

# SENG 312/674—SYSTEM SAFETY ENGINEERING

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**Textbook:** Clifton A. Ericson, *Hazard Analysis Techniques for System Safety*, John Wiley and Sons; ISBN: 978-0471720195; and

Harold E. Ronald and Brian Moriarty, *System Safety Engineering and Management*, John Wiley and Sons, 2nd Edition (1990); ISBN: 978-0-471-61816-4.

**Description:** System Safety Engineering focuses on development of a safety oriented pattern of thinking and a holistic approach. The tools that will be gained in this course will be helpful in recognizing, understanding, and analyzing hazards; and assessing risks in contemporary complex systems. Areas included are (1) Hazard analysis and risk assessment, (2) Human error and human reliability, and (3) Safety management.

**Topics:**

- Introduction to system safety engineering
- Regulation and standards
- Safety performance measurement
- Risk assessment
- Hazard analysis
- Preliminary hazard analysis
- Subsystem hazard system
- Fault & event trees
- Failure modes and effects analysis
- System hazard analysis
- Operating and supporting hazard analysis
- Risk ranking
- LOPA
- HAZOP analysis
- Human error
- Safety management

4.2 CEUs	42 PDHs
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