

Office of Academic Affairs
Tarleton State University
September, 2003

Master Course Syllabus Outline

Department: Chemistry, Geosciences, and Environmental Science
Course Prefix/Number: ENV5293
Official Course Title: Applications of GIS in Environmental Studies

Master Syllabus Approved by Department on: ____/____/____
month date year

I. Catalog Description

Environmental and natural resource applications of Geographic Information Systems. Introduction to spatial analysis and 3-D analysis. The availability and uses of digital resources.

II. Prerequisites

Prerequisite: E S 2203

III. Expanded Course Description

GIS is becoming a prerequisite for work in the environmental field. This course will expand on previous knowledge of GIS by introducing spatial analysis techniques. The course will also provide an introduction to GIS modeling utilizing hydrologic models. During the semester, students will study and analyze the various concepts of spatial analysis including data input, database design and management, analysis, and output design. Students will learn and apply the concepts of GIS through lectures, guest presentations, practical exercises, and applied projects. This course is an elective in the Environmental Science graduate program, but is appropriate for upper level undergraduates and graduates in a variety of science and agricultural disciplines.

IV. Intended Student Learning Outcomes

Knowledge outcomes

Upon completion of this course students will:

- understand spatial analysis methods
- understand relational databases
- understand the premise of GIS modeling
- understand digital geographical data, as well as the analysis and interpretation of this data

Skill outcomes

Upon completion of this course students will:

- know how to find and utilize digital resources
- be able to utilize Avenue programming
- be able to utilize spatial analysis
- be able to display environmental data
- develop individual experience in the use of GIS through execution of a term project.

Value outcomes

Upon completion of this course students will:

- be able to appreciate the utility of GIS in for solving environmental problems

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 including demonstrating program use, occasional quizzes, term project utilizing spatial analysis of digital data, weekly lab assignments

Required Text(s) None

Department Head Signature/Date:

Signature

_____/_____/_____
Date