

FLUVIAL GEOMORPHOLOGY
GEOSCIENCE 12:138
CIVIL AND ENVIRONMENTAL ENGINEERING 053:128
FALL 2012

RECOMMENDED PREPARATION: 12:102 or 159:102 or equivalent or consent of instructor

General Description of Course: The focus of this course will be on general fluvial processes in the context of watershed and hydrologic dynamics. Emphasis will be placed on basic fluid processes in terms of water movement, river mechanics, mechanics of sediment erosion, transport and deposition in fluvial environments, systems theory, and integrated and cumulative processes and impacts on fluvial systems. Additional topics to be covered will involve: problems resulting from regime change (whether natural or induced by activities such as logging, fire, land use changes etc), river aesthetics, deconstruction of dams, floodplain management, best management practices, the impact of climate change, and the relationship between fluvial and hydrologic processes (such as hydrograph peaking). Where possible real world examples, field and laboratory demonstrations will be utilized.

LECTURES: Tuesdays Trowbridge 231 at 7:00 PM – 10:00 PM

INSTRUCTOR:

Prof. Frank Weirich

Office: 217 Trowbridge Hall (Geoscience)

Phone: 335-0156

Email: frank-weirich@uiowa.edu

Office Hours: Tuesdays/Thursdays 10:45 AM – 12:15 PM or by appointment

READING MATERIALS:

- 1) Assigned readings and provided materials
- 2) Suggested readings on specific topics will be provided

GRADING AND POINT DISTRIBUTION:

2 Tests	= 50%	(1 st = 20%, 2 nd = 30%)
Presentation	= 10%	
Participation in discussions	= 10%	
Essay	= 30%	

Tests will consist of a combination of multiple choice, fill-in the blanks, short answer and essay questions. There are no scheduled make-up exams. Make-up exams require a written and verified medical excuse.

Lecture attendance is required. Students should expect to spend, on average 6 hours per week on course related activities such as readings, assignments, presentation, work on the essay and test preparation. It should be noted that this course follows the course procedures and policies as governed by the College of Liberal Arts and Sciences. (Please refer to the attached sheet outlining these policies and procedures)

TOPICS, SCHEDULE OF LECTURES*

DATE	TOPIC
Week 1 (Aug 21)	Introduction to basic concepts/systems theory
Week 2 (Aug 28)	History of the study of fluvial systems/basic fluid processes
Week 3 (Sept 4)	Basic fluvial processes (water movement) and erosion
Week 4 (Sept 11)	Fluvial transport and deposition processes and concepts of grade, equilibrium and regime
Week 5 (Sept 18)	Hydraulic geometry and basin geometry as related to fluvial systems
Week 6 (Sept 25)	Test 1
Week 7 (Oct 2)	Mechanisms of regime alteration (both natural and induced)
Week 8 (Oct 9)	Cumulative impacts, best management practices, aesthetics
Week 9 (Oct 16)	Deconstruction of dams, response to hydrograph peaking/change
Week 10 (Oct 23)	Special topics
Week 11 (Oct 30)	Test 2
Week 12 (Nov 6)	Presentations
Week 13 (Nov 13)	Presentations
Week 14 (Nov 20)	THANKSGIVING BREAK
Week 15 (Nov 27)	Presentations
Week 16 (Dec 4)	Presentations

Final Paper due by 5 PM on Dec 14

*The schedule may be adjusted to allow for field trips/guest speakers and in some instances detailed discussion of specific topics of interest that may be event driven.

Department of Geoscience Syllabus Information:

Department Office: 121 Trowbridge Hall
Department Chair (DEO): Prof. M.K. Reagan
DEO Telephone: 319-335-1820

Telephone: 319-335-1818
DEO Office: 121C TH
DEO Email: geology-deo@uiowa.edu

Administrative Home

The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Academic Policies Handbook at <http://clas.uiowa.edu/students/handbook>.

Electronic Communication

University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences. (*Operations Manual*, [III.15.2](#). k.11.)

Accommodations for Disabilities

A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information.

Academic Honesty

All CLAS students have, in essence, agreed to the College's Code of Academic Honesty: "I pledge to do my own academic work and to excel to the best of my abilities, upholding the IOWA Challenge. I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty." Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled ([CLAS Academic Policies Handbook](#)).

CLAS Final Examination Policies

The final examination schedule for each class is announced around the fifth week of the semester by the Registrar. Final exams are offered only during the official final examination period. No exams of any kind are allowed during the last week of classes. All students should plan on being at the UI through the final examination period. Once the Registrar has announced the dates and times of each final exam, the complete schedule will be published on the Registrar's web site.

Making a Suggestion or a Complaint

Students with a suggestion or complaint should first visit the instructor, then the course supervisor, and then the departmental DEO. Complaints must be made within six months of the incident ([CLAS Student Academic Handbook](#).)

Understanding Sexual Harassment

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI [Comprehensive Guide on Sexual Harassment](#) for assistance, definitions, and the full University policy.

Reacting Safely to Severe Weather

In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Public Safety [web site](#).

Rights and responsibilities in the classroom

The College's statement on student rights and responsibilities can be found at: <http://www.clas.uiowa.edu/students/handbook/x/>.