

ENFP601 Introduction to Fire Protection Engineering

Credits: Three (3)

Contact hours: Two lectures per week, 75 minutes each.

Instructor: Isman

Textbook: N/A

Other supplemental materials:

- NFPA 13 – 2022
- NFPA 101 – 2021
- Pumps for Fire Protection Systems by Isman and Puchovsky

All provided electronically to students for free

Catalog description:

Highly recommended to incoming graduate students to Fire Protection Engineering who have not earned a Bachelor's Degree in Fire Protection Engineering. The basic concepts of life safety, water-based fire protection systems, building construction, codes and standards along with tenability, fire behavior, and human behavior are introduced along with traditional and performance-based approaches for analyzing human response to fire. Students learn to analyze the egress systems and design basic water-based fire suppression systems.

Prerequisites and Corequisites:

Prerequisites: Permission of ENGR-Fire Protection Engineering department.

Specific outcomes of instruction:

Upon completion of this course, students should be able to:

- Use codes and standards to determine fire protection criteria for buildings and structures.
- Describe fire in a quantitative way including the basic development of a fire in a compartment.
- Analyze egress systems for buildings to determine adequacy during emergency evacuations using both prescriptive and performance-based techniques.
- Design fire sprinkler systems for basic commercial and industrial occupancies.
- Conduct Life Safety Analyses of buildings.

Brief list of topics covered:

- The Fire Problem
- Fire Behavior, Growth and Movement
- Regulation of Building and Fire Safety
- Fire Sprinkler System Design
- Water Supply Analysis
- Fire Pumps
- Life Safety Analyses Using Prescriptive and Performance-Based Techniques