GEOG481/581: Geographic Information Science 1

Fall 2015

Instructor: Hedda R. Schmidtke, Office hours: 2pm-4pm Wed., 165 CON

GTF: TBA

Lecture: 9-9:50 Monday/Wednesday, 128 CHI

Labs:
- CRN 12550 10-11:50 Tuesday 442 MCK
- CRN 12551 10-11:50 Thursday 442 MCK
- CRN 16542 10-11:50 Tuesday 445 MCK
- CRN 16543 10-11:50 Thursday 445 MCK

Lab Hours: Check the calendar for availability: http://ssil.uoregon.edu/calendars/
SSIL Classroom, Reed Room, Knight Library

Server Access: Remote access to the SSIL Network Drives: http://ssil.uoregon.edu/
ssil/ssil-network-drives-and-connecting-remotely/

VPN access to the UO Network: https://it.uoregon.edu/vpn

A. Longley, Michael F. Goodchild, David J. Maguire, and David W. Rhind (available
at the Duckstore).

1 Course Description

This course is the first part of a series which teaches Geographic Information Science,
its methods, history, and areas of current research. GIScience 1 focuses on the mathem-
atical fundamentals underlying the representation of geographic information and on the
computational framework that is required for storing and processing massive amounts of
geographic information. It is a prerequisite for GEOG 482/582 GIScience 2, which explores
uncertainty handling and spatial analysis and GEOG 491/591 Advanced GIS.
2 Expected Learning Outcomes

After completing the course students

- Understand the mathematical fundamentals underlying geographic coordinate systems and other geographic reference systems
- Are able to critically evaluate maps and GI systems output in a scientific way
- Can analyze and visualize geographic data sets using GI systems tools
- Understand the role and function of the technical components of current GI systems, as well as their historical roots

3 Estimated Student Workload

The course contains lectures, reading assignments, and in-class activities/quizzes, as well as lab assignments, including a final project. Grades will be determined according to the following schema for GEOG 481:

- Examinations (30%): mid term (10%), final (20%)
- Final project (30%)
- Lab assignments (30%): seven labs at 20-40 points (sum 200 points = 20%), one lab at 100 points (= 10%)
- In-class activities (10%)

The criteria for 581 students differ mainly in the requirements for the final project, which needs to be described in a short research paper (5-10 pages), and the requirement for a literature review (discussion of 5-10 scientific articles discussing a topic from the lectures at more depth). The distribution schema for GEOG 581 students is:

- Examinations (22.5%): mid term (7.5%), final (15%)
- Literature review (10%)
- Final project (40%): project (300 points = 22.5%), write-up & method (200 points = 15%)
- Lab assignments (22.5%): seven labs (sum 200 points = 15%), one lab at (100 points = 7.5%)
- In-class activities (7.5%)
4 Grading

Grading criteria follow http://gradeculture.uoregon.edu with roughly the following expectations regarding point ranges.

- A+ 99%+
- A  95%-98%
- A- 90%-94%
- B+ 85%-89%
- B  80%-84%
- B- 75%-79%
- C+ 70%-74%
- C  65%-69%
- C+ 60%-64%

Grading in basic activities, such as examinations and lab assignments, evaluates in how far an answer reflects that the question with its background was understood and solved following the methods to be applied in the specific answer. Grading of advanced activities with higher degrees of freedom, such as advanced labs, the final project, or literature reviews, additionally evaluates the suitability of the choices made, e.g. the project plan, the method chosen for analysis, the choice of articles selected for review. Students should make sure that they seek guidance early for these tasks so as to actively discuss alternatives and should justify their choices in write-ups.

5 Course Schedule and Assignments

Each lesson corresponds to approximately two lectures. Reading assignments should be followed accompanying the lecture and are due Friday evening of the listed week the latest.
6 Course Policies

6.1 Academic Integrity

The University Student Conduct Code (available at conduct.uoregon.edu) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g., quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the student’s obligation to clarify the question with the instructor before committing or attempting to commit the act. Please contact me with any questions you have about academic conduct. Additional information about a common form of academic misconduct, plagiarism, is available at http://library.uoregon.edu/guides/plagiarism/students/index.html

The website http://integrity.uoregon.edu provides more information why academic integrity is important, how to achieve it, and how to maintain integrity under high pressure.
6.2 Late or Missed Work

Unless special circumstances exist, e.g. due to health condition or special family responsibilities, the number of points received is reduced by 5% for each day after the submission date. Submissions later than three days after the submission deadline are not accepted.