

# Sedimentary Rocks (GEO f416M)

Summer 2011

**Lecture:** Meets MTWTHF 10-11:30 AM, JGB 2.216

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**Teaching Assistant:**

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**Laboratory:** Meets in JGB 2.308. There are two laboratory exercises each week. TA will hand out laboratory manual in each session.

Date	Lecturer	Topic	Reading*
2-June	WK	Class Intro: Overview of Sedimentary Deposits	B (Intro), B6
3-June	WK	Sediment Production (Weathering) Grain Parameters	B3 B1
6-June	WK	Grain Mineralogy	B5
7-June	WK	Styles of Sediment Transport Sedimentary Structures	B2 B4
8-June	WK	Controls on Sediment Deposition	
9-June	WK	Sandstone Diagenesis Aeolian Systems	B5 B8.3
10-June	WK	Alluvial Fans	B8.2
13-June	WK	Rivers Deltas	B8.2 B9.2
14-June	WK	Litho -, Bio- & Chrono-Stratigraphy, Facies Models	B12, B14, B15
15-June	WK	Stratigraphic Processes: Controls on Position of the Shoreline Sequence Stratigraphy	B13 B13
16-June	WK	Internal vs. Externally Generated Signals in Stratigraphy Interpreting Basin-scale Stratigraphy	B13, B16 B16
17-June	JL	Chemical Sediments	T&W 1.1 & 2.1
20-June	WK	<b>EXAM 1 (Siliciclastic Sedimentary Rocks)</b>	
21-June	JL	Carbonates Mineralogy and Geochemistry Carbonate Factory	T&W 1.3
22-June	JL	Carbonate Constituents: Skeletal Grains	T&W 1.2
23-June	JL	Carbonate Constituents: Non-skeletal Grains Carbonate Mud & Porosity	T&W 1.4 & 1.9 T&W 1.7
24-June	JL	Carbonate Classification and Facies	B11, T&W 2
27-June	JL	Modern Carbonate Facies and Depositional Systems Carbonate Depositional Systems: Peritidal	T&W 4; S 14 T&W 4.3; S 14
28-June	JL	Carbonate Depositional Systems: Slopes	T&W 2.10
29-June	JL	Carbonate Depositional Systems: Reefs Modern Carbonates	T&W 4.5 T&W 3
30-July	JL	Carbonate Sequences	S 6, 7, & 8
1-July	JL	Dolomite and Dolomitization Evaporites	T&W 8 T&W 7
4-July	JL	<b>EXAM 2 (Carbonate Sedimentary Rocks)</b>	

**LABS**

Date	Topic
Week of 2-Jun	No Lab
6-June	1. Grain Parameters
7-June	2. Grain Mineralogy
8-June	3. Bedform Sedimentary Structures
9-June	4. Other Sedimentary Structures
13-June	<b>Review</b>
14-June	<b>1 LAB Exam</b>
15-June	5A. Reconstruction of Sediment Transporting Conditions in Waller Creek
16-June	5B. Santa Rita #1
20-June	6. Sandstone Diagenesis
21-June	7. Stratigraphic Correlation
22-June	8. Core Logging
23-June	<b>Review</b>
27-June	<b>2 LAB Exam</b>
28-June	9. Deep-water Stratigraphy
29-June	10. Carbonate Rocks and Classification
30-June	11. Carbonate Rocks in Thin Sections
4-July	<b>Review</b>
5-July	<b>3 LAB Exam</b>

**Final Exam:** none

**\*Required course materials:**

- **B: Boggs, *Principles of Sedimentology and Stratigraphy* (4<sup>th</sup> edition)**

- **Hand lens** is required for lab (10X triplet recommended).

Both the textbook & hand lens are available at the University Coop.

**\*Other texts (library reserve):**

**T&W; Tucker, M.E. and Wright, V.P. (1990), *Carbonate Sedimentology*.**

**S: Wolfgang Schlager, (2005), *Carbonate Sedimentology and Sequence Stratigraphy***

**Lecture notes:** Lecture notes and readings from other texts can be found on Blackboard (<http://courses.utexas.edu>).

**Class policy, procedures and grading:** Historically, there is a very strong correlation between exam grades and attendance.

- There will be two lecture exams; each will consist of multiple-choice questions and will be worth 100 points. These two lecture exams will constitute 60% of the final class grade.
  - o There are no make-up lecture exams in this class. Please look at the exam schedule above and make sure that you do not miss any exams.
- There will be four unannounced in-class quizzes. These short quizzes will consist of multiple-choice questions and each will be worth 100 points. The best 3 scores from the 4 unannounced in-class quizzes will make up 10% of the final class grade.
  - o There are no make-up quizzes in this class. If you miss a quiz, that becomes the quiz grade that is dropped. Only one missed unannounced in-class quiz can be substituted for in this manner.
- There will be 3 laboratory exams worth a total of 100 points. The lab score will constitute 30% of the final class grade.
  - o Make-up lab exams are at the discretion of your TA and will be oral examinations.
  - o LAB ATTENDANCE POLICY – More than 3 absences and the final lab score will be deducted 10 points; an additional 5 points will be deducted for each additional 2 absences.
- There are no extra credit assignments in this class.

- Whole letter grades are assigned at the end of the semester based on the distribution of accumulated points (no +/-).

## **COURSE EXPECTATIONS**

• **Laptop Use Policy** – Classroom Laptop use for taking notes related to this course only. Laptop activities unrelated to this course will lead to dismissal from class. **Repeat offenses will result in a filing of a report of academic problems.**

• **Other Electronic Devices (Cell phone, Blackberry, I-Phone, etc.) Use Policy** – **All devices must be turned off during class.** Any use of these devices, including texting, web-surfing, etc. will lead to dismissal from class. **Repeat offenses will result in a filing of a report of academic problems.**

## **IMPORTANT INFORMATION ON UNIVERSITY POLICIES**

### **The University of Texas Honor Code**

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

**Religious Holidays** – Religious holy days sometimes conflict with class and examination schedules. If you miss an examination, work assignment, or other project due to the observance of a religious holy day you will be given an opportunity to complete the work missed within a reasonable time **after** the absence. It is the policy of The University of Texas at Austin that **you must notify each of your instructors at least fourteen days prior to the classes scheduled on dates you will be absent** to observe a religious holy day.

**Documented Disability Statement** - Any student with a documented disability who requires academic accommodations should contact Services for Students with Disabilities at 471-6259 (voice) or 1-866-329-3986 (Video Phone) as soon as possible to request an official letter outlining authorized accommodations. See Website below for more information: <http://deanofstudents.utexas.edu/ssd/providing.php>