/or extra credit projects.

**** Complete the following only if course is seeking general education status ****

GENERAL EDUCATION Competencies and Skills*:

Please highlight in green font all Competencies/Skills from the list below that apply to this course. In the box to the right of the Competency/Skill, enter all specific learning outcome numbers (i.e. 1.1, 2.7, 5.12) that apply.

1. Read with critical comprehension	
2. Speak and listen effectively	
3. Speak and listen effectively	
4. Think creatively, logically, critically, and reflectively (analyze, synthesize, apply, and evaluate)	
5. Demonstrate and apply literacy in its various forms: <i>(highlight in green ALL that apply)</i> (1. technological, 2. informational, 3. mathematical, 4. scientific, 5. cultural, 6. historical, 7. aesthetic and/or 8. environmental)	
6. Apply problem solving techniques to real-world experiences	
7. Apply methods of scientific inquiry	
8. Demonstrate an understanding of the physical and biological environment and how it is impacted by human beings	
9. Demonstrate an understanding of and appreciation for human diversities and commonalities	
10. Collaborate with others to achieve common goals.	
11. Research, synthesize and produce original work	
12. Practice ethical behavior	
13. Demonstrate self-direction and self motivation	
14. Assume responsibility for and understand the impact of personal behaviors on self and society	
15. Contribute to the welfare of the community	

** General Education Competencies and Skills endorsed by '05-'06 General Education Task Force*



UNITS

Unit 1 Automatic Sprinkler Systems

General Outcome:

1.0 The students should be able to examine the early history of fire sprinkler systems

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 1.1 Discuss the unsurpassed record of sprinkler fire protection.
- 1.2 Explain the value of sprinkler systems for life safety.
- 1.3 Identify various types of sprinkler heads.
- 1.4 Discuss the system of sprinkler temperature ratings.
- 1.5 Describe control and operating valves.
- 1.6 Explain the function of waterflow alarms.



Unit 2 Wet Pipe Sprinkler Systems

General Outcome:

- 2.0 The students should be able to describe the function and use the nomenclature of wet pipe systems.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 2.1 Explain the function of retarding devices.
- 2.2 Discuss the operation of this system.
- 2.3 Explain how to utilize sprinkler stops.
- 2.4 Restore the system back into service.
- 2.5 Relate the function and use of inspection valves.



Unit 3 Dry Pipe Sprinkler Systems

General Outcome:

- 3.0 The students should be able to describe the function and use nomenclature of dry-pipe systems.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 3.1 Explain the operation of the system.
- 3.2 Recognize and identify acceleration and exhausters.
- 3.3 Discuss the functions of a pre-action system.
- 3.4 Discuss the functions of a deluge system.
- 3.5 Explain the function and use of inspection valves.



Unit 4 Special Extinguishing Systems

General Outcome:

- 4.0 The students should be able to describe the function and use the nomenclature of various specialized extinguishing systems.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 4.1 The function and performance of carbon dioxide systems
- 4.2 The function and performance of halogenated agents.
- 4.3 The function and performance of dry and wet chemical agents.
- 4.4 The function and performance of foam extinguishing agents.



Unit 5 Standpipe and Fire Extinguisher Systems

General Outcome:

- 5.0 The students should be able to explain the classification of standpipe systems and fire extinguishers.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 5.1 Determine the water supply necessary for standpipe systems.
- 5.2 Recognize and understand the various types of standpipes.
- 5.3 Provide the reason for pressure reducing valves and explain their operation.
- 5.4 Recognize outside private fire protection systems and their operation.
- 5.5 Discuss the standard for rating extinguishers and the new identification marking system.
- 5.6 Provide the standard requirements for distribution of extinguishers.



Unit 6 Fire Detection Systems

General Outcome:

6.0 The students should be able to identify signaling systems for private fire protection purposes.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

6.1 Identify and discuss manually activated devices.

6.2 Identify and discuss the products of combustion detectors.

6.3 Identify and discuss various types of heat detectors.



Unit 7 Alarm Systems

General Outcome:

7.0 The students should be able to identify and discuss the following alarm systems:

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- A. Proprietary Alarm Systems
- B. Central Station Alarm Systems
- C. Remote Station Alarm Systems
- D. Municipal Fire Alarm Systems
- E. Supervisory Circuit Alarm Systems
- F. Multiplex Alarm Systems



Unit 8 Inspection and Testing of Systems

General Outcome:

8.0 The students should be able to explain the principles and procedures of inspections and tests for the following:

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- A. Sprinkler Systems
- B. Special Extinguishing Systems
- C. Standpipe Systems
- D. Fire Extinguishers
- E. Fire Detectors
- F. Alarm Systems