

COURSE OUTLINE
Sprinklers and Fixed Extinguishing Systems

SECTION I

SUBJECT AREA AND COURSE NUMBER: Fire Technology – FTA 218
COURSE TITLE: Sprinklers and Fixed Extinguishing Systems

COURSE CATALOG DESCRIPTION: This course will focus on concepts, design, and installation of fixed suppression systems both commercial and residential. Sprinkler pipe friction loss calculations, pipe scheduling, and system design considerations will be covered in detail. Special suppression systems such as explosion prevention, carbon dioxide, dry chemical, halon, and sub-surface foam injection will be introduced.

LECTURE HOURS PER WEEK: 3 **CREDIT HOURS:** 3
LAB HOURS PER WEEK: 0
PREREQUISITES: FTA 201

SECTION II

- A. SCOPE:** In this course, students will study various types of commercial and residential sprinkler systems and system components in detail. Students will study the flow of suppression agents through fixed conduit. Students will also be introduced to special suppression systems.
- B. REQUIRED WORK:** Students will be expected to complete all assigned readings and homework and submit all written work on time.
- C. ATTENDANCE AND PARTICIPATION:** Regular attendance and class participation are expected.
- D. METHODS OF INSTRUCTION:** The methods of instruction are determined by each instructor and may include but are not limited to lecture/discussion, small group tasks, collaborative learning, experimental /exploration, distance learning, student presentations, or use of technologies such as audio-visual materials, computers, and internet.

F. OBJECTIVES, OUTCOMES AND ASSESSMENT: The following objectives and outcomes represent the department's core requirements for student achievement.

LEARNING OBJECTIVES	LEARNING OUTCOMES	ASSESSMENT METHODS
To demonstrate an understanding of	Student will	As measured by
1. The student's role in the learning process	a) Attend regularly, on time, and stay for entire class period; b) Complete assignments and contribute positively to the class	Attendance records Class records
2. The history of sprinkler systems	Explain significant events in sprinkler system development	Exam
3. NFPA Sprinkler codes	Detail applicable codes	Written exam
4. The importance of matching sprinklers to hazards	Properly match sprinkler systems and components to hazards	Group activity
5. All components of a sprinkler system	Detail all auxiliary sprinkler system components	Field identification
6. The mechanics of all sprinkler system components	Explain the function of all sprinkler system components	Written exam
7. The types of sprinkler systems	Detail system components and design of the following: wet sprinkler, dry sprinkler, deluge sprinkler, preaction sprinkler, and special application sprinkler systems	Field identification and exams
8. Sprinkler system hydraulics	Demonstrate calculations/schedule use	Group activity
9. The dynamics of a sprinkler plan review	Conduct a plan review	Written analysis
10. System support equipment	Explain the role of fire pumps and related plumbing	Exams
11. Stationary fire fighting equipment	Explain the function and types of standpipes	Class discussion, exam, field Identification
12. Special suppression systems	Explain gaseous systems and chemical systems	Exams

F. TEXTS AND MATERIALS: As selected by instructor.

G. INFORMATION TECHNOLOGY: As determined by instructor.