

ENFP420 Fire Assessment Methods and Laboratory

Credits: Four (4)

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

Table 5-1 category: Engineering topic

Instructor: Sunderland

Textbook: N/A

Other supplemental materials:

Cleveland Open Cup – ASTM D92

Smoke Chamber – ASTM E662

Cone Calorimeter – ASTM E1354

Cup Burner – NFPA2001 Annex B

Downward Spread – ASTM E162

Catalog description:

Experimental evaluation of ignition, flame spread, rate of heat release and smoke production of flammable gases, liquids, solids, and interior finish materials. Analytical and computer methods for the design, performance, and analysis of fire experiments. Preparation of laboratory reports.

Prerequisites and Corequisites:

Prerequisite: Student must have senior standing; and minimum grade of C- in ENFP312.

Restriction: Must be in Engineering: Fire Protection program.

Credit only granted for: ENFP320 or ENFP420; Formerly: ENFP320.

Table 5-1 Course Type: Required

Specific outcomes of instruction:

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

- Design and conduct laboratory tests and measurement analyses;
- Prepare laboratory reports;
- Understand terminology and issues related to fire hazards and flammability assessment methods;
- Understand the relationship between fire protection design issues and fire dynamics/performance; and

Student outcomes assessed: SO3.2, SO5.2, SO6.1, SO6.2

Brief list of topics covered:

Cleveland Open Cup – ASTM D92

Smoke Chamber – ASTM E662

Cone Calorimeter – ASTM E1354

Cup Burner – NFPA2001 Annex B
Downward Spread – ASTM E162
Candle experimentation
Fire Protection Design Issues
Fire Test Instrumentation
Fire Physics
Fire Safety Regulation
Ignition
Smoke Production
Fire Growth
Fire Spread