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 students in all engineering
fields. Practical uses of probabilistic methods are demonstrated in
exercises and case studies from diverse engineering areas.
Prerequisite: Graduate or Senior status.
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.