Syllabus for GEOL 401: Geomorphology
January 15, 2008

Instructor:

Dr. Alison Anders

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Office Hours: 203 NHB: T 1:30-3:00, W 10:00-12:00 and by appointment

Teaching Assistant; James Xu, zhenxu2@uiuc.edu

Class Meeting Times & Place

T/Th 12:00 – 1:20 & Th 10:00-11:50 Classroom: NHB 259

We will not stay in 259 for the entire class period on many days: we will be doing field work and working in a computer lab. For this reason it is essential that you are on time!

Credit 4 credit hours

Textbook: Ritter et al., Process Geomorphology, 4th edition, 2002 or 2006.

Required Reading! Also on reserve in the geology library NHB 223

CLASS GOALS & APPROACH

In this class, you will learn the concepts and techniques of geomorphology by doing. We will focus on hands-on activities, make observations, use & generate data in the field and the computer lab, practice good record-keeping, develop & test hypotheses, apply statistics to data sets, and communicate research findings in written & oral formats. When you complete this course, I want you to be able to:

1) make geomorphic measurements (i.e., basic surveying, interpretation of air photos and topographic maps, stream discharge measurements, dating techniques)

2) develop a scientific hypothesis and design a research plan to test a hypothesis

3) comprehend existing geomorphic theory and understand the experimental evidence behind it

4) work effectively and professionally as part of a group

5) clearly and accurately communicate through scientific writing and oral presentations

ASSIGNMENTS & EXAMS

The assignments and exams are designed to help you reach the goals listed above.

Research Notebook

You will need a bound notebook (not wire bound – a composition book or lab notebook that does not have tear-out pages) to bring to **every class**. You will use this notebook to record in-class work. I will collect the research notebooks on **Jan 22, Feb 12, Mar 13, Apr 22** and return them for the next class. I do not expect that this work will be perfect – I don't want you to recopy work after the class. I do expect that it be clear and organized, that you always write the date and the title of the assignment and that you use complete sentences. The idea is that you could reconstruct your work from this notebook. You may need to paste in printouts, graphs, etc. You may also find it easier to use another notebook to record notes in the field (especially if the weather is bad) and you may photocopy and paste these notes into your research notebook. The research notebook will let you practice the very important skill of keeping track of your research – this is vital to doing geomorphology (and all science!).

Paper Discussions

You will read scientific papers and prepare for in-class discussions of those reading on **Jan 24**, **Feb 5**, **Feb 14**, **Mar 4**, **Mar 25**, and **Apr 15.** You will be graded on participation.

Writing Exercises

You will complete 4 mini writing exercises during the first half of the semester. These are designed to prepare you to write a scientific manuscript in the second half of the semester. The assignments are as follows

Writing Exercise	Date details of the assignment will be given	Due date for the assignment
Generating an Abstract	January 24	**January 31**
Writing an Introduction	February 7	**February 14**
Methods and Results Write-up	February 21	**February 28**
Writing a discussion and conclusion	March 6	**March 13**

Scientific Manuscript

You will conduct geomorphic research as a part of this course. After spring break, you will form a team of 4-5 students (a mix of undergrads and grad students, engineers and

geologists). Each team will meet with me on **March 27** to determine a research topic involving either Stony Creek (a rural watershed) or Boneyard Creek (an urban watershed). We will have already visited field sites in these watersheds. Teams will work together to generate and test a research hypothesis with the chance to revisit field sites.

Each student will write a scientific manuscript describing the background, the team's hypothesis, results, and discussion. I will provide more details about this assignment on March 25. Sharing data and ideas is part of the project, but the writing is the work of each individual student. Papers are due on **April 17.**

Final Presentation

You will do a final group presentation based on your team's research. This will be in the format of a presentation given at a national scientific meeting. Your team will have 20 minutes to present your research and then your peers will have 10 minutes for questions and comments. These presentations will be on **April 24 and 29. It is absolutely essential that you be in class for all the presentations!**

Exams

We will have two equally-weighted exams on **February 28** and **April 22.** These will be essay exams, possibly with mathematical calculations and will last ~ 1 hour each. They are not cumulative. The exams will be focused on the reading assignments for the course and you will need to read your textbook and supplemental readings to do well on the exam.

GRADES

I will provide an up-to-date midterm grade for you by **March 6** (after the first exam and before the drop date).

I do not offer extra credit

Letter grades will be figured as follows:

Percentage	Grade	Percentage	Grade
100-94%	A	73-76%	C
93-90%	A-	70-72%	C-
87-89 %	B+	67-79 %	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
77-79%	C+	< 60%	F

Your final grade will weighted as follows:

Research Notebook	**20% in total**	Each grade on the research notebook will be weighted by the number of classes represented (i.e. the first grade for Jan 15-22 will only be worth 3/25 ths of this grade, while the grade from March 25-Apr 17 will be worth 8/25 ths of this grade)
Paper Discussions	**6%**	1% for participation in each discussion
Writing Exercises	**14% in total**	These will be divided as follows: abstract 2%, introduction 4%, methods and results 4%, discussion and conclusion 4%.
Scientific Manuscript	**25%**	
Final Presentation	**5%**	
Exams	**30%**	15% for each exam

CLASS POLICIES

Attendance

Attendance – Attendance is crucial for this class as many of the graded activities (& learning!) will take place during the class. If you miss more than 2 days of class, your grade will likely suffer. Please come talk with me if you must miss class.

Interchangeable Lab and Lecture

I will be teaching both lecture and lab and I think of the time as interchangeable between the two. We will be doing active-learning, in-class activities at all the class meetings and we may be doing field work on either Tuesday or Thursday. I will provide a schedule, subject to change, of planned activities, but please be prepared to work outside during all class periods. Dress for the weather and be ready to get dirty. We will be using the lab and lecture together on Thursdays to do off-campus field work. Feel free to pack a snack or lunch on Thursdays (I will be!).

Late Work

I will accept late work with a penalty of 10% per business day. If you turn in an assignment 1 day late, the maximum grade you can get is 90%, 2 days late, 80%, etc. If there are extenuating circumstances, please come and talk with me.