



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Hazardous Waste Management and Remediation

ENVENG 5410

Credit Hours:

2.00 - 2.00

Course Levels:

Undergraduate (1000-5000 level)

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Environmental regulations; handling of hazardous wastes; risk assessment; site remediation processes; remedial alternatives; implementation; case studies.

Prerequisites and Co-requisites:

Prereq: 3200 and CivilEn 3130, or Grad standing; or permission of instructor.

Course Goals / Objectives:

- Be able to determine and design appropriate treatment technologies for hazardous site remediation
 - Have an understanding of environmental regulations related to hazardous waste
 - Be able to calculate the risk at a site based on selected exposure pathways
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Course Topics:

- INTRODUCTION Site assessment/ past practices Regulations Types of sites and pollutants In-situ, ex-situ, vs. off-site remediation
 - RISK ASSESSMENT Toxicity/classes of carcinogens Risk assessment
 - FATE OF CONTAMINANTS Properties of contaminants Sorption/partitioning Volatilization Contaminant Transport/Pump and Treat
 - TREATMENT PROCESSES AND DESIGN Physicochemical Processes Permeable Walls Bioremediation Natural attenuation/phytoremediation Solidification and Stabilization Incineration
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Designation:

Elective