

Instructor: Dr. Ganqing Jiang
Office: LFG 206
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 Phone: 702-895-2708
Laboratories: LFG 105, Friday, 11:30 AM - 2:20 PM
Office Hours: Thursday 1:00 – 2:30 pm and by appointment (walk in is fine)
Required Textbook: Gary Nichols, 2004, *Sedimentology and Stratigraphy*, Blackwell Publishing Company, 355pp. ISBN: 0-632-03578-1
Reference Textbook: Boggs, S., Jr., 2006, *Principles of sedimentology and stratigraphy*, 4th edition, Pearson Prentice Hall, 662pp. ISBN: 0-13-154728-3 (a copy is reserved in Lied Library)
T. A. : Steven Forrester, Email: forres22@unlv.nevada.edu
Office: TEC 114
Office Hours: Will be specified by Steve in his lab syllabus

Objectives:

The purpose of this course is to provide an integrated overview of the sciences of sedimentology and stratigraphy. We will learn the following components: (1) Earth’s surficial processes that control and produce sediments and sedimentary rocks, (2) quantitative description and classification of sedimentary rocks, (3) spatial and temporal models for reconstructing depositional environments, (4) sedimentary sequences and their forming mechanisms, and (5) techniques (e.g., stable isotopes) useful for studying sedimentary rocks and exploring ancient seawater history. The final goal of this course is to provide a comprehensive answer to questions “*What is the paleoenvironmental origin of sedimentary rocks? What controls their lateral and temporal variations? What information can we obtain from sedimentary rocks to reveal the ancient Earth history?*”

Class Background:

This class is designed for senior undergraduates majoring in geology and will integrate materials that you have learned in previous classes. You will demonstrate that you have acquired the requisite skills related to sedimentary geology and acquisition of appropriate writing skills by completing field-based reports, and other assignments and exams. ***Concurrent enrollment in the lab section is required.***

Grading:

Class Attendance and Discussions.....10%
 Midterm Exam.....30%
 Final Exam.....30%
 Lab + research project.....30%

Final grades are assigned on a percentage basis: A = 100-90%, B = 89-80%, C = 79-70%, D = 69-60%, F = 59% or lower; +/- designations are used. Grades will not be curved. This means that you can study together to get great grades because you aren’t competing against each other. Although I encourage you to study and work on projects together, you must turn in original work.

Lecture and Lab Schedule: The following schedule is tentative. We will need Fridays for field trips, and adjustments to the schedule may be made in accordance with the rate of progress in the classroom.

Date	Lecture Topic	Lab Topic	Reading Assignment
(T) Jan. 13	Class Intro, Intro to Sedimentary Processes and Sedimentary Rocks		p. 1-9
(Th) Jan. 15	Terrigenous Clastic Sediments and Sedimentary Rocks		p. 10-24
(F) Jan. 16	<i>Online and Library Research Methods</i> <i>Adobe illustrator basics and powerpoint</i>		<i>computer cluster, LFG105 first</i>

