

GEOG 4210: Fluvial and Hydrological Processes
GEOG 6210: Advanced Fluvial and Hydrological Processes
Spring 2010

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Office Hours: As posted, or by appointment

Required Text: Dunne, T. and Leopold, L. B. 1978. *Water in Environmental Planning*.

Course Description: This course provides a comprehensive examination of surface water hydrology and fluvial geomorphology. Although the course will examine hydrologic and fluvial theory, we will also address applied problems in homework exercises to develop skills in data collection, data analysis, and the basic techniques used in hydrologic analysis and design. This course should be of interest to earth, atmospheric, and environmental scientists, as well to planners and others involved in managing water resources.

Grades: Grades will be based on homework exercises, a mid-term exam, a final exam, and for graduate students, a research project that will include a written paper and an oral presentation. The final exam is not a cumulative final, but will be taken during the scheduled final exam period. The homework exercises must be turned in on the assigned due date (usually the following week) in order to receive full credit. Late exercises will have points deducted for each day it is late, and none will not be accepted if more than one week late. Make-ups for exams will be given **ONLY** for medical emergencies if you notify me **PRIOR** to the scheduled exam time.

Undergraduates

Homework exercises.....	40%
Mid-term exam.....	30%
Final exam.....	30%

Graduate Students

Homework exercises.....	25%
Mid-term exam.....	25%
Final Exam.....	25%
Research project.....	25%

The topic of the graduate student's research project will be decided in consultation with me, and must be identified early in the semester. The written paper will consist of 10-15

pages of text (double-spaced, 12 pt font, with 1 inch margins). The format will follow that of a scientific journal article with an introduction, literature review, study area, methods, results, conclusion, references cited, and illustrations (i.e., tables, maps, and graphs). There should be at least 10-15 references, and they should consist of relevant journal articles and books (NOT newspaper articles or material from the internet!...unless approved by me). The paper will be presented orally in class (15 min) during our last class meeting.

Field Trip: We will take at least one field trip (probably more) during our scheduled afternoon class period. Attendance is required.

Course Web Site: PowerPoint lectures and study guides for the exams can be accessed through Blackboard. I suggest that you print out the lectures before class so that you can take notes on my description of each slide rather than writing down what is already on the slide.

Course Outline/Reading Assignments:

Introduction	
Precipitation	Ch. 2
Interception	Ch. 3
Evaporation & Evapotranspiration	Ch. 4 (pp. 95-103), 5 (pp. 126-132; 135-138)
Infiltration	Ch. 6 (pp. 163-183)
Surface Runoff	Ch. 9, 10 (pp. 279-297)
Drainage Basins	Ch. 14
Floods.....	Ch. 10 (pp. 298-363), 11 (skim)
River Channels.....	Ch. 16 (pp. 590-646), 17
Human Impacts	Ch. 18
Water Quality	

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