

**Stratigraphy and Sedimentation**  
**EES 4750/5750**  
**Syllabus**  
v.2 rev. 1/26/2021

**Instructor:** Dr. Robert Mahon, Department of Earth and Environmental Sciences  
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**Office Location:** GP1062, office hours will be online

**Meeting times:** Lectures will be online, asynchronous.  
**Check-in and discussion:** Tuesday 11:00-12:15 via zoom  
**Office Hours:** Thursday 11:00-12:15 via zoom  
**Lab:** Friday 12:00-14:40 Online  
**Final exam:** Tuesday May 18<sup>th</sup>, 10:00 am – 12:00 pm

**Aim:** Students will learn to make detailed observations of stratigraphic deposits from grain to outcrop to basin scales. Students will learn the forms and processes inherent to depositional environments ranging from terrestrial, coastal, to deep marine settings. Finally, students will develop the intuition necessary to link stratigraphic observations with depositional process and environment in order to interpret stratigraphic sequences at all scales.

**Learning Objectives:** Upon completion of this course, you will be able to:

- observe and describe sediments
- characterize weathering and transport regimes from sediment sorting and maturity
- understand kinematics of fluvial bedforms and bedload
- understand the mechanics of deltaic sedimentation
- understand the driving mechanisms of turbidity currents
- observe and describe sedimentary rocks and sedimentary structures
- characterize constituents of carbonate and clastic sediments
- place observations into various nomenclature schemes to name sedimentary rocks
- measure and describe stratigraphic sections
- draft a stratigraphic column
- apply Walther's law of the succession of facies to determine presence of discontinuities in stratigraphic successions
- understand eustacy, subsidence, and accommodation in the context of preservation and geometries of sedimentary sequences
- apply principles of conservation of sediment mass to sedimentary basins
- interpret possible depositional environments of sedimentary sequences from observations
- understand the principles and practices and interpretation of stratigraphic nomenclature

**Course Evaluation**

**Grading:** Total class grade: over 90% = A, 80-89.9% = B, 70-79.9% = C, and 60-69.9% = D.  
All grades and course material will be made available through the course page on Moodle. Please check this site and your student email regularly.

**Extra Credit:** No extra credit will be offered under any circumstances.

**Labs (35%):** The laboratory will be a significant part of your overall course grade. There will be 11 laboratory assignments in total. Labs will be conducted online; however, covid situation permitting samples for some labs will be made available for optional in-person review in GP 1056. For these samples, a schedule will be set up so individual students can sign up for a time to be in the room. Only one student will be permitted in the lab room at a time to maintain covid safety, and students are required to wear a mask, wash hands and use hand sanitizer when handling samples, and sanitize all surfaces after use.

**Exams (35%):** There will be two exams throughout the semester. Exam 1 will cover siliciclastic sediments, depositional environments, and strata and will be worth 15% of the course grade. Exam 2 will be summative and also cover carbonate depositional environments and strata, as well as facies successions, basin architecture, and interpreting depositional sequences. Final exam will be according to the UNO Examination schedule, *Tuesday May 18<sup>th</sup> from 10:00 am - Noon*. Exams will take place online through Moodle and will be timed, open note exams.

**Assignments and participation (30%):** There will be several smaller scale assignments throughout the course of the semester, as well as check-in quizzes throughout the online lectures. Their point value will be individually determined based on scope. In addition, participation in class discussions will be accounted for throughout the semester.

**Textbook:** No textbook purchase will be required for this course. I will refer to Boggs, Principles of Sedimentology and Stratigraphy (ISBN-10: 0321643186) often and it is a good reference text if you would like additional study material. Older versions are often available used for inexpensive prices online.

**Late Assignment Policy:** Any assignment turned in after the specified due date will be considered late. Make-ups will only be given for verifiable written excuses specifically recognized by the University (illness of the student, or of an immediate family member, death of an immediate family member, participation on trips related to certain University functions, major religious holidays). If you miss any classes, you must promptly notify me to make up the material. Make-ups after one week has passed will be permitted only under extenuating circumstances.

