SENG - SAFETY ENGINEERING (SENG)

SENG 309/NUEN 309 Radiological Safety
Credits 3.3 Lecture Hours.
Interactions of nuclear radiations with matter and biological systems; theory and practice of radiation dosimetry as applied to radiation protection; design and application of radiation dosimetry systems for personnel monitoring, area radiation monitoring and accident situation; includes external and internal dosimetry as well as long-term risk analysis.
Prerequisite: NUEN 302.
Cross Listing: NUEN 309/SENG 309.

SENG 310 Industrial Hygiene Engineering
Credits 3.3 Lecture Hours.
Application of scientific and engineering principles in the selection and design of control systems related to chemical, physical and ergonomic exposures in the process and manufacturing industries; relationships of criteria, analysis and specifications for the assessment and control of occupational related illnesses.
Prerequisites: CHEM 107; MATH 308; PHYS 208; or approval of instructor.

SENG 312 System Safety Engineering
Credits 3.3 Lecture Hours.
Application of system safety analytical techniques to the design process; emphasis on the management of a system safety or product safety program; relationship with other disciplines such as reliability, maintainability, human factors and product liability applications.
Prerequisite: Junior classification.

SENG 321 Industrial Safety Engineering
Credits 3.3 Lecture Hours.
Concepts of designing, operating and maintaining optimally safe systems, risk management, economic impact, legislation, performance measurement and accident investigation/analysis; principles and practices in industrial hygiene engineering, fire protection engineering and introduction to systems safety engineering.
Prerequisite: Junior classification.

SENG 422 Fire Protection Engineering - Facilities Design
Credits 3.3 Lecture Hours.
Design of facilities from a fire protection engineering viewpoint including fire detection and fire control systems; materials, equipment, exposures, occupancies and processes; both public and industrial occupancies studied to determine fire protection design specifications.
Prerequisite: SENG 322 or approval of instructor.

SENG 430/CHEN 430 Risk Analysis in Safety Engineering
Credits 3.3 Lecture Hours.
Concepts of risk and risk assessment, which uses all available information to provide a foundation for risk-informed and cost-effective engineering practices; examples and exercises are drawn from a variety of engineering areas.
Prerequisite: Junior or senior classification.
Cross Listing: CHEN 430/SENG 430.