(T)	Jan. 20	Biogenic, Chemical and Volcanogenic Sediments and Rocks	p. 25-36
(Th)	Jan. 22	Sediments: From Source to Destination	p. 37-61, 76-89
(F)	Jan.23	<i>Alluvial-Fluvial Processes and Particle Transportation</i>	
(T)	Jan. 27	Sedimentary Structures	p. 43-61
(Th)	Jan. 29	Sedimentary Structures	p. 43-61
(F)	Jan.30	<i>Sedimentary structures</i>	
(T)	Feb. 3	Environments and Facies	p. 62-75
(Th)	Feb. 5	Siliciclastic Depositional System: Alluvial and Glacial	p. 76-89, 101-116
(F)	Feb. 6	<i>Sandstones/Conglomerates/Mudrocks</i>	
(T)	Feb. 10	Siliciclastic Depositional System: Fluvial and Lakes	p. 116-134
(Th)	Feb. 12	Siliciclastic Depositional System: Delta and Estuaries	p. 135-149
(F)	Feb. 13	<i>Clastic Petrology in Thin Sections</i>	
(T)	Feb. 17	Siliciclastic Depositional System: Coastal Environments	p. 167-180
(Th)	Feb. 19	Siliciclastic Depositional System: Shelf to Basinal Environments	p. 180-206
(F)	Feb. 20	<i>Field Trip to Rainbow Garden</i>	
(T)	Feb. 24	Carbonate Depositional System: An Overview	p. 187-191
(Th)	Feb. 26	Carbonate Depositional System: Peritidal Carbonates and Cycles	Reading Assignment
(F)	Feb. 27	<i>Field trip to Arrow Canyon (a whole day trip; project overview and sampling)</i>	
(T)	Mar. 3	Midterm Review	
(Th)	Mar. 5	Midterm Exam: 11:30 – 11:45, LFG 105	
(F)	Mar. 6	<i>Carbonate Rocks</i>	
(T)	Mar. 10	Carbonate Depositional System: Ramp and Rimmed Shelves	p.187-188
(Th)	Mar. 12	Carbonate Depositional System: Reef Banks and Epeiric	p. 190 and assign
(F)	Mar. 13	<i>Carbonate Petrology in Thin Sections</i>	
(T)	Mar. 17	Microbial Induced Sedimentary Structures (MISS)	Reading Assignment
(Th)	Mar. 19	Stable Isotopes: Concepts and Analyses	Handouts
(Saturday)	Mar. 21	<i>Field Trip to Arrow Canyon (Project field trip, whole day)</i>	
(T)	Mar. 24	Stables Isotopes: Revealing Ancient Climate Changes	Handouts
(Th)	Mar. 26	Diagenesis: An Introduction	p. 215-228
(F)	Mar. 27	<i>Research Sample Preparation (Thin Section)</i>	
(T)	Mar. 31	Stratigraphic Concepts: An Overview	p. 229-240
(Th)	Apr. 2	Stratigraphic Techniques: Fossils and Other Dating Methods	p. 241-263
(F)	Apr. 3	<i>Thin Section Observations (Research Project Samples)</i>	
April 6–11, Spring Break, No class			
(T)	Apr. 14	Sequence Stratigraphy and Sea Level Changes (I)	p. 264-289
(Th)	Apr. 16	Sequence Stratigraphy and Sea Level Changes (II)	p. 264-289
(F)	Apr. 17	<i>GeoSymposium, those who are not attending can do the sample preparation</i>	
(T)	Apr. 21	Subsurface Stratigraphy	p. 290-298
(Th)	Apr. 23	Basin Analysis, Tectonics and Sedimentation	p. 66-74, 299-315
(F)	Apr. 24	<i>Research Project: Data Integration</i>	
(T)	Apr. 28	Final Exam Review	
(Th)	Apr. 30	In-class presentation of the project	
(F)	May 1	<i>In-class presentation of the project</i>	LFG 105
(Th)	May 7	Final Exam: 10:10 – 12: 45, LFG 105 (this is the official exam time)	

Academic Dishonesty Statement

As stated on page 63 of the UNLV 2006-2008 Undergraduate catalog: "Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path.

Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution." You are required to be familiar with university policies and procedures in the current UNLV Undergraduate Catalog. Importantly, we follow the policies on Cheating, Plagiarism, and Academic Dishonesty that are stated in the most recent UNLV Undergraduate Catalog. In the hopes of deterring incidents of cheating and/or plagiarism, this class employs a "zero tolerance" policy, meaning that if a student commits cheating or plagiarism they will receive a grade of F for the class.

UNLV Statement on Disability

Disability Resource Center (DRC) is the official office to provide Disability Services. If you have a documented disability that may require assistance, you will need to contact DRC for coordination in your academic accommodations. DRC is located in Student Services Complex, Room 137. The phone is 702-895-0866, or TDD 702-895-0652. You may also visit our website at <http://studentlife.unlv.edu/disability/>

UNLV Statement on Holidays

It shall be the responsibility of the student to notify the instructor no later than the last day of late registration of his or her intention to participate in religious holidays which do not fall on State holidays or periods of class recess. This policy shall not apply in the event that administering the test or examination at an alternative time would impose an undue hardship on the instructor or the University, which could not reasonably have been avoided.

Diversity Statement

The University of Nevada, Las Vegas, is a premier urban university committed to the enhancement of cultural diversity and the inclusion of all racial and ethnic groups. It is the policy of the University to foster programs which promote diversity and equal opportunity with respect to employment and education. The University of Nevada, Las Vegas, does not discriminate on the basis of race, color, creed, religion, national or ethnic origin, gender, age, sexual preference, disability or veteran status.

Writing Center

Students are welcome to use the UNLV Writing Center free of charge. Consultants can assist students at all stages of the writing process, from generating ideas to developing and polishing later drafts. Students may make 30-minute appointments by calling the Center at 895-3908, or by dropping by FDH 240.

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