**Class Attendance:** Class attendance is considered mandatory, except in the case of University approved absence. Attendance will be recorded via quizzes in online lectures and by zoom attendance for the weekly discussion sessions.

**Academic Honesty:** Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the Academic Dishonesty Policy (<http://www.uno.edu/student-affairs/documents/academic-dishonesty-policy-rev2014.pdf>) for further information. The University policies and procedures regarding academic dishonesty are clearly defined in the University Code of Conduct: <http://www.uno.edu/student-affairs/documents/Student-Code-of-Conduct-rev-7-16.pdf>

**Students with disability:** It is University policy to provide, on a flexible and individual basis, reasonable accommodations to students who have disabilities that may affect their ability to

participate in course activities or to meet course requirement. Students with disabilities should contact the Office of Disability Services (LIB 120) as well as their instructors to discuss their individual needs for accommodations. See the UNO Policy for Students with Disabilities at <http://www.ods.uno.edu/>

**Topics and tentative schedule:**

Week of	Topics	Lab date	Lab topic
2/2	Intro Weathering and sediments	2/5	No Lab
2/9	Sediment transport Sedimentary structures	2/12	Lab #1 Bedforms
2/16	Mardi Gras Holiday Siliciclastic environments – Glaciers	2/19	Lab #2 Fans and deltas
2/23	Siliciclastic environments – Fans Siliciclastic environments – Rivers	2/26	Lab #3 Turbidity currents
3/2	Siliciclastic environments – Deltas Siliciclastic environments – Coasts	3/5	Lab #4 Clastic materials
3/9	Siliciclastic environments – Submarine Siliciclastic environments – Aeolian	3/12	Lab #5 Siliciclastic rocks
3/16	Carbonate systems Invertebrates	3/19	Lab #6 Carbonate constituents
3/23	Midterm Exam	3/26	No Lab
3/30	Non-skeletal allochems and cements Carbonate environments – Peritidal	4/2	Lab #7 Carbonate rocks I
4/6	Carbonate environments – Platforms Carbonate mineralogy and chemistry	4/9	Lab #8 Carbonate rocks II
4/13	Evaporites and diagenesis Non-marine environments	4/16	No Lab
4/20	Carbonates through time Conservation of mass	4/23	Lab #10 Stratigraphic columns
4/27	Eustasy, subsidence Sequences	4/30	No Lab
5/4	Stratigraphic nomenclature Basin analysis	5/7	Lab #11 Sedimentary Basins
<b><i>Tuesday 5/18 Final exam 10:00 am-12:00 pm In Moodle</i></b>			



Check [Registrar's website](#) for items not listed below.

**Spring Semester Important Dates\***

Last day to adjust schedule w/out fee.....	01/28
Semester Classes Begin .....	01/29
Last day to adjust schedule w/fee, or withdraw with 100% refund.....	02/08
Last day to apply for Spring Commencement.....	03/01
Mid-Term grades due.....	03/24
Final day to drop a course or resign .....	04/05
Last Day of Classes .....	05/11
Final examinations .....	05/12-05/18
Commencement.....	05/19-05/20

**Winter Intercession 2021 Important Dates\***

Last day to apply for Spring Commencement.....	03/01
Last day to adjust schedule w/out fee.....	01/03
Semester Classes Begin .....	01/04
Last day to adjust schedule w/fee, or withdraw with 100% refund.....	01/06
Final day to drop a course or resign .....	01/15
Martin Luther King, Jr.'s Birthday Holiday .....	01/18
Final examinations .....	01/22

**Session "B" Important Dates\***

Last day to apply for Spring Commencement.....	03/01
Last day to adjust schedule w/out fee.....	03/22
Semester Classes Begin .....	03/23
Last day to adjust schedule w/fee, or withdraw with 100% refund.....	03/26
Mid-Term grades due.....	03/08
Final day to drop a course or resign .....	04/13
Last Day of Classes .....	05/11
Final examinations .....	05/12-05/18
Commencement.....	05/19-05/20

