



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Environmental Engineering Analytical Methods

ENVENG 2100

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Lab

Course Description:

Application of analytical methods to calculate, measure and interpret chemical characteristics of water, soil, and air.

Prerequisites and Co-requisites:

Prereq: Chem 1220 (122) or 1250 (125), and enrollment in CivilEn major or EnvEng major or minor.

Course Goals / Objectives:

- Be skilled in the laboratory measurement of chemical parameters in soil, water and air samples
 - Be able to quantitatively estimate the dominant chemical species in a given sample
 - Be skilled in the use of graphical solution techniques to determine the composition of a given sample of water
 - Be skilled in the preparation and maintenance of a laboratory notebook
 - Be able to explain measured changes in the chemical composition of environmental media based upon fundamental chemical and physical processes
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Course Topics:

- Quantitative Analysis of the Chemical Properties of Water (Thermodynamics, Equilibrium and Working with Equilibrium Expressions; Graphical Solutions; Homogeneous Processes; Heterogeneous Processes)
 - Quantitative Analysis of the Chemical Properties of Soil (Bulk analyses, organic contaminant analysis, metal content, nutrients, carbon content)
 - Quantitative Analysis of the Chemical Properties of Air (Particle concentration, pH, CO₂ determination)
 - Chemical analysis of water and wastewater
 - Biological analysis of water and wastewater
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Designation:

Required