

COURSE SYLLABUS
GEOL4320 – Cenozoic Stratigraphy
Spring 2019

Instructor Information:

Instructor: Brandon McElroy

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Office Hours: Wed 9-10 AM

Wed 3-4 PM

Thu 1-2 PM

Course Information:

Meetings: GEO 311G, MWF, 8-8:50

Prerequisites: GEOL 2100 Stratigraphy and Sedimentation. This course covers aspects of the chemical and physical processes of sedimentary environments as related to sedimentary basins created over the last 65 Million years and their geological expression. Beyond the content of GEOL 2100, the preparedness to examine detailed scientific concepts at the 4000-level and the desire to conduct scientific field work are expected.

Course Description: Studies areal distribution, depositional environment, paleohydraulics, provenance, and correlation of global Cenozoic deposits. ***Spring Break Field trip required: Saturday, March 16th – Sunday, March 24th.***

Student Learning Outcomes: The objective of this course is to develop the theoretical background and field methodologies to explore the geological histories and processes recorded in strata of global Cenozoic basins. We will read and interpret scientific literature, develop intuition to explore current hypotheses in sedimentary geology, analyze stratigraphic data within these contexts, and learn to prepare scientific manuscripts in the format of standard peer-reviewed journals..

Text(s) and Readings: No texts are required in this course. There is an electronic coursepack that will be available on WyoCourses. Readings will include a wide range of scientific literature regarding formation, preservation, and exposure of Cenozoic sedimentary basins. We will read and discuss papers from prominent international scientific journals on a weekly basis. These will form the key background for conducting a week of field work during the required trip.

Required Materials: Although no texts are required, you will need to equip yourselves as geologists for this course in order to conduct field work. The most important items are a hand lens (10x magnification), a rock hammer (point-tip or chisel-tip), and materials for taking notes. These materials are also the fundamental tools of a professional geologist. Most of you are studying for a degree in geology or a closely related field, and skill in the use of these items will serve you for your careers.

Course Requirements/Assignments: This course consists of a series of 42 lecture periods. Approximately 5 assignments will be given in the first half of the semester to help develop mastery of concepts given in the weekly lectures. There will also be weekly discussion of readings. Each student will be responsible for leading discussion of 2 readings. During the field trip, we will collect data as a group. The second half of the course will be dedicated to analyzing this data as a group along with continued discussion of relevant readings. The culmination of this course will be individual write-ups (20 pages with figures and references) that describe the field work, its analysis and interpretation. There will also be a cumulative final exam.

Lecture Assignments: Topical assignments will be given approximately once per week during the first half of the semester. These will help reinforce learning of lecture material, and each will be graded with a weight of 3% of your final grade. They will always be due two class periods after they are assigned at the beginning of class (e.g. if assigned on Wednesday, then due the following Monday). No late assignments will be accepted beyond those exceptions allowed by university policy.

Reading Assignments: Each student will be responsible for preparing summaries and leading discussions of two readings. These will be formally graded based on the presentation of the summaries and on the outcomes of the discussions

Manuscript: A principle graded exercise for this course will be preparation of a manuscript in standard scientific format that brings together the background, methods, analysis and results, discussion, and conclusions of each student's field work. The analysis will be discussed as a group during the second half of the semester, but each student is responsible for their own, individual drafting of a manuscript. A first draft will be due approximately two weeks before the last day of classes, and a final draft will be due on the last day of class.

Final Exam: There will be one exam, the final exam. It will be cumulative and consist of no more than 4 essay style questions with possible mathematical/theoretical derivations and calculations.

Grading Standards:

Grades will be based on exams, lab exercises, and quizzes as follows.

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|----------------------|-----------------|
| Final Exam: | 15% |
| Lecture Assignments: | 15% (5 x 3%) |
| Manuscript: | 50% (20% + 30%) |
| Readings: | 10% (2 x 5%) |
| Field Participation: | 10% |

Final grades will be assigned on a standard scale based on weighted (and possibly curved) scores from exams, assignments, quizzes, and lab:

90-100 A; 80-90 B; 70-80 C; 60-70 D; <60 F

Only in very exceptional circumstances will incomplete grades be allowed, and all coursework must be completed in accordance with university policy to receive a passing grade.

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.). In general material cannot be made up for absences.

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

Classroom Behavior Policy:

At all times, treat your presence in the classroom and your enrollment in this course as you would a job. Act professionally, arrive on time, pay attention, complete your work in a timely and professional manner, and treat all deadlines seriously. You will be respectful towards you classmates and instructor. Spirited debate and disagreement are to be expected in any classroom and all views will be heard fully, but at all times we will behave civilly and with respect towards one another. Personal attacks, offensive language, name-calling, and dismissive gestures are not warranted in a learning atmosphere. As the instructor, I have the right to dismiss you from the classroom, study sessions, electronic forums, and other areas where disruptive behavior occurs.

Electronic devices such as mobile phones should be (left at home, set to silent, turned off). Laptops are allowed for note-taking purposes. No video or audio recording during class is allowed to protect the privacy of your fellow students.

Classroom Statement on Diversity:

The University of Wyoming values an educational environment that is diverse, equitable, and inclusive. The diversity that students and faculty bring to class, including age, country of origin, culture, disability, economic class, ethnicity, gender identity, immigration status, linguistic, political affiliation, race, religion, sexual orientation, veteran status, worldview, and other social and cultural diversity is valued, respected, and considered a resource for learning.

Disability Support:

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.

Duty to Report:

UW faculty are committed to supporting students and upholding the University's non-discrimination policy. Under Title IX, discrimination based upon sex and gender is prohibited. If you experience an incident of sex- or gender-based discrimination, we encourage you to report it. While you may talk to a faculty member, understand that as a "Responsible Employee" of the University, the faculty member MUST report information you share about the incident to the university's Title IX Coordinator (you may choose whether you or anyone involved is identified by name). If you would like to speak with someone who may be able to afford you privacy or confidentiality, there are people who can meet with you. Faculty can help direct you or you may find info about UW policy and resources at <http://www.uwyo.edu/reportit>

You do not have to go through the experience alone. Assistance and resources are available, and you are not required to make a formal complaint or participate in an investigation to access them.

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. The most up-to-date syllabus can always be found online.