

## **ENSC 2233 Environmental Sampling, and Analysis**

**Catalog Description:** Sampling protocol, procedures, quality control, and field analysis will be discussed in the course. The student will demonstrate proper selection of basic monitoring equipment and instrument calibration, sampling, field analysis, and preservation procedures; representative sampling methods; and prepare and evaluate documentation associated with sampling and field analysis. Practical hands-on case studies will be utilized in developing sampling strategies, sampling methods, and analysis of sampling results. The student will be able to prepare a written report of field analysis.

**Prerequisite:** Fundamentals of Industrial Hygiene or Consent of Instructor

**Credit hours/ Contact hours/ Load hours:** 3/3/3

**Target Audience/Transferability:** Successful completion of this course should prepare students for successful further study in environmental and regulatory science. This is a required course for Technical Certificate in Environmental & Regulatory Science and the Environmental & Regulatory Science AAS Degree. Transferability should be confirmed with receiving institution.

**Student Learning Outcomes:** Students completing this course will:

- Identify methods and protocols used in environmental sampling of various media (air, water, soil).
- Identify field methods for data collection, operation of standard sampling equipment and instruments.
- Explain uses and limitations of major environmental monitoring instruments.
- Identify situations where sampling and monitoring are needed for further evaluation.
- Evaluate hazardous conditions based on monitoring results.
- Prepare written survey reports that summarize, interpret and discuss sampling results; states conclusions; and makes applicable recommendations.

Northwest Arkansas Community College  
Division of Science & Mathematics

**Topics:**

- Introduction to Environmental Sampling
- Toxicology Review
- Federal Regulations
- Airborne Hazards
- Sampling for Airborne Contaminants
- Indoor Air Quality
- Controlling Airborne Hazards
- Noise Exposures
- Ionizing Radiation
- Nonionizing Radiation
- Temperature Extremes
- Water Pollution
- Air Pollution
- Soil Analysis

**Forms of Assessment:** Variable methods, which include but are not limited to written and oral presentations, exams, homework assignments, and laboratory exercises.