FIRE, CONSTRUCTION AND EMERGENCY MANAGEMENT

Courses

CET 1213 Introduction to Construction
Description: Overview of the entire construction industry with emphasis on construction materials, methods and systems. Both building and heavy highway construction drawings and their interpretation. Previously offered as CMT 1213 and CMT 1214.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 2003 Construction and Culture
Description: Analyzes the cultural context of construction internationally, emphasizing its centrality in the evolution and expansion of built environments as expressions of ethical and historical value systems.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 2203 Construction Drawings (for Non-Majors)
Description: Principles of graphic communication are applied to reading and drawing construction plans, with emphasis to fire protection systems. Does not meet CMT degree requirements. (Online course for non-CMT majors). Previously offered as CMT 2203.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 2253 Printreading & BIM
Prerequisites: Grade of "C" or better in MATH 1513 or ALEKS score greater or equal to 60 or permission of instructor.
Description: Principles of 2D and 3D graphic communication are applied to reading and drawing construction plans. Techniques for measuring items of construction work from plans and specifications are also covered. Previously offered as CMT 2253.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 2263 Estimating I
Prerequisites: Grade of “C” or better in CET 1213 and CET 2253, and ALEKS>56 or MATH 1513 with a grade of "C" or higher, or MATH 1613 with a "C" or higher, or MATH 1813 with a "C" or higher or MATH 2144 with a "C" or higher or permission of instructor.
Description: Quantity take-off with emphasis on excavation, formwork and concrete, masonry, rough carpentry and miscellaneous specialty items. Previously offered as CMT 2263.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 2333 Construction Practices and Procedures
Prerequisites: "C" or better in CET 1213.
Description: Light frame and commercial construction. Foundation layout, framing and finish work, site investigations, excavation, precast concrete, tilt up, structural steel and metal building construction and project management.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 2343 Concrete Technology
Prerequisites: Grade of “C” or better in (CET 1213 and CMT 1213) and (CMT 2353 or CET 2253) or permission of department.
Description: Fundamentals and practical application of concrete and concrete making materials including admixtures. Proportioning concrete mixtures. Batching, mixing, conveying, placing, finishing, and curing concrete. Hot and cold weather concreting, jointing, volume change and crack control. Previously offered as CMT 2343 and CMT 2351 and CMT 2352.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 2 Contact: 4
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

CET 3163 Field Engineering Applications
Prerequisites: Grade of "C" or better in CET 2263 and ENSC 2113, or permission of department.
Description: Construction sequencing and methods and basic timber structural design.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 3213 Soft Skills for Effective Interpersonal Communication (S)
Description: A study of personal one-on-one communication skills to improve effective intrapersonal communication. The course also relates intrapersonal skills to successful teamwork and teambuilding and becoming and presenting the best version of yourself.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology
General Education and other Course Attributes: Society & Human Behavior

CET 3273 Scheduling Construction Projects
Prerequisites: Grade of "C" or better in CMT 2263, or CET 2263 or permission of department.
Description: Scheduling basics, including bar charts and critical-path methods; manual and computer techniques using current software; emphasis on using schedules for construction project management. Previously offered as CMT 3273.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 3322 Construction Practicum I
Prerequisites: Grade of "C" or better in (CMT 1213 and CET 1213) and (CMT 2253 or CET 2253), or permission of department.
Description: Supervised field experience in construction; 400 hours minimum documented time required. Previously offered as CMT 3331 and CMT 3322.
Credit hours: 2
Contact hours: Lecture: 2 Contact: 2
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 3323 Theory of Built Structures
Prerequisites: A grade of "C" or better in (MATH 2123 or MATH 2144) and (GENT 2323 or ENSC 2113) or permission of the department.
Description: The study of equilibrium of structural systems and stresses and strains that occur in structural members of the built environment. Previously offered as CMT 3323.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 3332 Construction Practicum II
Prerequisites: Grade of "C" or better in (CMT 2263 or CET 2263), (CMT 3322 or CET 3322) and CIVE 3614 or permission of department.
Description: Supervised temporary, full-time employment in construction, emphasizing field and office engineering and a variety of project management functions; 400 hours minimum documented time required. Previously offered as CMT 3332 and CMT 3333.
Credit hours: 2
Contact hours: Lecture: 2 Contact: 2
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 3364 Structures I
Prerequisites: Grade of "C" or better in (CMT 2343, CET 2343, or CMT 2351) and (CMT 3323, CET 3323 or GENT 3323 or ENSC 2143) and (MATH 2133 or MATH 2153) and (PHYS 1214 or PHYS 2114) and (CMT 3322 or CET 3322) and (CMT 3273 or CET 3273).
Description: Methods of structural analysis applicable to construction; design of timber structures and forms for concrete structures. Previously offered as CMT 3363 and CMT 3364.
Credit hours: 4
Contact hours: Lecture: 3 Lab: 2 Contact: 5
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

