

SENG - SAFETY ENGINEERING

SENG 655/CHEN 655 Process Safety Engineering

Credits 3. 3 Lecture Hours.

Applications of engineering principles to process hazards analysis including source and dispersion modeling, emergency relief systems, fire and explosion prevention and mitigation, hazard identification, risk assessment, process safety management, etc.

Prerequisite: Approval of instructor.

Cross Listing: CHEN 655/SENG 655.

SENG 660 Quantitative Risk Analysis

Credits 3. 3 Lecture Hours.

Fundamental concepts, techniques, and applications of quantitative risk analysis and risk-informed decision making for all engineering fields; practical uses of probabilistic methods are demonstrated in exercises and case studies from diverse engineering areas.

Prerequisites: Graduate classification.

Cross Listing: CHEN 660 and ISEN 660.

SENG 670 Industrial Safety Engineering

Credits 3. 3 Lecture Hours.

General concepts and techniques of safety engineering upon which more detailed and advanced applications may be based; applications of safety engineering principles to industrial and commercial systems; the concept of designing optimally safe systems.

SENG 674 System Safety Engineering

Credits 3. 3 Lecture Hours.

Current system safety engineering analysis techniques; failure mode and effect and fault tree analysis; engineering economic analysis is reviewed to develop skills for the safety engineer in presenting alternate solutions to management.

SENG 677 Fire Protection Engineering

Credits 3. 2 Lecture Hours. 3 Lab Hours.

Theory of combustion, characteristics of flammables, fire resistance, fire spread, fire protection principles, public and private fire service organization and equipment; automatic extinguishing systems; fire protection analysis and design projects.

SENG 680 Industrial Hygiene

Credits 3. 3 Lecture Hours.

Recognition of environmental stresses present in man-machine-environment systems and the effect of these stresses on human performance, safety and health; chemical, physical, ergonomic and biological exposures, manufacturing systems, materials and operations.

SENG 681 Seminar

Credit 1. 1 Other Hour.

Formal presentations in industrial hygiene and safety engineering by students and professional industrial representatives.

SENG 684 Professional Internship

Credits 1 to 6. 1 to 6 Other Hours.

Training under the supervision of practicing engineers in settings appropriate to the student's professional objectives.

Prerequisites: Approval of chair of student's advisory committee and department head.

SENG 685 Directed Studies

Credits 1 to 12. 1 to 12 Other Hours.

Investigation of topics not within the scope of thesis or dissertation research and not covered by other formal courses.

SENG 689 Special Topics in...

Credits 1 to 4. 1 to 4 Lecture Hours.

Selected topics in an identified area of safety engineering and industrial hygiene. May be repeated for credit.

Prerequisite: Approval of instructor.

SENG 691 Research

Credits 1 to 23. 1 to 23 Other Hours.

Research in industrial hygiene, safety engineering or related topics for thesis or dissertation.