Geology 327/527: Geomorphology

9:00-9:50 MWF & 1:00-3:50 Tu

Ag Science 327 & 336

Instructor: Dr. Holly Dolliver
Office: 307 Ag Science
Office Hours: M: 3-4pm; T: 9-11am; Th: 1-3pm (appointments welcomed!)
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General Course Objectives

- Appreciate the diversity and complexity of landscapes and landforms on planet Earth
- Demonstrate knowledge of the physical, chemical, and biological processes that shape our land surfaces and produce unique landforms
- Develop and practice laboratory and field-based research skills for studying and interpreting geomorphic processes
- Understand the application of geomorphology to environmental planning, restoration, and hazard assessment.
- Acquire, read, interpret, and communicate scientific research related to geomorphology from a variety of sources
- Understand how humans interact with landscapes and the impact of human activities on geomorphic processes

Course Schedule *(subject to modification)*

Dates	Topic	Reading- Ritter
Week 1 *January 29 – February 1*	M: Overview and Introductory Material *Lab: Warnings from the Ice* W: Climate Cycling & Ice Ages F: Glacier Formation & Characteristics	pp. 2-19 pp. 34-41 pp. 296-302; 316-318
Week 2 *February 4 – February 8*	M: Glacier Classification *Lab: Aerial Photo and Topo Map Interpretation* W: Glacier Flow F: Glacial Erosion	outside readings/handouts pp. 302-315 pp. 322-328
Week 3 *February 11 – February 15*	M: Glacial Sediments *Lab: Hersey Lobe Characterization* W: Glacial Landforms I F: **Research Symposium #1- Glaciers**	pp. 335-341 pp. 328-334
Week 4 *February 18 – February 22*	M: Glacial Landforms II *Lab: Glacial History of the Upper Midwest* W: Glacial Chronology of North America F: Physical Weathering	pp. 341-356 outside readings/handouts pp. 80-92
Week 5 *February 25 – February 29*	M: Chemical Weathering *Lab: Interpretation of Glacial Landforms* W: **Exam I** F: Soil Formation and Development	pp. 43-58; 92 pp. 58-62; 65-67
Week 6 *March 3 – March 7*	M: Hillslope Form, Catenas & Soil Classification *Lab: Linking Soil Surveys and Glacial History* W: Slope Development & Stability F: **Research Symposium #2- Soils**	pp. 62-65; 67-77 pp. 92-99
Week 7 *March 10 – March 14*	M: Mass Wasting *Lab: Hillslope Stability and Factor of Safety* W: Erosion and Runoff Generation F: Hydrology and Basin Development	pp. 102-125 pp. 173-183 pp. 135-159
Week 8 *March 17 – March 21*	Spring Break!	
Week 9 *March 24 – March 28*	M: Drainage Patterns & Channel Morphology *Lab: Stream Patterns* W: Stream Hydraulics F: Stream Erosion, Transport, & Deposition	pp. 214-225 pp. 190-195 pp. 195-206
Week 10 *March 31- April 4*	M: Fluvial Landforms *Lab: Stream Gauging (field)* W: Fluvial Landforms in Arid Environments F: **Research Symposium #3- Fluvial Systems**	pp. 233-247 pp. 248-269

Dates	Topic	Reading- Ritter
Week 11 *April 7 – April 11*	M: Stream Dynamics *Lab: Effective Discharge* W: Stream Restoration F: **Exam II**	pp. 206-214; 225-231 outside readings/handouts
Week 12 *April 14 – April 18*	M: Karst Development *Lab: Flood Frequency & Hazard Analysis* W: Karst Landforms F: Origin of Arid Regions	pp. 407-418 pp. 419-432 outside readings/handouts
	Saturday Field Trip (8am-5pm)	
Week 13 *April 21 – April 25*	M: Wind Dynamics & Eolian Landforms *Lab: River Warren and Glaciofluvial History of the Midwest* W: Coastal Processes I F: Coastal Processes II	pp. 272-295 pp. 434-445 pp. 445-460
	Saturday Field Trip (alternate date)	
Week 14 *April 28 – May 2*	M: Coastal Landforms *Lab: Soil Profile Descriptions (field)* W: Periglacial Processes F: **Research Symposium #4- Open Topic**	pp. 460-490 pp. 359-376
Week 15 *May 5 – May 9*	M: Periglacial Landforms *Lab: Geomorphology of Mars* W: Ecogeomorphology F: Wrap-up	pp. 377-405 outside readings/handouts
	Final EXAM: Monday May 12, 2008 @ 10:15-12:15PM	

Textbook: *Process Geomorphology,* 4th edition, Ritter, Kochel, and Miller (available at the campus bookstore)

Course Grading

Item	Points
Exam #1	100
Exam #2	100
Final Exam	100
Lab	100
Research Symposiums	50
Total	450

Scheme	
>90%	A- / A
80-89.9%	B- / B / B+
70-79.9%	C- / C / C+
60-69.9%	D / D+
<60%	F

Exams: The exams will focus on "new" material; however, we will be building on many concepts throughout the course so come prepared to demonstrate knowledge of all course materials (especially for the final exam). No make-up exams, except for significant (documented) reasons. If you need to miss an exam for a University sponsored activity, it is your responsibility to schedule the exam *prior* to the event.

Lab: Lab assignments must be type-written unless otherwise specified. Spelling, grammar, neatness, and organization count! Use headings and subheadings when appropriate and be sure to label all figures, tables, and charts.

Research Symposiums: Find, read, interpret, and present (10 minutes) on a recent (2000 or newer) journal article broadly related to the identified topic. Details to follow…

Accommodations for Students with Disabilities: The University of Wisconsin-River Falls welcomes students with disabilities. Students with disabilities are encouraged to contact the Disability Services Office (Room 102 Davee Library) at 715-425-3531 to discuss accommodations.

Academic Dishonesty: Students are expected to complete homework and exams individually, unless otherwise stated. If it is determined that a student has engaged in any form of academic dishonesty in any portion of the academic work for a course, he or she may be given an "F" or an "N" for the assignment/exam.