CET 3432 Principles of Site Development
Prerequisites: Grade of "C" or better in CET 2343 or ENSC 2113 or permission of department.
Description: Site layout, vertical and horizontal control, surveying instrument adjustments, site investigations, excavations, site drainage and geotechnical considerations. Previously offered as CET 3433, CMT 3433 and CMT 2333.
Credit hours: 2
Contact hours: Lecture: 2 Contact: 2
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 3443 Environmental Building Systems (Non-Majors)
Prerequisites: Grade of "C" or better in ENGR 1322 or CMT 2253 or ARCH 3263 and grade of "C" or better in (PHYS 1114 or PHYS 2014), or permission of department.
Description: An introductory level knowledge of plumbing, heating, air-conditioning, electrical and lighting systems as applied to construction and construction-related projects. May not be used for degree credit with CET 3463.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 3463 Environmental Building Systems
Prerequisites: Grade of "C" or better in CET 2253 or CMT 2253 and (PHYS 1214 or PHYS 2114) or permission of department.
Description: Plumbing, heating, air-conditioning, electrical and lighting systems as applied to residences and commercial buildings. Previously offered as CMT 3463.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 2 Contact: 4
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

CET 3554 Structures II
Prerequisites: Grade of "C" or better in (CET 3364 or CMT 3364).
Description: Analysis and design of elements in steel and reinforced concrete structures; review of shop drawings for both types of construction. Previously offered as CMT 3553 and CMT 3554.
Credit hours: 4
Contact hours: Lecture: 3 Lab: 2 Contact: 5
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

CET 4050 Advanced Construction Management Problems
Description: Special problems in construction management. Previously offered as as CMT 4050. Offered for variable credit, 1-6 credit hours, maximum of 6 credit hours.
Credit hours: 1-6
Contact hours: Contact: 1-6 Other: 1-6
Levels: Undergraduate
Schedule types: Independent Study
Department/School: Engineering Technology

CET 4103 Integrated Project Delivery Methods
Description: An introduction to contract delivery methods for construction projects from the perspective of Designers, Owners, and Builders. Best value selection is used as a tool to illustrate all perspectives for project management. Professional, ethical, and social responsibilities are presented through the perspectives of sustainability and lean bespoke manufacturing methods.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 4133 CAD and BIM for Construction Managers
Prerequisites: Grade of "C" or better in (CMT 1213 or CET 1213) and (CMT 2253 or CET 2253).
Description: Interpretation and production of construction drawings using computer aided drafting. Theory and use of Building Information Modeling software builds upon computer aided drafting skills. Previously offered as CMT 3633.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 4263 Estimating II
Prerequisites: Grade of "C" or better in EET 1003, (CMT 2263 or CET 2263) and concurrent enrollment or grade of "C" or better in GENT 2323 or ENSC 2113; or permission of department.
Description: Extensive use of actual contract documents for quantity take-off, pricing and assembling the bid for several projects. Use of computers in estimating. Previously offered as CMT 4263.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 4273 Technology in Construction
Prerequisites: Grade of "C" or better in (CMT 3273 or CET 3273) and (CMT 4263 or CET 4263).
Description: Applications of various technologies including software for construction. Previously offered as CMT 4273.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 4283 Business Practices for Construction
Prerequisites: Grade of "C" or better in ACCT 2003, ACCT 2103, (CMT 3273 or CET 3273) and (CMT 4563 or CET 4563) or permission of department.
Description: Principles of management applied to construction contracting; organizing office and field staff; bonding, liens, financial management practices; introduction to the construction manager concept; schedule of values; construction billings. Previously offered as CMT 4283.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 4293 Construction Manager Concepts
Prerequisites: Grade of "C" or better in CET 3163 and CET 4283 or permission of department.
Description: Capstone course utilizing skills and knowledge of estimating, scheduling, bidding, construction management, CAD, TQM, partnering and safety; includes topics in leadership, motivation and the use of current project management software. Previously offered as CMT 4293.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 4333 Equipment Management for Constructors
Prerequisites: Grade of "C" or higher in (CMT 2263 or CET 2263), (CMT 2343 or CET 2343) and (ACCT 2003 or ACCT 2103) or permission of department.
Description: Selection and use of equipment, estimating equipment costs, estimating equipment production rates for all types of equipment used in building construction and heavy/highway construction. Previously offered as CMT 4333.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 4443 Construction Safety and Loss Control
Prerequisites: Grade of "C" or better in (CMT 2253 or CET 2253) and (CMT 4263 or CET 4263) or permission of department.
Description: A detailed study of OSHA Part 1926 - Construction Safety and Health Compliance and related safety topics including topics related to the OSHA 30-hour training program; concepts and methods of loss control. Previously offered as CMT 4443.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 4533 Heavy Civil Construction and Estimating
Prerequisites: Grade of "C" or better in (CMT 2263 or CET 2263) and (CMT 2343 or CET 2343 or CMT 2351) or permission of department.
Description: Theory and application of contractor estimating and bidding procedures used in heavy and highway construction projects. Previously offered as CMT 4533.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 4553 Structural Steel Design & Connections
Prerequisites: Grade of "C" or better in CET 3163 and ENSC 2143 or permission of department.
Description: Analysis and design of steel beams and columns, bolted and welded connections, and rigging applications. May not be used for degree credit with CET 3554.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 2 Contact: 4
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

