



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Occupational Safety: Analysis and Design of Work Environments

ISE 5640

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Graduate

Course Components:

Lecture

Course Description:

Introduction to workplace hazards and controls for engineers and others who design workplaces, equipment, tools, and processes.

Prerequisites and Co-requisites:

Prereq: Enrolled in a major in the College of Engineering, or Construction Systems Management; or Grad standing.

Course Goals / Objectives:

- Ability to recognize, evaluate and offer suggestions for controlling adverse (hazardous) workplace conditions
 - Distinguish between engineering and administrative control solutions for reducing exposure to workplace hazards
 - Follow a structured approach for evaluating occupational hazards and suggesting modifications to improve worker health and safety
 - Learn about current approaches to hazard recognition and analysis and accident/incident investigation
 - Learn about current thinking concerning the role of human error in accidents
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Course Topics:

- Illumination and vision
 - Noise and hearing
 - Climate
 - Industrial toxicology
 - Solvents and particulates; respiratory protection
 - Electrical safety, machine guarding, and vibration analysis.
 - Hazard analysis
 - Fire and radiation safety
 - Theories of accident; incident investigation; human error
 - Construction safety
 - Safety research
 - Intervention priorities and methods
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Designation:

Elective