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**Office hours: Friday, by appointment only**

**DEPARTMENT:** Geosciences

**COURSE PREFIX:** GSC    **COURSE NUMBER:** 336    **CREDIT HOURS:** 4

**I. TITLE:** Principles of Geomorphology

**II. COURSE DESCRIPTION AND PREREQUISITE(S):** In this class you will study the processes shaping Earth’s surface and the landforms and deposits they produce. Three hours lecture and two hours lab per week.

**Prerequisite(s):** officially, no prerequisites needed. However, please realize that geomorphology is a capstone course and will pull from your entire physical, chemical and biological science background.

**III. COURSE OBJECTIVES:**

The student will

- A. understand and apply the unifying concepts (e.g., mass balance, material routing, force balances) used to explain and measure geomorphic processes that shape the Earth’s surface.
- B. improve on their quantitative reasoning skills.
- C. work effectively in small groups to solve geomorphic problems
- D. apply their knowledge of geomorphology to local environmental issues (“Living Lab”)

**IV. CONTENT OUTLINE:**

Week	Date(s)	Topic	Tasks	Lab exercise
1	Aug. 18 & 20	Earth’s Dynamic Surface <i>(Stinchcomb in Bonn, Germany)</i>	a. Read Ch. 1 b. Watch video lectures c. Take Canvas quiz (5 questions)	No Lab exercise
2	Aug. 25 & 27	Geomorphologist’s Tool Kit	a. Read Ch. 2 b. Watch video lectures c. Take Canvas quiz	Lab 1: Driving and Resisting Forces
3	Sept. 1 & 3	Weathering and Soils	a. Read Ch. 3 b. Watch video lectures c. Take quiz	Lab 2: Calibrating Radiocarbon Ages
4	Sept. 8	Weathering and Soils	a. Read Ch. 3 b. Finish video lectures & quiz	
4	Sept. 10	Weathering and Soils <i>Stinchcomb at Paleocology workshop (Cleveland, OH)</i>	a. Read Ch. 3 b. Finish video lectures & quiz	Lab 3: Gravestone weathering exercise
5	Sept. 15 & 17	Geomorphic Hydrology	a. Read Ch. 4 b. Watch video lecture c. Take quiz	Lab 4: Intro to magnetic susceptibility
6	Sept. 22 & 24	Geomorphic Hydrology and Review	a. Read Ch. 4 b. Finish video lectures and quiz	Lab 5: Soil magnetic susceptibility
7	Sept. 29	Hillslopes	a. Read Ch. 5 b. Watch video lecture	Lab 6: <i>Q</i> and sediment yield experiment

			c. Take quiz	
7	Oct. 1	Fall break (no class)		
8	Oct. 6 & 8	Hillslopes	a. Read Ch. 5 b. Finish video lecture and quiz c. review for midterm	No lab, use time to prepare for midterm
9	Oct. 13 & 15	Mid-term exam (Mar. 10) and Channels (Mar. 12)	a. Read Ch. 6 b. Watch video lecture c. Take quiz	Lab 7: Murray Central Park channel dynamics
11	Oct. 20 & 22	Drainage Basins	a. Read Ch. 7 b. Watch video lecture c. Take quiz	Lab 8: Murray Central Park final project
12	Nov. 3 & 5	Drainage Basins ( <i>Stinchcomb at GSA, Baltimore</i> )	a. Read Ch. 7, begin Ch. 8 b. Finish Ch. 7 video lectures c. Finish Ch. 7 quiz	Lab 9: Murray Central Park final project
13	Nov. 10 & 12	Glacial & Periglacial Geomorphology	a. Read Ch. 9 b. Watch video lecture c. Take quiz	Lab 10: Murray Central Park final project
14	Nov. 17 & 19	Quiz & Wind as a Geomorphic Agent	a. Read Ch. 10 b. Watch video lecture c. Take quiz	Lab 11: Murray Central Park final project
15	Nov. 24	Landscape Evolution	a. Read Ch. 14 b. Watch video lecture c. Take quiz	
15	Nov. 26	No class, Thanksgiving	a. Read Ch. 14 b. Watch video lecture c. Take quiz	Lab 12: Murray Central Park final project
16	Dec. 1	Course wrap up	Review course material Prepare final lab presentations	No Lab, prepare for final exam
16	Dec. 3	In-class presentations	Living Lab presentations (ppt in class)	No Lab, prepare for final exam
17	tba	Non-comprehensive final exam	Final exam	

## V. INSTRUCTIONAL ACTIVITIES:

- a. Interactive instruction: In-class exercises – F2F time
- b. Independent learning: reading assignments, video lectures, Canvas quizzes
- c. Direct and indirect instruction: field research, in-class exercises, final project
- d. Experiential learning: group field and class work, final project

## VI. FIELD, CLINICAL, AND/OR LABORATORY EXPERIENCES:

You will participate in field exercises and research that will contribute to your final in-class presentation. Details of the field exercises will be discussed in class. You will also be required to attend one weekend geomorphology trip to Garden of the Gods.

