

ENGR691: Special Projects
Geology of the Gulf of Mexico Basin
Fall Semester 2013

Instructor: Dr. Louis Zachos, 118G Carrier Hall, 915-8827, lgzachos@olemiss.edu

Office hours: To be announced.

Class Meeting Times: 1 day a week to review papers and progress, time to be arranged.

Classroom: Brevard (Old Chemistry) Room 18 or by other arrangement.

Textbook: None

Course Description: The course will offer students the opportunity to develop an understanding of the general geology and stratigraphy of the Gulf of Mexico Basin. Students will review the tectonic regime, paleogeography, and depositional environments of sedimentary deposits associated with the opening and filling of the Gulf of Mexico Basin. Emphasis will be on the northern Gulf of Mexico region within the coastal plain and territorial waters of the United States. The volume of sediment, ranging in age from Late Triassic to Recent, is estimated to be 24 million cubic kilometers, and contains the major portion of hydrocarbon reserves in the continental United States.

Course Objectives: Students successfully completing this course will ...

1. Be able to describe the general geological framework of the Gulf of Mexico Basin.
2. Understand the variations in sediment type and influx associated with particular depositional environments.
3. Understand the patterns and timing of structural modifications to the deposits attributable to salt tectonics.
4. Summarize a selected local (either spatial or temporal) aspect of the Gulf of Mexico geology in a final paper that will be a reference for later topical work in the basin, to include a comprehensive review of all pertinent literature.

Grading:

Class participation 25%

Final paper 75%

Assessment variations for undergraduate and graduate students: This is an independent study course. The same basic expectations apply to undergraduate and graduate students. Critical review of graduate papers will in general be more rigorous for graduate students.