A. Course objectives
This course is designed to for graduate students to use geographic information systems (GIS) to develop research projects and activities. The purpose of the course is threefold:

1) to examine the broad research context in which GIS is adopted and used through an examination of the literature;
2) to gain hands-on experience using GIS software and methods in an integrative fashion with other technologies (remote sensing, Internet) and methodologies (cartography, spatial analysis, field methods); and
3) to understand concepts through application by designing a GIS project.

The objective of this course is to allow students a venue in which to apply newly acquired skills in geospatial information technologies. Laboratories will provide students with basic skills and information on GIS software, Internet data sources and examples of research activities. Lectures are interactive and student driven. Students will collect relevant articles for discussion and presentation in class in addition to materials provided by the instructor. These interactive seminar-style lecture meetings will focus on the question: what are the current areas for research in GIS? Most importantly, students are expected to apply their understanding of GIS concepts by preparing a GIS project.

B. Course materials

Readings are identified on the Schedule handout. Many readings are available on-line and there will be several readings made available in class.

C. Course structure
This course will consist of lectures, laboratories, and project design. Readings are assigned prior to lecture and lab. Students should come to class prepared to discuss the materials.

Course work consists of the following:

1) GIS demonstration project (40%)
2) laboratory and lecture exercises (40%)
3) final oral exam (20%)

Course work is expected to be completed and handed in when due. NO LATE PAPERS OR ASSIGNMENTS WILL BE ACCEPTED, unless in case of medical emergency. Students are expected to attend both lecture and lab meetings as well as all student presentations and to participate in class discussions.
D. Course assessment

1. **On-line GIS Demonstration Project: NSF Climate Change in National Parks (partnering with Dr. Jessica Thompson)**
   
   You will develop an on-line GIS demonstration project. This project will demonstrate some type of GIS analysis targeted for the general public.

   - The entire webpage (and CD or USB stick) must be complete by December 5. **NO LATE PROJECTS WILL BE ACCEPTED.**

2. **Laboratory exercises and lecture assignments**

   Weekly laboratory meetings are scheduled throughout the semester. Students will be expected to complete:

   - Weekly lab assignments. **Laboratory exercises are due the following week in lab. NO LATE LABS WILL BE ACCEPTED.** All final labs should be word-processed and/or in a map format.

Lecture assignments will include short critiques of articles discussed in class. All lecture assignments must be word processed.

   - **NOTE:** For weeks 8 – 13 -- You will divide into groups. Each individual will photocopy and write a one-page annotation of the GIS article that demonstrates one of the analysis techniques. The articles are to be made available to the class one week before discussion. Your group is responsible for the entire lecture session for that day.
     
     o **Turn in:** 12 October, 1 page annotation of the article and copy of the article

**What is an annotation?**

An annotation is a brief description and evaluation of a citation (a book, article or document). The full citation (or reference) is included at the beginning of the annotation. The purpose of the annotation is to inform the reader of the relevance, accuracy, and quality of the article. An annotation is not an abstract. An abstract is a description summary found at the beginning of scholarly journal articles or in periodical indexes. Annotations are description and critical.

- Write a concise annotation that summarizes the central theme and scope of the article. Include one or more sentences that (a) state the general thesis or purpose of the article (b) evaluate the authority or background of the author, (c) comment on the intended audience, (d) explain how this work illuminates your topic and (e) critically examine the article (i.e., is it factual? Is it well-researched? Does it contribute to your understanding of the topic?)

3. **Final exam**

   Each of you will meet individually with me for an oral examination. We will schedule time during the last laboratory meeting of class and during the final exam period.