

## Introduction to GIS

Course (CIV, ENV, GIS) K146, Course Number 50213, 50214, 50216, 50217, 50305, 50306

Meeting Day/Time: Tuesday and Thursday, 5:30 – 8:30 pm, Room E116

Course Instructor: Meredith Metcalf (Office: Room C202)

Email: [meredithmetcalf@yahoo.com](mailto:meredithmetcalf@yahoo.com) (prefer) or [mmetcalf@trcc.comnet.edu](mailto:mmetcalf@trcc.comnet.edu)

Office Hours: By Appointment Only

### Required Text:

Ornsby, T., E. Napoleon, R. Burke, C. Groessl, and L. Feaster. 2004. Getting to Know ArcGIS Desktop: Basics of ArcView, ArcEditor, and ArcInfo, Second Edition Updated for ArcGIS 9. ESRI Press; Redlands, California.

**Includes 180-day trial version of ArcView 9 software AND CD of data necessary to complete the exercises in the book.**

*You will need the required text for each class in order to complete the assignments.*

**\*\*A USB flash drive is STRONGLY recommended for this course.**

### Learning Objectives:

- Become comfortable with reading and interpreting maps
- Create detailed, meaningful maps
- Create and understand a geodatabase
- Understand the core functionality of ArcGIS

### Course Structure:

This course is broken into two sections (lecture and lab). However, I have structured this course such that each class involves an introduction to a topic that will be followed by an assignment or exercise that complements or demonstrates the topic.

The first half of the semester provides an introduction to ArcMap and ArcCatalog and basic map making. The second half considers more specific tools that can be performed in ArcMap and ArcCatalog that will allow you to manipulate and analyze the data of interest.

Most classes include a short assignment to be turned in at the end of the session. **Each student is expected to turn in his/her own work for each assignment.**

## Grading

**10% - Quiz** – There will be one quiz within the semester and it will include all that you have been taught at that point in the course.

**20% - Final Project Presentation and Final Write-Up** – This project is chosen by the student and allows the student to explore something of interest to them and present their findings to the class. More information will follow.

**70% - Class Assignments** – Assignments will be exercises from the above text and/or additional supplements that I have provided. These assignments will be performed in class. If the assignment is not completed in class, it is necessary that the assignment be completed on your own. All assignments must be emailed to me in electronic form, preferably a word document. In other words, I would like the final maps for each assignment exported from ArcMap as a PDF and imported (copy and paste) into a word document and emailed to me at [meredithmetcalf@yahoo.com](mailto:meredithmetcalf@yahoo.com). Assignments should be saved as your first initial and last name\_assignmentXX\_date (example: mmetcalf\_assignment1\_060810). If there are any issues for handing in assignments, please let me know as soon as possible.

Grade Scale: There will be no grading on the normal distribution curve.

A	100.00 – 93.50
A-	93.49 – 90.00
B+	89.99 – 87.50
B	87.49 – 84.50
B-	84.49 – 79.50
C+	79.49 – 77.50
C	77.49 – 73.50
C-	72.49 – 69.50
D+	69.49 – 63.50
D	63.49 – 59.50
F	59.49 – 00.00

## Tentative Schedule

Date	Topic
June 8 <sup>th</sup>	Define GIS, introduce ArcGIS, demonstrate how applicable GIS is in all disciplines, explore basics of ArcMap (Chapters 1, 2, and 3) <b>Assignment 1</b>
June 10 <sup>th</sup>	Explore basics of ArcCatalog and Symbolizing Features and Rasters (Chapters 4 and 5) <b>Assignment 2</b>
June 15 <sup>th</sup>	Classifying features and rasters, labeling features, and querying data (Chapters 6, 7, and 8) <b>Assignment 3</b>
June 17 <sup>th</sup>	Joining and relating tables and selecting features by location (Chapters 9 and 10) <b>Assignment 4</b>
June 22 <sup>nd</sup>	Preparing data for analysis and analyzing spatial data (Chapters 11 and 12) <b>Assignment 5</b>
June 24 <sup>th</sup>	Projecting data in ArcMap, building a geodatabase, and creating features (Chapters 13, 14, and 15) <b>Assignment 6</b>
June 29 <sup>th</sup>	Editing features and attributes and georeferencing in ArcMap (Chapter 16 and supplemental assignment) <b>Assignment 7</b>
July 1 <sup>st</sup>	Making maps from templates and making maps for presentation (Chapters 18 and 19) <b>Assignment 8</b>
July 6 <sup>th</sup>	Tracking analyst and animation in ArcMap (Supplemental assignments) <b>Assignment 9</b>

July 8 <sup>th</sup>	Geostatistical analyst (interpolation methods) and spatial analyst (hillshade, slope, aspect, contours, etc.) in ArcMap (Supplemental assignments) <b>Assignment 10</b>
July 13 <sup>th</sup>	Model Builder (Chapters 20) <b>Assignment 11</b>
July 15 <sup>th</sup>	Geoprocessing in ArcGIS with the use of Model Builder (supplemental assignments) <b>Assignment 12</b>
July 20 <sup>th</sup>	Project Example – Analyze population in California cities that are at risk for earthquakes (supplemental assignment) <b>Assignment 13 (Quiz 2??)</b>
July 22 <sup>nd</sup>	Independent Work on Final Projects
July 27 <sup>th</sup>	Independent Work on Final Projects Continued
July 29 <sup>th</sup>	Presentations of Final Projects

### Course Policies

*Electronic Devices (cell phones, MP3 players, etc.):* These devices must be turned off when entering the room to maintain a respectful class atmosphere. You will be asked to leave if you disregard this requirement.

*Late/Missed Work:* All assignments are due the following week after it has been assigned unless otherwise specified. After this time the assignment will not be accepted and the student will receive a zero.

*Attendance:* Missing a day of lecture/lab without prior arrangements will not result in a zero for an assignment. However, the student will be solely responsible for learning any missed material and handing in missed assignments. My contact information is provided at the top of this syllabus. If you inform me well in advance of an absence, I will be happy to make appropriate accommodations.

*Make-ups:* I need adequate notice to schedule make-ups: at least two weeks for normal life situations and at least one day for sudden emergencies. In case of a dire emergency, contact me as soon as you can through email. I reserve the right to ask for documentation

of an emergency-related absence, and to deny a make-up in the absence of a clear life-or-death situation.

*Add/Drop:* The last day to add/drop and obtain partial tuition refund for this course is June 4<sup>th</sup>, 2010.

*Withdrawal:* The last day to withdrawal from this course is July 26<sup>th</sup>, 2010.

*Incomplete:* An incomplete must be finished within 60 days of the last day of the Summer 2010 Semester.

*Academic Conduct:* It is expected that each student will turn in only his or her own work. Violations of the Student Code are taken seriously. This includes copying or sharing answers on tests or individual assignments, plagiarism, or having someone other than yourself do your work. Depending on the act, a student could receive an F grade on the test/assignment, an F grade for the course, or could be suspended or expelled.

### **Special Needs**

Please inform me as soon as possible if you require any accommodations in addition to those provided here.