

University of Florida
Department of Anthropology
ANT 4930 - Anthropological GIS
Course Syllabus

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Room: TUR 3006 (GIS Lab B)
Tuesdays: Periods 2-4
Thursdays: Periods 2 & 3

Summer A, 2006
University of Florida
Office: TUR B348
Office Hours: Tuesdays 2-5pm
Class Website: gis.little-yeti.com/anthgis/

Course Description:

This course is designed to introduce students to historical and current uses of geographical information systems (GIS) within anthropology and archaeology, centering on the development of practical GIS skills for the student. The anthropological uses of GIS have generated a number of theoretical approaches, represented in a growing body of literature. These theoretical approaches will form a general background as the student learns to apply GIS to common problems such as inventory, map-making, spatial analysis, and publication. The readings are designed to provide each student with a foundation in the literature, as well as pointing to numerous other resources that may be of interest to the students who want to make GIS a specialization. The student will develop a marketable skill-set highly sought after by many professional and academic units. This course is designed around a 'hands-on' approach through weekly tutorials and assignments.

Required Texts:

Ormsby et al.
2004 *Getting to Know ArcGIS Desktop: The Basics of ArcView, ArcEditor, and ArcInfo Updated for ArcGIS 9*. ESRI Inc.

Additional articles and book chapters assigned by instructor

Recommended Text:

Aldenderfer, Mark, & Herbert D. G. Maschner
1996 *Anthropology, Space, and Geographic Information Systems*. New York, NY: Oxford University Press.

Terms

The class consists of two sections; a practical introduction to the ArcGIS suite of programs, and a series of short projects that will utilize the practical skills to address specific anthropological problems. The final grade will either be a final project worked on the last week of the course, or a final exam covering the second section of the course.

Grades will be based on:

- 1) Weekly assignments (60%)
- 2) Mid-term (20%)
- 3) Final Project (20%)

Disability Accommodations:

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation.

Course Schedule:

Each week the class will meet for two sessions: a two-period session on Tuesdays (periods 2-3), and a three-hour session on Thursday (periods 9am-12pm). The Tuesday session will consist of a class discussion of the reading(s), a short lecture (<1 hour) by the instructor, and then begin work on that week's assignment. The Thursday sections will be dedicated to lab work exclusively. Weekly assignments will be due on Friday. This is an intensive course and students will fall behind if they don't keep up with assignments.

Week 01 – Introduction to ArcGIS I

Tuesday:

Introduction of instructors and students, hand out syllabi, lecture on anthropological uses of GIS.

Thursday (assignment):

Portions of Ormsby Section 2 & 3 completed in Class as introduction to basic ArcGIS program features.

Week 02 – Introduction to ArcGIS II

Tuesday:

In-depth exposure to ArcGIS software, complete Modules 1,2, and 3 of 'Learning ArcGIS 9' online course from ESRI Virtual Campus. Grades will be based on scores from online exams. Students will learn how to navigate the software and receive a brief introduction to spatial data.

Thursday:

Short lecture on basic uses of GIS by anthropologists in relation to what students are learning in the online course. Continue with Module 5 (*Creating and Editing Data*) of 'Learning ArcGIS 9' online course. Grades will be based on scores from online exam. Students will learn how to create and modify various types of spatial data.

Week 03 – Anthropological Questions and Spatial Modeling

Tuesday:

Complete Modules 6 (*Getting Started with GIS Analysis*) and 7 (*Working with Geoprocessing and Modeling Tools*) from the online course 'Learning ArcGIS 9'. These modules will provide the students with practical knowledge of how to implement various modeling questions within the ArcGIS software. Lecture will include an introduction to Internet data resources

GIS.com – <http://www.gis.com>

ESRI – <http://www.esri.com>

Terraserver – <http://terraserver.microsoft.com/>

USGS Seamless – <http://seamless.usgs.gov>

Readings for Thursday: (readings will be available the weekend before online at website)

-Chapter One: *Introduction*

Aldenderfer and Maschner volume

-Chapter Three: *The Use of GIS to Measure Spatial Patterns of Ethnic Firms in the Los Angeles Garment Industry*

Aldenderfer and Maschner volume

-Chapter Twelve: *The Role of GIS in the Interdisciplinary Investigations at Olorgesailie, Kenya, a Pleistocene Archaeological Locality*

Aldenderfer and Maschner volume

-Kvamme, Kenneth L. [recommended]

1999 Recent Direction and Development in Geographical Information Systems. *Journal of Archaeological Research*, 7(2): 153-202. [online]

Thursday:

Each student will design and implement a simple suitability analysis (*predictive model*) during class. Data can be generated or downloaded from a site discussed on Tuesday.

Week 04 – Viewsheds and Catchment Analysis

Tuesday:

Work on Modules 1, 2, and 3 from the ESRI Virtual Campus course 'Learning ArcGIS 9 3D Analyst'. Students will learn the fundamentals of creating landscape models and employing them for analysis.

Readings for Thursday: (readings will be available the weekend before online at website)

-Chapter Eight: *Moving from Catchments to Cognition: Tentative Steps Towards a Larger Archaeological Context for GIS*

Aldenderfer and Maschner volume

-Chapter Ten: *The Politics of Settlement Choice on the Northwest Coast: Cognition, GIS, and Coastal Landscapes*

Aldenderfer and Maschner volume

-Chapter Thirteen: *Danebury Revisited: An English Iron Age Hillfort in a Digital Landscape*

Aldenderfer and Maschner volume

Thursday:

Each student will complete a series of projects assigned by the instructor, data will also be provided by the instructor.

Week 05 – Inventory

Tuesday:

Complete Module 4 (*Organizing Geographic Data*) from ESRI's online course 'Learning ArcGIS 9'. Students will learn about the geodatabase structure and how to employ it for inventorying spatial data.

Readings for Thursday: (readings will be available the weekend before online at website)

-Chapter Five: *Integrating Socioeconomic and Geographic Information Systems: A Methodology for Rural Development and Agricultural Policy Design*

Aldenderfer and Maschner volume

-Chapter Six: *Empirical and Methodological Problems in Developing a GIS Database for Yanomamo Tribesman Located in Remote Areas*

Aldenderfer and Maschner volume

-Chapter Eleven: *The Role of GIS in the Management of Archaeological Data: An Example of Application for the Spanish Administration*

Aldenderfer and Maschner volume

-Read Geodatabase information from tutorials section of <http://gis.little-yeti.com>

Thursday:

Create an organizational scheme for several datasets. Each student will be expected to generate at least two or three small datasets (e.g. digitize features from a photograph, etc.).

Week 06 – Presentation of GIS Data

Tuesday:

Complete Module 8 (*Designing Maps with ArcGIS*) in the online course 'Learning ArcGIS 9'. Students will learn how to generate publication quality maps and illustrations.

Thursday (assignment):

Final Exam (data provided day of exam).