CET 4563 Construction Law and Insurance
Prerequisites: A grade of “C” or better in (CMT 2263 or CET 2263) and SPCH 2713 and acceptance to the CMT Upper Division or permission of the department.
Description: Legal and insurance problems as they pertain to the construction industry. Previously offered as CMT 4563.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

CET 4663 Concrete Design & Formwork
Prerequisites: Grade of "C" or better in CET 3163 and ENSC 2143 or permission of department.
Description: Analysis and design of cast in place concrete with concrete formwork applications. May not be used for degree credit with CET 3364 and CET 3554.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 2 Contact: 4
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

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 Contact: 5
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 Contact: 5
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 Contact: 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 Contact: 5
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

FPST 2023 Industrial and Occupational Safety
Prerequisites: A grade of "C" or better in FPST 1213 and a grade of "C" or better in either MATH 1613 or MATH 1715 or MATH 1813 or MATH 2123 or MATH 2144 or an ALEKS score of 65.
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 Contact: 5
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: Contact: 1-4 Other: 1-4
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 Contact: 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 2483 and (ENGR 1322 or CET 2253)) or (MAE 3333 and (ENGR 1332 or ENGR 1322)).
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 Contact: 5
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 Contact: 5
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

FPST 2483 Fluid Mechanics for Fire Protection
Prerequisites: Prior (grade of "C" or better) or concurrent enrollment in FPST 1373. A grade of "C" or better in MATH 1613 or MATH 1715 or MATH 1813 or MATH 2123 or MATH 2144 or an ALEKS score of 65.
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 Contact: 5
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: Contact: 1-4 Other: 1-4
Levels: Undergraduate
Schedule types: Independent Study
Department/School: Engineering Technology

FPST 3013 Safety Management (S)
Prerequisites: A grade of "D" or better in ENGL 1113 or ENGL 1123 or ENGL 1313. Must be enrolled in one of the following classes: Sophomore (SO), Junior (JR), or Senior (SR).
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 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology
General Education and other Course Attributes: Society & Human Behavior

FPST 3113 Advanced Special Hazard Suppression and Detection
Prerequisites: FPST 2483 or ENSC 3233.
Description: Design and analysis of special hazard suppression and detection systems using code requirements. Emphasis is also placed on the ability to select the appropriate system for a given hazard. May not be used for degree credit with FSEP 5123.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

FPST 3143 Life Safety Analysis
Prerequisites: A grade of “C” or better in FPST 1373 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 Contact: 5
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 (STAT 2013, STAT 4013, or STAT 4033) 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 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

FPST 3373 Fire Dynamics
Prerequisites: A grade of "C" or better in (CHEM 1414 or CHEM 1215 or CHEM 1515), (MATH 2133 or MATH 2153), (FPST 2483 or MAE 3333).
Description: Fundamentals of thermochemistry, vent flows, heat transfer, ignition of liquids and solids, compartment fire phenomena, and introduction of computer fire modeling. Previously offered as FPST 4373.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 2 Contact: 4
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

