Acknowledgement: The instructor has adopted teaching materials from Drs. Ming-Hsiang Tsou, who first developed and taught the course Geographic Information Science, and Douglas A. Stow, who modified and taught the same course. Their contribution is highly appreciated.

I. Overview

This course will introduce fundamental concepts of geographic information science (GiScience), including geographic information systems (GIS), global positioning systems (GPS), cartography, remote sensing, and spatial analysis. Geospatial application tools such as Google Earth and Google Map will be used to demonstrate these concepts. Basic principles of quantitative reasoning will be covered. Students will learn how to use geospatial technologies and tools in addressing human and environmental problems. Students will learn how to organize geospatial data, visualize spatial patterns, and conduct basic spatial query and map overlay functions.

The prerequisites of this class include satisfactory completion of the Entry-Level Mathematics requirement (ELM).

II. Textbook


III. Lectures

Lecture sessions emphasize the principles, concepts, and applications of GiScience and spatial reasoning, including spatial analysis theory, GIS operations, cartography, spatial statistics, remote sensing, and computer technology. Lecture slides will be posted on Blackboard.
IV. Home Assignments

Students will complete five home exercises on any campus computers or on their home computers with high speed Internet access. Students may wish to use computers in the Geography Spatial Analysis Laboratory during times the lab is not being used for other classes. See the course calendar for due dates of home exercises. Late submission will be docked 20% per day. Web-based exercises will be posted on Blackboard.

V. Grading:

92-100% = A  
88-91.99% = A-  
84-87.99% = B+  
81-83.99% = B  
78-80.99% = B-  
74-77.99% = C+  
71-73.99% = C  
68-70.99% = C-  
65-67.99% = D+  
63-64.99% = D  
60-62.99% = D-  
below 60% = F (See score calculation spreadsheet)

Class participation: 15%  
Home assignments: 20%  
Two midterm exams: 40%  
Final exam: 25%

Graded work:

Examinations will include multiple choice, problem solving (computation), and short answer questions. The final exam will include a comprehensive essay question (the writing component for the course). Web-based exercises will entail several modules containing on-line demonstrations and exercises. Each module consists of multiple choice short answer, and problem solving questions. Class participation will be based on attendance and engaging in lecture and Blackboard discussions.

VI. Additional readings:

NASA Earth-Sun System Website: http://science.hq.nasa.gov/earth-sun/

VII. Other Important Issues

Attendance and conduct: Attendance is critical to classes. Missing lectures, coming late, or leaving early can be costly to one’s performance on the exams and assignments. Reading irrelevant materials (e.g., newspapers) or other distracting behavior during class will not be permitted. Lateness to class disrupts the activities and is not appreciated by either the instructor or your fellow students. The valid excuses for missing the exam or failing to turn in an assignment on time are illness requiring medical care, university responsibilities, or personal emergency of a serious nature. Documentation is required, or permission from the instructor. Excuses such as a time conflict, oversleeping, and forgetting are not accepted. In case that a makeup exam is
justified and needed, contact the instructor as soon as possible.

**Academic misconduct**: You are responsible to know the elements of, and penalties for, academic misconduct, including dishonesty, plagiarism, cheating, etc. For more information, please go to http://www.sa.sdsu.edu/srr/index.html. The penalty in this class is an “F” for the exam or assignment where the violation occurs.

**Other notes**: Students with disabilities should talk to me for any possible facilities or assistance. Go to http://www.sa.sdsu.edu/sds/ for more information. By the end of the second week of classes, students should notify the instructor of planned absences in this class for religious observances, if any.

**VIII. Course Calendar**

See the separate sheet for course calendar.