## VII. TEXT(S) AND RESOURCES:

Required textbooks:

Bierman, P.R., Montgomery, D.R., 2013. *Key Concepts in Geomorphology*, Macmillan press, 500 pages.

Anderson, R.S., 2008. *The Little Book of Geomorphology: Exercising the Principle of Conservation*

## VIII. EVALUATION AND GRADING PROCEDURES:

Course grade breakdown:

Component	Weight (%)
Midterm	17.5%
Final	17.5%
Lab	25.0%
Presentation	20.0%
Class Participation & Quizzes	10.0%
Attendance	10.0%
<b>TOTAL</b>	<b>100.0%</b>

The grade scale for this course is:

Percentage	MSU grade scale
90-100	A
80-89	B
70-79	C
60-69	D
0-59	E

## IX. ATTENDANCE POLICY:

The following is the attendance policy for GSC336:

(1) Absences due to personal illness or death in the immediate family or some other extraordinary personal circumstance will require appropriate authentication or documentation that excuses said absence.

(2) Absences due to some University sanctioned event that the student is a representative will be excused provided documentation.

See attendance in course grade breakdown above under **VIII**. Students are also expected to adhere to the MSU Attendance Policy outlined in the current *MSU Bulletin*.

## X. ACADEMIC HONESTY POLICY:

Murray State University takes seriously its moral and educational obligation to maintain high standards of academic honesty and ethical behavior. Instructors are expected to evaluate students' academic achievements accurately, as well as ascertain that work submitted by students is authentic and the result of their own efforts, and consistent with established academic standards. Students are obligated to respect and abide by the basic standards of personal and professional integrity.

**Violations of Academic Honesty include:**

**Cheating** - Intentionally using or attempting to use unauthorized information such as books, notes, study aids, or other electronic, online, or digital devices in any academic exercise; as well as unauthorized communication of information by any means to or from others during any academic exercise.

**Fabrication and Falsification** - Intentional alteration or invention of any information or citation in an academic exercise. Falsification involves changing information whereas fabrication involves inventing or counterfeiting information.

**Multiple Submission** - The submission of substantial portions of the same academic work, including oral reports, for credit more than once without authorization from the instructor.

**Plagiarism** - Intentionally or knowingly representing the words, ideas, creative work, or data of someone else as one's own in any academic exercise, without due and proper acknowledgement.

Instructors should outline their expectations that may go beyond the scope of this policy at the beginning of each course and identify such expectations and restrictions in the course syllabus. When an instructor receives evidence, either directly or indirectly, of academic dishonesty, he or she should investigate the instance. The faculty member should then take appropriate disciplinary action.

Disciplinary action may include, but is not limited to the following:

- 1) Requiring the student(s) to repeat the exercise or do additional related exercise(s).
- 2) Lowering the grade or failing the student(s) on the particular exercise(s) involved.
- 3) Lowering the grade or failing the student(s) in the course.

**If the disciplinary action results in the awarding of a grade of E in the course, the student(s) may not drop the course.**

Faculty reserve the right to invalidate any exercise or other evaluative measures if substantial evidence exists that the integrity of the exercise has been compromised. Faculty also reserve the right to document in the course syllabi further academic honesty policy elements related to the individual disciplines.

A student may appeal the decision of the faculty member with the department chair in writing within five working days. Note: If, at any point in this process, the student alleges that actions have taken place that may be in violation of the Murray State University Non-Discrimination Statement, this process must be suspended and the matter be directed to the Office of Institutional Diversity, Equity and Access. Any appeal will be forwarded to the appropriate university committee as determined by the Provost.

## **XI. NON-DISCRIMINATION POLICY AND STUDENTS WITH DISABILITIES:**

### Policy Statement

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities. For more information, contact the Executive Director of Institutional Diversity, Equity and Access, 103 Wells Hall, (270) 809-3155 (voice), (270) 809-3361 (TDD).

### Students with Disabilities

Students requiring special assistance due to a disability should visit the Office of Student Disability Services immediately for assistance with accommodations. For more information, students should contact the Office of Student Disability Services, 423 Wells Hall, Murray, KY 42071. 270-809-2018 (voice) 270-809-5889(TDD).