

FIRE PROTECTION & SAFETY TECH (FPST)

FPST 1103 Applied Techniques in Fire Suppression

Description: Provides requisite knowledge to achieve basic certifications in fire suppression and emergency operations for municipal and industrial fire protection.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 1203 Applied Techniques in Emergency Operations

Description: Provides requisite knowledge to achieve advanced certifications in fire suppression and emergency operations for municipal and industrial fire protection.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 1213 Fire Safety Hazards Recognition

Description: "The Fire Problem" Physical, chemical and electrical hazards and their relationship to loss of property and/or life. Safe storage, transportation and handling practices to eliminate or control the risk of fire in the home, business and industry.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 1373 Fire Suppression and Detection Systems

Description: The design, installation, maintenance and utilization of portable fire-extinguishing appliances and pre-engineered systems. Operational capabilities and utilization requirements of fire detection and signaling systems. Fire detection and suppression applied in practical laboratory problems.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 2023 Industrial and Occupational Safety

Description: Occupational facilities, equipment and operations and their inherent hazards. Directed toward worker, machine and environmental control.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 2050 Studies in Loss Control

Prerequisites: Consent of instructor and adviser.

Description: Problems in applied fire protection technology, occupational safety, industrial hygiene or hazardous materials management of particular interest to the loss control specialist. Offered for variable credit, 1-4 credit hours, maximum of 6 credit hours.

Credit hours: 1-4

Contact hours: Other: 1

Levels: Undergraduate

Schedule types: Independent Study

Department/School: Engineering Technology

FPST 2153 Fire Protection Management

Description: Applied human relations, technical knowledge and skills for achieving optimum effectiveness from a fire protection organization.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 2243 Design and Analysis of Sprinkler Systems

Prerequisites: Grade of "C" or better in FPST 1373, FPST 2483, ENGR 1322 or GENT 1153 or CMT 2203.

Description: Detailed current standards for selection, design, installation, operation and maintenance of automatic fire suppression systems. Laboratory problems on applicable technological principles.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 2343 Elements of Industrial Hygiene

Prerequisites: Grade of "C" or better in STAT 2013, CHEM 1515 or CHEM 1225 or CHEM 1414.

Description: Toxic or irritating substances, physical, biological, ergonomic and other occupational stress factors causing employee illness or discomfort. Environmental pollution sources and controls. Previously offered as FPST 2344.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 2483 Fluid Mechanics for Fire Protection

Prerequisites: Prior or concurrent enrollment in FPST 1373 and MATH 1613.

Description: Fluid flow through hoses, pipes, pumps and fire protection appliances. Water supply and distribution analysis using hydraulic calculations. Testing techniques to detect anomalies in design or performance capabilities.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 2650 Technical Problems and Projects

Description: Special problems or projects assigned by advisers with the approval of the department head. A comprehensive written report or equivalent creative effort. Offered for variable credit, 1-4 credit hours, maximum of 4 credit hours.

Credit hours: 1-4

Contact hours: Other: 1

Levels: Undergraduate

Schedule types: Independent Study

Department/School: Engineering Technology

FPST 3013 Safety Management

Prerequisites: ENGL 1113 or ENGL 1123 or ENGL 1313.

Description: Understanding and implementing techniques for a safer work environment. Recognition, evaluation and control of occupational health and safety hazards. Accident prevention, accident analysis, training techniques, worker's compensation insurance, guarding and personal protective equipment.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 3113 Advanced Extinguishing Systems Design and Analysis

Prerequisites: FPST 2483, FPST 2243.

Description: Automatic fixed fire-extinguishing systems and water supply systems. Emphasis upon computer assistance through use of existing design programs.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 3143 Life Safety Analysis

Prerequisites: A grade of "C" or better in FPST 1213 and FPST 1373 and (FPST 2243 or CMT 3463 or ARCH 2263).

Description: Life safety concepts related to building codes including means of egress design criteria and components, exits, component details, occupancy types, occupancy load, emergency lighting, marking of means of egress, evacuation movement, human performance capabilities, human response to fire cues, occupant pre-evacuation, and toxicology.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 3213 Human Factors in Accident Prevention

Prerequisites: Grade of "C" or better in FPST 2023, STAT 2013, and GENT 2323 or ENSC 2113.

Description: Human factors and workplace ergonomics as it relates to the prevention of accidents and workplace injuries. Fundamentals and techniques of task analysis.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 3373 Fire Dynamics

Prerequisites: A grade of "C" or better in CHEM 1314 or CHEM 1215 or CHEM 1515, MATH 2133 or MATH 2153, STAT 2013, FPST 2483, and GENT 3433 or ENSC 2213 or GENT 4433.

Description: Fundamental thermodynamics of combustion, fire chemistry and fire behavior. The physical evidence left by fire for investigation and the use of computer models to study fire behavior. Previously offered as FPST 4373.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 3383 Building Electrical Systems

Prerequisites: FPST 1373.

