COURSE SYLLABUS
GEOL 5330 – Mechanics of Sediment Transport, Erosion & Deposition
Fall 2017

Instructor Information:
Instructor: Brandon McElroy
Phone: 766-3601
Office: GEO 311B
E-mail: bmcelroy@uwyo.edu
Office Hours: Wed 9-11 AM
Thu 1-3 PM

Course Information:
Meetings: GEO 311G, MF 11-1

Website: http://geoweb.uwyo.edu/geol5330
Syllabus: http://geoweb.uwyo.edu/geol5330/Syllabus.pdf

Prerequisites: Consent of Instructor. This course relies heavily on calculus, physical mechanics, and differential equations, and without previous exposure to these topics, success in this course will require additional efforts.

Course Description: Erosion, transport, and deposition of sediments are examined from a first-principles basis. Physical processes are derived from principles of conservation applied to flowing fluids and granular transport. These topics are then used to explore landscape and seascape evolution, morphodynamics, and stratigraphic construction.

Objectives/Outcomes/Standards: The objective of this course is to provide access to the empirical and theoretical background that forms the modern basis for evaluating and understanding sediment transport systems. Students who fully participate and complete this course can expect to be prepared to conduct scientific and professional research regarding the sedimentary evolution of Earth's surface, its stability, and its dominant processes.

Text(s) and Readings: No texts or readings are required in this course. The following recommendations are excellent sources to augment lectures and will be on reserve in the Geology library.
Physical Fluid Dynamics, D.J. Tritton
Erosion and Sedimentation, P.Y. Julien
Sedimentation Engineering, M. Garcia (On Electronic Reserve)
Sedimentology and Sedimentary Basins, M. Leeder

Course Requirements/Assignments: This course consists of a series of lectures that will create a coherent description of the processes that shape Earth's sediment covered surface and its shallow subsurface. Along with lectures will be discussions and experimental flume work that coincides with course material and will form the basis for a portion of the required problem sets. The problem sets form a substantial portion of the grading scheme. Because the material is a largely sequential progression, mastery of material along the way is paramount to success, and late problem sets are not acceptable. There will be a final project, and it will constitute the remainder of the graded course material.

Attendance/Participation Policy:

University sponsored absences are cleared through the Office of Student Life. Lectures form the primary content of the course, and therefore attendance and participation is mandatory. If you must be absent, please have a university sponsored absence, or see me first (e.g. if you are to attend a conference, etc.).

Academic Honesty:

UW Regulation 6-802. The University of Wyoming is built upon a strong foundation of integrity, respect and trust. All members of the university community have a responsibility to be honest and the right to expect honesty from others. Any form of academic dishonesty is unacceptable to our community and will not be tolerated [from the University Catalog]. Teachers and students should report suspected violations of standards of academic honesty to the instructor, department head, or dean. Other University regulations can be found at http://www.uwyo.edu/generalcounsel/_files/docs/uw-reg-6-802.pdf

Disability Statement:

If you have a physical, learning, sensory or psychological disability and require accommodations, please let me know as soon as possible. You will need to register with, and provide documentation of your disability to University Disability Support Services (UDSS) in SEO, room 330 Knight Hall.

The instructor may make changes to the syllabus as the course proceeds. If necessary, these changes will be announced in class. Substantive changes made to the syllabus shall be communicated in writing to the students.