Geology 1020: Sedimentology/Stratigraphy, Fall 2012

MWF 2:00 - 2:50 pm, Thaw 203

Instructor: Charles E. Jones (cejones@pitt.edu)
Office: SRCC 503
Phone: 624-6347
Office Hours: Whenever. Just drop by when you're in the building, or call ahead.
TA: Matt Finkenbinder will teach the lab on Monday and Tuesday from 3 to 5 pm.

Textbook: **Principles of Sedimentology and Stratigraphy** by Boggs (any edition)
Other Items: **Hand lens** (Required--you will be penalized 10% for each lab in which you do not bring your hand lens.)
Grain size folder (Required--This tool should make it a whole lot easier to accurately and reproducibly describe the size, shape, and sorting of sedimentary particles. These are skills that need to be thoroughly learned.)
Field notebook (Required--The one in the bookstore is an relatively inexpensive 'rite in the rain' notebook. It should last your time at Pitt, but maybe not through summer field camp. If you want to get a thicker book that will last your whole undergraduate, but that is alas more expensive, try the geologists field notebook: http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=3274&title=%D2Rite+in+the+Rain%D2+Field+Books+with+Reference#)
Ruler/protractor (Recommended--this cheap ruler/protractor is extremely handy for structural geology, field camp, and in various other classes. You may as well reap its benefits ASAP.)

Grading: I'm going to try something new this year. Quake in your shoes. I'd like to do a combination of quizzes that focus on relatively factual material and take-home questions requiring short essays. The later will be graded separately for content and writing style. Since I don't know how many quizzes/essay exams I'll assign, I don' t know how much weight to assign to each. However, the content portion will total about 35% of the grade and the writing part will be folded into the writing grade. An in-class final will count 20%.

Quizzes & essay exams:	40%	
Final:	15%	Monday, Dec. 10, 10:00-11:50 pm
Labs:	30%	**Mondays and Tuesdays, 3:00 - 5:00 pm**
Papers:	15%	

Field trips: We will do two field trips this semester. The first will be a one-day trip on **Sunday, Sept. 23**. The goal of this trip is to learn how to log sections and keep proper field notes. The second trip will be on the **weekend of Oct. 12-13-14** (Homecoming week, alas). We'll leave on Friday afternoon (Oct. 12), camp west of State College, PA, and spend Saturday and Sunday visiting a variety of outcrops. The purpose of this trip is to expose you to a wide variety of sedimentary facies and to provide raw observations for the required paper.

Writing: This class counts as one-half of a W for the School of Arts and Sciences. This means you will have to write a substantial paper, I have to edit it, and you have to revise it. Lots of fun for everyone! To give you more practice writing, I am going to try giving out the take-home short-essay exams.

Exams: The final exam will include both short- and long-answer questions. I'll ask a general question, and hopefully you will answer it concisely, crisply, and completely. Labelled sketches will often be the most efficient answer.

Disabilities: If you have a disability that requires special testing accommodations or other classroom modifications, please notify both the instructor and the Disability Resources and Services office no later than the 2nd week of the term. You may be asked to provide documentation of your disability to Disability Resources and Services to determine the appropriateness of accommodations. To notify Disability Resources and Services, call 648-7890 (Voice or TTD) to schedule an appointment. The Office is located in 216 William Pitt Union.

Honor Code: The purpose of a university education is for you to acquire certain skills and to learn how to think. Neither can be done if you copy work from other people. Thus, I expect everyone to fully abide by the University Honor Code. All in-class exams are to be taken without the assistance of books, notes, or other people. When it comes to studying for these exams, or to preparing labs, I encourage you to study in groups and to discuss difficult points. This is not only a good way to learn, but collaborative projects are the norm in academic and business settings. However, unless directed by the TA to work as a group writing up a specific project, people should independently do and write up their own labs. This is the only way to develop your skills!

Official Academic Integrity Policy: Cheating/plagiarism will not be tolerated. Students suspected of violating the University of Pittsburgh Policy on Academic Integrity will be required to participate in the outlined procedural process as initiated by the instructor. A minimum sanction of a zero score for the quiz, exam or paper will be imposed.

Official E-mail Communication Policy: *Each student is issued a University e-mail address (username@pitt.edu) upon admittance. This e-mail address may be used by the University for official communication with students. Students are expected to read e-mail sent to this account on a regular basis. Failure to read and react to University communications in a timely manner does not absolve the student from knowing and complying with the content of the communications. The University provides an e-mail forwarding service that allows students to read their e-mail via other service providers (e.g., Hotmail, AOL, Yahoo). Students that choose to forward their e-mail from their pitt.edu address to another address do so at their own risk. If e-mail is lost as a result of forwarding, it does not absolve the student from responding to official communications sent to their University e-mail address. To forward e-mail sent to your University account, go to http://accounts.pitt.edu, log into your account, click on Edit Forwarding Addresses, and follow the instructions on the page. Be sure to log out of your account when you have finished. (For the full E-mail Communication Policy, go to www.bc.pitt.edu/policies/policy/09/09-10-01.html.)*

