

# SENG 321/670—INDUSTRIAL SAFETY ENGINEERING

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**Textbook:** Asfahl & Rieske, *Industrial Safety and Health Management*  
(ISBN: 0131423924)

**Description:** The course emphasizes the various safety related issues that arise in industrial settings, including health, security, and environmental factors. A broad array of topics will be addressed including performance measurement and regulatory requirements, as well as the handling of toxic/flammable/explosive materials, fire protection, personal protective equipment, emergency response, and accident investigations. Design aspects are included to reduce hazards, and resolve noise and ventilation issues. While the material emphasizes industrial settings, construction and office environments are also covered.

## Topics:

- Introduction to industrial safety and health
- Concepts of hazard avoidance
- Regulations
- Management systems & information systems
- Process safety, emergency response, incident investigations, and security
- Buildings and facilities
- Ergonomics
- Health and toxic substances
- Environmental management, ventilation, and noise
- Flammable and explosive materials
- Personal protection
- Fire protection
- Electrical hazards
- Construction

## Objectives:

- Students will be able to recognize and mitigate safety, health, environmental, and security issues arising during the design, maintenance and operation of an industrial facility.
- Guidelines, processes, and tools will be demonstrated and applied which address these issues, such as appropriate workplace safety equipment and handling of toxic substances.
- Various metrics will be provided for measuring and tracking trends in safety and environmental performance.
- Students will choose a topic of interest and work in teams to prepare a research report and presentation.

4.2 CEUs	42 PDHs
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