

ENFP601 Introduction to Fire Protection Engineering

Credits: Three (3)

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

Instructor: Hrybyk

Textbook: N/A

Other supplemental materials: NFPA 101, Life Safety Code (2024 edition), NFPA 13, Standard for the Installation of Sprinkler Systems, SFPE Handbook of Fire Protection Engineering, 5th edition. Pumps for Fire Protection Systems by Isman and Puchovsky (On-line versions provided free to students)

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