Description: Detail current standards for design, selection and installation of electrical distribution and utilization equipment. Emphasis on personnel safety and fire prevention using current codes and standards.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 3713 Hydraulic Design of Automatics Sprinkler Systems

Prerequisites: FPST 1373, FPST 2483, MATH 1513.

Description: Hydraulic calculation technique for the design and analysis of automatic sprinkler fire extinguishing systems.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 3723 Industrial Fire Pump Installations

Prerequisites: FPST 2483, MATH 1513.

Description: Applications, design and analysis of industrial fire pump installations. Graphical analysis of fire pump contributions to existing fire protection water supply systems emphasized.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 3733 Sprinkler System Design for High Piled and Rack Storage

Prerequisites: FPST 2243, MATH 1513.

Description: Specific design techniques for sprinkler system protection of commodities stored in solid piles or racks over 12 feet in height.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 4050 Special Problems in Loss Control

Prerequisites: Consent of department head.

Description: Special technical problems in fire protection and safety. Offered for variable credit, 1-4 credit hours, maximum of 6 credit hours.

Credit hours: 1-4

Contact hours: Other: 1

Levels: Undergraduate

Schedule types: Independent Study

Department/School: Engineering Technology

FPST 4143 Industrial Ventilation and Smoke Control

Prerequisites: A grade of "C" or better in FPST 2344 and FPST 2483 and FPST 3373.

Description: Principles of dilution and comfort ventilation; heat-cold stress control, system design, contaminant control; ventilation system testing and guidelines. Design and analysis of smoke management systems in buildings for survivability and safe egress. Assessment of human health hazards posed by smoke. Performance characteristics of smoke control systems. Previously offered as FPST 4133.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Graduate, Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 4153 Issues in Local Government and Fire Services

Prerequisites: FPST 2153, MGMT 3013.

Description: Issues relating to the proper operation of a fire department and the fire department's role within the structure of local government.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 4233 Advance Exposure Assessment

Prerequisites: Grade of "C" or better in FPST 2344.

Description: Evaluation of CBRNE exposure risks in industry and emergency response including statistical/computational techniques, regulatory obligations, and the use of instrumentation. Same course as FPST 3233.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 4333 System and Process Safety Analysis

Prerequisites: Grade of "C" or better in FPST 2023, STAT 2013, and MATH 2123 or MATH 2144.

Description: Fire and safety techniques to anticipate, recognize and control hazards. Fault Tree, HazOp, FMEA and other process safety techniques.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 4383 Fire and Evacuation Modeling

Prerequisites: A grade of "C" or better in FPST 3373 or 3393 and STAT 2013 or instructor consent.

Description: Fundamentals of fire dynamics and occupant egress and their numerical approaches for computer models. Practical knowledge of how to use fire and evacuation modeling tools: CFAST, FDS, Pyrosim, and Pathfinder, and how to analyze modeling results.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Graduate, Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 4403 Hazardous Materials Incident Management

Prerequisites: Grade of "C" or better in FPST 2023, FPST 2344, and CHEM 1225 or CHEM 1414 or CHEM 1515.

Description: An interdisciplinary approach to hazardous materials incident management. Legislative requirements. Emphasis on comprehensive safety and health program compliance relating to hazardous materials incidents or waste sites. Regulatory code activities, transport-related inspections, incident modeling, and use of environmental safety software for problem solving and documentation.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 4683 Industrial Loss Prevention

Prerequisites: Prior or concurrent enrollment in all other required FPST courses and grade of "C" or better in ENGL 3323, and GENT 3433 or ENSC 2213 or GENT 4433 or GENT 3323 or ENSC 2143 or ENSC 3313, or consent of instructor.

Description: Specific industrial processes, equipment, facilities and work practices for detecting and controlling potential hazards.

Credit hours: 3

Contact hours: Lecture: 2 Lab: 3

Levels: Undergraduate

Schedule types: Lab, Lecture, Combined lecture and lab

Department/School: Engineering Technology

FPST 4982 Fire Protection & Safety Projects I

Prerequisites: A grade of "C" or better in ENGL 1113 or ENGL 1123 or ENGL 1313.

Description: Two-semester project with team format. Team members work with sponsors and faculty who serve as mentors in fields related to their topics. Students complete topic selection, progress reports, final reports, and poster presentations.

Credit hours: 2

Contact hours: Lecture: 2

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 4992 Fire Protection & Safety Projects II

Prerequisites: A grade of "C" or better in ENGL 3323 and FPST 4982.

Description: Two-semester project with team format. Second of two-semester sequence of senior project courses.

Credit hours: 2

Contact hours: Lecture: 2

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology

FPST 4993 Advanced Fire and Safety Problems

Prerequisites: Grade of "C" or better in FPST 3013, ENGL 3323 or consent of instructor.

Description: Selected problems in the fire, occupational safety, occupational health and industrial security areas. Research or state-of-the-art technologies to prevent or correct such problems.

Credit hours: 3

Contact hours: Lecture: 3

Levels: Undergraduate

Schedule types: Lecture

Department/School: Engineering Technology