

ENFP320 Fire Assessment Methods and Laboratory

Credits: Four credits, two 75 minute lectures weekly and one 75 minute laboratory bi-weekly.

Instructor: Andre Marshall

Textbook:

None Required

Specific course information:

- a. Catalog Description: This course is designed to give students knowledge and awareness of test standards and measurement techniques in fire. Students will experimentally evaluate ignition, flame spread, rate of heat release rate and smoke production. A number of laboratory experiments will be conducted, and the students will present the data and conclusions in lab reports.
- b. Prerequisites: ENFP312
- c. Required Course

Specific goals for the course:

- a. Upon completion of this course, students should be able to:
 - Understand terminology and issues related to fire hazards and flammability assessment methods for engineering and research;
 - Understand the relationship between fire protection design issues and fire dynamics/performance;
 - Determine the appropriate fire test method(s) for assessing the hazard associated with common commodities and materials;
 - Apply basic calculation techniques to assess fire performance;
 - Identify and classify different types of combustibles in buildings;
 - Document laboratory reports in a clear and concise manner.
- b. This course focuses on three SOs:
 - SO2 – An ability to design experimental apparatus, experimental procedures and data analysis generating novel information and knowledge in fire science and engineering.
 - SO7 – An ability to communicate effectively through written reports and technical presentations with fire protection engineers and with other relevant professional constituencies (AHJ, architectural firms, etc.).

Brief list of topics:

Fire Protection Design Issues
Fire Test Instrumentation
Fire Physics
Fire Safety Regulation

Ignition
Smoke Production
Fire Growth
Fire Spread
Fire Suppression Sprays