FPST 3383 Building Electrical Systems
Prerequisites: A grade of C or better in FPST 1373 and a grade of C or better in PHYS 2014.
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. May not be used for degree credit with FSEP 5163.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

FPST 3611 Human Behavior in Fire
Description: Concepts related to human behavior in terms of both the decision-making process of individuals and the impact of fire on occupants' ability to respond. May not be used for FSEP 5173.
Credit hours: 1
Contact hours: Lecture: 1 Contact: 1
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

FPST 3621 Wildland Urban Interface Fire Impact on Infrastructure
Description: Concepts related to wildland urban interface fires in terms of both the identification of hazards and solutions for protecting the building infrastructure. May not be used with FSEP 5173.
Credit hours: 1
Contact hours: Lecture: 1 Contact: 1
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

FPST 3631 Fire Impact on Tall Building Infrastructure
Description: Concepts related to tall building fires in terms of both the identification of hazards and solutions for protecting the building infrastructure. May not be used with FSEP 5173.
Credit hours: 1
Contact hours: Lecture: 1 Contact: 1
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 Contact: 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 Contact: 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 Contact: 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: Contact: 1-4 Other: 1-4
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 2483 or MAE 3333) and FPST 3373 and (ENSC 2213 or MET 3433 or MET 3453).
Description: Principles of dilution and comfort ventilation; contaminant control; ventilation system testing and guidelines. Design and analysis of smoke management systems in buildings. Performance characteristics of smoke control systems. Previously offered as FPST 4133.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: 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 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

FPST 4213 Advanced Building Design and Analysis
Prerequisites: Grade of "C" or better in FPST 2243 or CMT 3463 or ARCH 2263.
Description: Fire protection and life safety concepts and applications in the built environment related to building and fire codes including building height and area, structural fire protection, occupancy classifications, passive fire protection systems, means of egress, active fire protection systems, fire detection systems, and fire department access. May not be used for degree credit with FSEP 5213.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 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 Contact: 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 Contact: 5
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 CHEM 1515 or CHEM 1225 or CHEM 1414 and FPST 2483 and MATH 2133 or MATH 2153 and STAT 2013 and GENT 3433 or MET 3433 or ENSC 2213 or GENT 4433 or MET 4433.
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. May not be used for degree credit with FSEP 5383.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

FPST 4403 Hazardous Materials Management
Prerequisites: Grade of "C" or better in FPST 2343, and (CHEM 1225 or CHEM 1414 or CHEM 1515).
Description: An integrated approach to hazardous materials management with emphasis on comprehensive environmental, health, safety, and fire protection program compliance relating to the transportation, storage, use and disposal of hazardous materials and wastes.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

FPST 4683 Risk Control Engineering
Prerequisites: A grade of "C" or better in FPST 2023, FPST 2343, FPST 2243, FPST 3373, FPST 3013, and ENGL 3323, or Department Permission, Junior Standing.
Description: Analysis of specific processes, equipment, facilities and work practices for detecting and controlling potential hazards, evaluating risk and developing risk control methodologies.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 3 Contact: 5
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

FPST 4982 Fire Protection and Safety Projects I
Prerequisites: A grade of “C” or better in ENGL 1113 or ENGL 1123 or ENGL 1313. A grade of "C" or better or concurrent enrollment in ENGL 3323. A grade of "C" or better or concurrent enrollment in FPST 3013.
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 Contact: 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 Contact: 2
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

FPST 4994 Fire Protection and Safety Projects
Prerequisites: A grade of "C" or better in ENGL 1113 or ENGL 1123 or ENGL 1313. A grade of "C" or better or concurrent enrollment in ENGL 3323. A grade of "C" or better or concurrent enrollment in FPST 3013 and FPST 3373.
Description: Students work in small teams on a semester-long design project sponsored by a company, agency, or individual. Team members work with mentors from sponsors and with faculty members in fields related to their topics. Presentations on safety, patent law, product liability, report writing, oral presentations, scheduling and ideation. Oral presentations, progress reports, and a professional log book documenting personal activity and contributions. Previously offered as FPST 4993.
Credit hours: 4
Contact hours: Lecture: 4 Contact: 4
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5000 Master's Thesis
Prerequisites: Consent of instructor.
Description: Methods used in research and thesis writing. Offered for variable credit, 1-6 credit hours, maximum of 18 credit hours. Same course as MERO 5000.
Credit hours: 1-6
Contact hours: Contact: 1-6 Other: 1-6
Levels: Graduate
Schedule types: Independent Study
Department/School: Engineering Technology