Syllabus for those with labs on MONDAYS

	Lecture Topic	Lab	Lab Topic	Lab Readings
Week 1				
M	Weathering	1	Unconsolidated sediments: Size, shape, sorting, composition	Boggs Chapter 3: Physical Properties of Sed. Rocks
W	Weathering (cont.)			
F	Sedimentary Basins			
Week 2				
M	**Labor Day**	2	Labor Day: No class.	-
W	Mass wasting / Glacial Erosion			
F				
Week 3				
M	Fluid Dynamics	3	Identification and Description of Siliciclastic Rocks	Boggs Chapter 5, esp. Sandstones and Conglomerates
W	Bedforms			
F	-			
Week 4				
M	Sediment Gravity Flows	4	Field Methods: Measuring stratigraphic sections, note-taking **(1st field trip Sunday)**	Handouts only
W	**FIRST EXAM**			
F	Stratigraphic Sections			
Week 5				
M	Alluvial Fans	5	Identification and Interpretation of Sedimentary Structures	Boggs Chapter 4 Sedimentary Structures
W	-			
F	-			
Week 6				
M	Braided Streams	6	Identification and Description of Carbonate Rocks	Boggs Chapter 6, especially classification of carbonates
W	Meandering Rivers			
F	-			
Week 7				
M	**Fall Break (Monday classes on Tuesday)**	-	Miscellaneous Rocks	Boggs Chapter 5, section 5.6 diagenesis, plus consult index.
W	Deltas 1			
F	**Leave for field trip!**			
Week 8				
M	Deltas 2, 3, 4	7	Searching the scientific literature	Essay assignment
W	**SECOND EXAM**			
F	-			
Week 9				
M	Beaches	8	Sedimetnary Rocks in Thin Section	Review rock classifications
W				
F	-			
Week 10				
M	Continental Shelves	9	Lithostratigraphy Lab	Chapter 13: Lithostratigraphy
W				
F				
Week 11				
M	Submarine Fans	10	-	-
W	Sequence Stratigraphy			
F	-			
Week 12				
M	Sequence Stratigraphy	11	Seismic Stratigraphy Lab	Boggs Chapter 14, Seismic Stratigraphy
W	**THIRD EXAM**			
F	-			
Week 13				
M	Tidal Flats	-	Sequence Stratigraphy Lab (don't forget posted readings)	Handouts; Boggs Chapter 15 Sequence Stratigraphy
W	**Thanksgiving**			
F	**Thanksgiving**			
Week 14				
M	Carbonates	-	-	-
W	-			
F	-			
Week 15				
M	Carbonate Sequences	-	**Lab Final**	
W	-			
F	-			

Final Exam: Monday, December 10, 10 am to 11:50 am, in Thaw 203

Syllabus for those with labs on TUESDAYS

	Lecture Topic	Lab	Lab Topic	Lab Readings
Week 1				
M	Weathering	1	Unconsolidated sediments: Size, shape, sorting, composition	Boggs Chapter 3: Physical Properties of Sed. Rocks
W	Weathering (cont.)			
F	Sedimentary Basins			
Week 2				
M	**Labor Day**	2	Identification and Description of Siliciclastic Rocks	Boggs Chapter 5, esp. Sandstones and Conglomerates
W	Mass wasting / Glacial Erosion			
F				
Week 3				
M	Fluid Dynamics	3	Identification and Interpretation of Sedimentary Structures	Boggs Chapter 4 Sedimentary Structures
W	Bedforms			
F	-			
Week 4				
M	Sediment Gravity Flows	4	Field Methods: Measuring stratigraphic sections, note-taking **(1st field trip Sunday)**	Handouts only
W	**FIRST EXAM**			
F	Stratigraphic Sections			
Week 5				
M	Alluvial Fans	5	Identification and Description of Carbonate Rocks	Boggs Chapter 6, especially classification of carbonates
W	-			
F	-			
Week 6				
M	Braided Streams	6	Miscellaneous Rocks	Boggs Chapter 5, section 5.6 diagenesis, plus consult index.
W	Meandering Rivers			
F	-			
Week 7				
M	**Fall Break (Monday classes on Tuesday)**	-	Fall Break: Monday classes taught on Tuesday.	-
W	Deltas 1			
F	**Leave for field trip!**			
Week 8				
M	Deltas 2, 3, 4	7	Searching the scientific literature	Essay assignment
W	**SECOND EXAM**			
F	-			
Week 9				
M	Beaches	8	Sedimetnary Rocks in Thin Section	Review rock classifications
W				
F	-			
Week 10				
M	Continental Shelves	9	Lithostratigraphy Lab	Chapter 13: Lithostratigraphy
W				
F				
Week 11				
M	Submarine Fans	10	-	-
W	Sequence Stratigraphy			
F	-			
Week 12				
M	Sequence Stratigraphy	11	Seismic Stratigraphy Lab	Boggs Chapter 14, Seismic Stratigraphy
W	**THIRD EXAM**			
F	-			
Week 13				
M	Tidal Flats	-	Sequence Stratigraphy Lab (don't forget posted readings)	Handouts; Boggs Chapter 15 Sequence Stratigraphy
W	**Thanksgiving**			
F	**Thanksgiving**			
Week 14				
M	Carbonates	-	-	-
W	-			
F	-			
Week 15				
M	Carbonate Sequences	-	**Lab Final**	
W	-			
F	-			

Final Exam: Monday, December 10, 10 am to 11:50 am, in Thaw 203