**Spring Semester Holidays**

Mardi Gras Holiday.....	02/15-02/16
Good Friday Holiday .....	04/02-04/03

**Use of Mask or Face Covering**

[The UNO Student Code of Conduct states](#), "Students will prioritize health and safety of the campus community. As a result of the COVID-19 pandemic (or other declared communicable disease outbreak or pandemics), when in shared, public spaces or where a minimum distance of six (6) feet (or a distance as recommended by latest safety guidelines) cannot be safely maintained, students are required to wear personal protective equipment in the form of a mask or face covering that covers their nose and mouth."

**Withdrawal Policy – Undergraduate only**

Students are responsible for initiating action to resign from the University (withdraw from all courses) or from a course on or before dates indicated in the current Important Dates calendar. Students who fail to resign by the published final date for such action will be retained on the class rolls even though they may be absent for the remainder of the semester and be graded as if they were in attendance. Failure to attend classes does not constitute a resignation. Check the dates and charges associated on the [Registrar's website](#).

**Incomplete Policy – Undergraduate only**

A grade of I is assigned when, due to extenuating circumstances beyond their control, students engaged in passing course work are unable to complete class assignments within the time frame of the course's session. Before agreeing to the use of an incomplete grade in any course, an Incomplete Grade Agreement Form must be completed. Details regarding deadlines for completing the I grade, when the incomplete converts to a grade of F, and a link to the form are on the [Academic Affairs](#) website.

**Repeat Policy**

When a student is permitted to repeat a course for credit, the last grade earned shall be the one which determines course acceptability for degree credit. A student who has earned a C or better in a course may not repeat that course unless, (1) the catalog description indicates that the course may be repeated for credit, or (2) the student's Dean gives prior approval for documented extenuating circumstances.

**Graduate Policies**

Graduate policies often vary from undergraduate policies. To view the applicable policies for graduate students, see the [Graduate Student Handbook](#).

**Academic Dishonesty Policy**

Policies for academic conduct [are here](#).

**Safety Awareness Facts and Education**

Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find [the appropriate resources here](#).

**UNO Counseling Services and UNO Cares**

UNO offers care and support for students in any type of distress. [Counseling Services](#) assist students in addressing mental health concerns through assessment, short-term counseling, and career testing and counseling. First-year students often have unique concerns, and UNO Cares is designed to address those students' needs. Contact [UNO Cares](#).

**Emergency Procedures**

Sign up for emergency notifications via text and/or email at [E2Campus Notification](#). All emergency and safety procedures are explained at the [Emergency Health and Safety Office](#).

**Diversity at UNO**

As the most diverse public university in the state, UNO maintains a Diversity Affairs division to support the university's efforts towards creating an environment of healthy respect, tolerance, and appreciation for all people, and the expression of intellectual point of view and personal lifestyle. The [Office of Diversity Affairs](#) promotes these values through a wide range of programming and activities.

**Learning and Support Services**

Help is within reach in the form of learning support services, including tutoring in writing and math and other supplemental instruction. Visit the [Learning Resource Center](#) in LIB 126.



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## Syllabus Attachment Spring 2021

### **Affirmative Action and Equal Opportunity**

UNO is an equal opportunity employer. The Human Resource Management department has more information on UNO's compliance with federal and state regulations regarding EEOC in its [Policies and Resources website](#).

### **COVID-19 Health-Related Absences**

Students should evaluate their health status regularly, refrain from coming to campus if they are ill, and seek appropriate medical attention for treatment of illness. Students should notify (email) their instructors about their absence as soon as possible, so that accommodations can be made. In the event of COVID-19 illness, students should also complete the [Campus Reporting Form](#). Please note that medical excuse may be required at the discretion of the department chair and/or college dean.