FSEP 5013 Research Design & Methodology
Prerequisites: Consent of instructor.
Description: Overview of research design methods and skills necessary for conducting research projects, including: conceptualization and operationalization, literature review, deductive and inductive theorizing, hypothesis testing, quantitative and qualitative data collection and analysis, maintaining research records, experiment design, data validation, result presentation, and research ethics. Same course as FEMP 5013 and MERO 5013. Previously offered as GENT 5013.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5023 Project Management
Prerequisites: Consent of instructor.
Description: Methods and skills needed to successfully improve your employability and advancement in today's dynamic workforce. Understanding of the responsibilities of project leader and become better prepared to apply these knowledge/skills to the project environment. Previously offered as GENT 5023.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5033 Risk Analysis
Prerequisites: Consent of instructor.
Description: Identification of various risks and analytical treatment of those risks in various work settings, such as energy, mechanical and construction. Previously offered as GENT 5033.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5043 Principles and Impacts of Explosions
Description: Concepts related to understanding explosion phenomena, analyze and calculate explosion pressures, conceptual design of ventilation, suppression or isolation systems. Approaches of explosion protection and evaluation of structural damage and injury potential of blast waves.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5060 Emerging Topics in Engineering Technology
Prerequisites: Consent of instructor.
Description: Advanced and emerging topics normally not included in existing MSET program. Repeat credit may be earned with different course subtitles assigned. Same course as MERO 5060. Offered for fixed credit, 3 credit hours, maximum of 6 credit hours.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5113 Introduction to Fire Dynamics
Description: Fundamentals principles of combustion and fire. The thermochemistry and physical phenomena of fire.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5123 Advanced Special Hazard Suppression and Detection
Description: Design and analysis of special hazard suppression and detection systems using code requirements. Emphasis is also placed on the ability to select the appropriate system for a given hazard. May not be used with FPST 3113.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5133 Principles of Industrial and Process Safety
Description: Fundamentals of industrial safety in general, chemical release, dispersion, toxicity, fire, and explosion. Safety design for industrial safety and mitigating consequences of catastrophic fire and explosion. Same course as MERO 5033.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5143 Performance Based Design for Life Safety in Fire and Other Hazards
Description: Identification and application of performance based design practices with an emphasis on determining the response and requirements of occupants. Building construction standards and codes to assure maximum life and property safety from fires, explosions and natural disasters. Egress design specifications, human factors and fire protection requirements.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5153 Advanced Exposure Assessment
Description: Identification of critical infrastructure and the societal risk caused by its vulnerability. Methods of analyzing the hazards and threats facing critical infrastructure components and the methods of minimizing those risks.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5163 Building Electrical Systems
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. May not be used with FPST 3383.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5173 Explosion and Fire Impact on Infrastructure
Description: Concepts related to explosions, Wildland Urban Interface (WUI) fires, and tall buildings in terms of both the identification of hazards and solutions for protecting the building infrastructure. May not be used with FPST 3611, FPST 3621, or FPST 3631.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5213 Advanced Building Design and Analysis
Description: Fire protection and life safety concepts and applications in the built environment related to building and fire codes including building height and area, structural fire protection, occupancy classifications, passive fire protection systems, means of egress, active fire protection systems, fire detection systems, and fire department access. May not be used for degree credit with FSEP 4213.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5383 Fire and Evacuation Modeling
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. May not be used for degree credit with FPST 4383.
Credit hours: 3
Contact hours: Lecture: 3 Contact: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

FSEP 5990 Directed Studies
Prerequisites: Consent of instructor.
Description: Individual report topics in fire safety and explosion protection involving processes, equipment, experiments, literature search, theory, computer use or combinations of these. Same course as MERO 5070. Offered for variable credit, 2-4 credit hours, maximum of 4 credit hours.
Credit hours: 2-4
Contact hours: Contact: 2-4 Other: 2-4
Levels: Graduate
Schedule types: Independent Study
Department/School: Engineering Technology