Overview: This course surveys archeological and paleontological applications of GIS and remote sensing data such as digital maps, aerial photography and satellite imagery for use in locating field sites, planning field logistics and conducting landscape analysis.

The GIS component of the course builds on the remote sensing component and adds to it the analysis of map features stored in databases. The course introduces databases theory and practice, and moves through the various stages of GIS workflow: the planning and design of GIS projects, building geospatial datasets, various methods of geospatial analysis and a short introduction to map layouts and reports. The remote sensing component of the course covers remote sensing data acquisition, image georectification, image processing and classification.

The course covers GIS and remote sensing from an applied perspective and students are expected to invest lab time in completing tutorials on GIS and RS methods as well as applying these methods to individual projects.

Prerequisites and Expectations: This course is designed to complement ANT 324L Digital Data Systems in Archeology, which has a greater emphasis on data acquisition and field methods. **This is NOT an introductory course in GIS and remote sensing.** This is an accelerated course in GIS and RS fundamentals. There are no enforced prerequisites, but students should have a comfortable working knowledge of computers and an introductory GIS or remote sensing course is recommended but not required.

Required textbooks: The following book is required reading for this course. It is available through the University Coop as well as other campus bookstores. It is also available for direct purchase from the author in print or digital form.


Recommended Textbooks: The following book is recommended for those who are brand new to GIS using ESRI software:


Lecture/Lab: The class meets T, Th from 2-3:30 in SAC 5.112. In the labs we will be using ESRI ArcGIS software and Leica ERDAS Imagine software for remote sensing. Each student will have access to their own GIS/RS workstation during class and in addition students have access to the GIS lab in CLA 3.104 in order to complete assignments outside of class. The CLA 3.104 lab is open during building hours and requires a UT proximity ID card for entry.

Grading: Grades for this course are based on weekly lab exercises (55%), a midterm exam (20%) and a cumulative final exam (25%). Grading uses the +/- system. Final grades of A = 100-95, A- = 94-90, B+ = 89-87, B = 86-84, B- = 83-80 etc. Lab exercises are due by 2 PM on Tuesday the week after they are assigned. **Each lab is worth 5 points toward the final grade. Late labs will be penalized 1 point per week after the due date.**