

SYLLABUS
Introduction to Geographic Information Systems
CE5390 /4375/4376/4377
Fall 2018

Instructors: Dr. Raed Aldouri, raeda@utep.edu ; 915-747-8019

Office: Engineering A219

Office Hours: MW 11:00 AM - 12:00 PM

Text: Mastering ArcGIS by M. Price (8th or 7th Edition)

COURSE DESCRIPTION

The purpose of this course is to introduce the theory and practice of Geographic Information Systems (GIS). Cartographic, database, technical, and scientific issues involved in creating a useful GIS project will be presented. Databases and their analysis is another emphasis in the course. The laboratory will provide a substantial introduction to the leading GIS software and its usage.

Topics include:

- The who, what, where, when, why, and how of Geographic Information Systems
- The spatial data formats required for different types of spatial analyses
- The map as a model of geographic data
- Computer cartography versus GIS data structures
- How data obtained by remote sensing and GPS are used in GIS
- What data analysis procedures are commonly used to analyze GIS data
- Who is involved in the field
- Where basic data can be found

In this course, you will be given a substantial introduction to the fundamental concepts that are the basis of GIS. At the end of the course, you should be able to communicate effectively with a GIS specialist and to read the professional literature. If you are diligent in the lab, you will achieve a respectable working knowledge of state-of-the-art GIS software. In this course alone, it is not possible to achieve a high-level of proficiency with GIS software. However, the knowledge you obtain will allow you to independently further develop your skill with GIS software. As is always the case in learning software, the more you use it, the more you learn.

GRADING

The grades are earned by completing homework questions, lab exercises, two exams, and attendance. Homework questions will be posted on Blackboard with due date. The lab exercises are due at the beginning of the following lab.

Midterm Exam	25%
Final Exam	25%
Labs, HW and quizzes	40%
Attendance	10%

Labs

This is a lab-based course – as such you have to complete all the labs. The labs are due at the beginning of the following lab. A penalty of 10% per day will be deducted for late labs.

There will be a lab amnesty the last day of classes. The lab reports must be completed in MS Word describing what you did in the lab with supporting maps or graphs.

Answer all questions within the lab and complete the challenge task.

Each lab report will have a cover page in the following format:

Chapter #

Lab #

Date

Name

Map elements should be placed on the map which includes title, body, scale, legend, north arrow and grid. Missing elements will result in point's deduction.

Exams

The exams will focus on your comprehension of the material in the text and your understanding of GIS fundamentals. The exams will be derived from lecture and lab material and the “Key Concepts and Terms” found at the end of each chapter.