Geology 532 Carbonate Petrology and Depositional Systems

Lecture: Tuesday/Thursday 1:10-2:00pm; Breland Rm. 188
Lab: Thursday 2:35 - 5:05pm; Breland Rm. 188
Instructor: Dr. Kate Giles
Office: Breland Rm. 122;
Office Phone: 646-2033; E-mail: kgiles@nmsu.edu
Office Hours: Wed. 9:00-11:00am, 3:00 - 4:00pm;
TTH 9:00 - 10:20am; or by appointment.
Website: http://www.nmsu.edu/~geology/giles/kgiles.html
Graduate Assistant: Breanna Hennessy

Assignments and Grading

Grades will be based on performance on the following:

Weekly Lab (10 labs at 20pts each)	200 pts
Take Home Lab Exam I (March 14 - 21)	100 pts
Field Trip 3: Shelf margin facies, Sacramento Mountains (April 13)	50 pts
Field Trip 4: Permian Reef Complex (April 25, 26, and 27)	100 pts
Written Research Project (Due May 9)	100 pts
Total:	550 pts

Readings

There is no required textbook for this course. However, I strongly suggest purchasing Scholle, P. A. and Ulmer-Scholle, D. S, 2003, A Color Guide to the Petrography of Carbonate Rocks: AAPG Memoir 77, 474 p. Referenced readings will be kept in a file folder box in Breland Rm. 131. Books can be checked out overnight only after 5:00pm and must be returned by 8:00am the following morning. Please do the reading assignment prior to class!

Weekly Lab Assignments

To be worked on during the Thursday lab time period and turned in the following Thursday. Late labs are not accepted.

Research Project

You are each responsible for a written presentation of a carbonate research project involving:
1. measuring and describing a stratigraphic section
2. petrographic analysis of thin sections and hand samples
3. depositional and diagenetic facies interpretation
4. stratigraphic analysis
5. background literature research.

The project will focus on Permian units exposed in the Robledos Mountains. You will each be responsible for petrographic and depositional analysis of a measured section there. We will visit the site Jan. 26, where you will measure and collect samples from the section as a group. We will return as a group during lab on April 3 where we will review a specific aspect of the section again. You will need to have completed the petrographic description, taken photomicrographs of each sample, and classified each sample by then. Bring this information to the field along with the computer drafted measured section. The write up of the research project will be handed in to me by 5:00pm Thursday, May 9. Follow the description of “Components of Carbonate Petrographic Research Paper” for format style.

Field Trips

Four field trips are required for this course. Three of the field trips will be graded based on participation in discussions and quality of your field notes/exercises. Field notes and exercises will be handed in at the end of each field trip.

Field Trip 1: January 26

Review of field area and initial data collection, Robledos Mountains. Depart Breland parking lot at 8:00am and return by 5:00pm.

Fieldtrip 2: April 3

Permian tidal flat facies, Robledos Mountains. Depart noon and return 5:00pm.

Field Trip 3: April 13

Shelf margin facies, Sacramento Mountains. Depart Breland parking lot at 7:30am and return by 5:00pm.

Fieldtrip 4: April 25, 26, & 27

Permian Reef Complex, Guadalupe Mountains, and Carlsbad Caverns. Depart Breland parking lot 1:00 pm on April 25 and return late afternoon on April 27.