

GEO391 (Unique ID: 27925)- 3Credits
GUADALUPE MOUNTAIN STRATIGRAPHY
Spring Semester 2012

Instructors:

Peter Flemings

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Time and Place: Monday. 3-5pm. Room 1.126, EPS

Office Hours: by appointment

Objectives and Expectations: This course will introduce graduate students to the study of sedimentary rocks using the Guadalupe Mountains as our natural laboratory. Our goal is to develop fundamental field skills and to gain a broad geologic understanding of the evolution of the Permian stratigraphy of the Guadalupe Mountains. The Guadalupe Mountains provide superb continuous exposure of a wide spectrum of carbonate and siliciclastic environments across a shelf to basin transect. Students will measure sections, interpret depositional environments, and synthesize observations at multiple locations to infer paleogeographic evolution. We hope that students from a range of subdisciplines participate

The class will meet once a week after Spring Break. During the semester there will be several short field trips to nearby outcrops to establish expectations for measuring and interpreting stratigraphic sections. After the end of the Semester, there will be a 8 day field trip (May 16-24) to the Guadalupe Mountains.

Text: Sedimentary Rocks in the Field, 2003. By Tucker, M. E., John Wiley and Sons, Chichester, United Kingdom, Third edition, 234 p.

Grading: Grading will be judged by participation in class and in the field as well as evaluation of required in-class presentations.

Field Trip:

May 16- Depart: From Austin (6:45 am)

May 16- Arrive Salt Flats—Overview Guadalupes (2 pm)

May 16- Arrive Washington Ranch (6 pm)

May 20-solar eclipse

Field Work: May 17 - May 23

Depart: Carlsbad, N.M., May 24 early morning

Arrive: Austin, May 24

We will camp at Camp Washington Ranch (18 Rattlesnake Springs Road, Carlsbad, NM, 88220) if it has not burned down.

Insurance: All students must have medical insurance (see us if this is an issue).

Schedule of Classes:

<u>Week (date)</u>	<u>Topic</u>
Week 1 (3/26)	Introduction to Course, Academic and Other Expectations, Siliciclastic Classification Rocks—Description, Classification, and Textures
Week 2 (4/2)	Measure Clastic Section (Bastrop—Wilcox Fm.)
Week 3 (4/9)	Roy Guerrero City Park
Week 4 (4/16)	Revisit Clastic Section (Bastrop—Wilcox Fm.)
Week 5 (4/23)	Revisit Roy Guerrero
Week 6 (4/30) & Week 7 (5/7)	Student Presentations—

Critical Field Gear

A) Do not show up on any field trip in course w/out these:

- 1. Rock Hammer**
- 2. HCL and Mineral Oil**
- 3. Field Notebook**
- 4. Sturdy shoes**
- 5. Hat**
- 6. Grain Size chart!**
- 7. Hand Lens**
- 8. Some form of Jacob's staff (or mechanism for measuring section)**

B) For Guads Trip:

- 1. Water Bottles (I carry 3 liters)**
- 2. Lots of sunscreen (SPF 30 or higher)**
- 3. Very sturdy footwear**
- 4. Hat**
- 5. Sunglasses**
- 6. We are camping!—bring tent, sleeping bag, etc.**