

Office of Academic Affairs
Tarleton State University
June 2005

Master Course Syllabus Outline

Department: Chemistry, Geosciences, and Environmental Science

Course Prefix/Number: ENV5613

Official Course Title: Environmental Site Assessment

Master Syllabus Approved by Department on: 06/28/2005
month date year

I. Catalog Description

Introduction to Phase I and Phase II investigations, principles of siting and installation of monitoring wells, a review of sampling methods and sample design, and the use of water quality data to characterize subsurface contamination. Credit for both GEOL 561 and ENV5 561 will not be awarded

II. Prerequisites

Prerequisites: GEOL 320 or consent of Instructor

III. Expanded Course Description

This course will teach the principles of Phase I and Phase II environmental investigations, as well as preparation and data requirements for environmental impact assessments. We will cover all phases of data collection and assessment including monitoring techniques, QA/QC procedures, risk assessment, and data analysis including statistical analysis. Included are in-depth analysis of environmental laws, particularly RCRA, CERCLA, and NEPA. This course introduces the issues relevant to the investigation and management of contaminated sites. This is an elective in the Environmental Science Graduate program appropriate for those wishing to work in contaminant remediation.

IV. Intended Student Learning Outcomes

Knowledge outcomes

Upon completion of this course students will:

- understand the laws governing Phase I and II investigations
- understand the elements in a Phase II investigation
- understand the benefits and uses of geophysics in environmental investigations
- understand methods for water quality data collection and analysis
- understand proper methods of investigation in the vadose zone
- develop knowledge of US hazardous waste regulations
- Enhance skills for obtaining and analyzing information gathered from outside sources
- Enhance skills in working on a project within a group setting
- Enhance written and oral communication skills

Skill outcomes

Upon completion of this course students will:

- be able to perform a Phase I investigation
- be able to work as part of a team on a NEPA EIS statement
- be able to design a groundwater monitoring system
- be able to design a water quality data collection project

- be able to develop a QA/QC plan as part of a monitoring project

Value outcomes

Upon completion of this course students will:

- be able to appreciate the complexity of environmental regulation in environmental sampling
- understand the value of teams in environmental assessment

V. Unless otherwise stipulated in this master syllabus by the department, the following items are subject to faculty discretion as described in each faculty member's individual course outline/syllabus:

Course Requirements (grading/evaluation procedures; class attendance policy; term papers)

Typically 2 tests, several team projects potentially including an evaluation of a spill site, development of a detailed EIS TOC, and completion of a Phase I investigation. When possible, some field trips for observation of well drilling and well sampling techniques.

Required Text(s) None, extensive readings on library reserve or internet sites

Department Head Signature/Date:

Signature

_____/_____/_____
Date