

# GEOLOGY 5320, Advanced Paleontology

Fall 2014

Instructor: Dave Rohr

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Office hours: 9:30-11:30 a.m. MWF & 11-12 TuTh or by appointment.

Course Outline:

- fossil record
- principles of paleoecology
- variables in the marine environment
- taxonomic uniformitarianism (review of major fossil groups)
- fossil preservation
- examination of specimens from major groups
- functional morphology
- populations and communities
- fossils as sedimentary particles
- evolution
- extinctions
- the early history of life

Methods of Instruction: The course consists of three hours of lecture, Although there is no lab, specimens will be examined during lecture as well as outside of class.

Class attendance policy: Attendance is expected in lectures. If you are going to miss a lecture exam for a legitimate reason, let the instructor know AHEAD of time.

Grading and examinations: Learning outcome assessment will be 70% from lecture exams and 20% from a project, and 10% from homework assignments. Grades are itemized on Blackboard.

First lecture exam: 25 September, 20%.

Second lecture exam: Oct 30, 25%, (only material since the first exam)

Final lecture exam: December 10, 15, 25%, comprehensive.

One day-long field exercise,

Incomplete (I) grades are given where passing work has been done and only a minor part of the requirements are incomplete. Grades are based on a standard curve (100-90=A; 89.99-80=B; 79.99-70=C; 69.99-60=D).

Texts: Paleoecology by Dodd and Stanton (copies will be provided)

Reference Materials: Other books to be used for reference will be provided in the lab. Handouts will occasionally be provided in lecture, and be also be available on line in case you miss the lecture. There is no specific lab book. Previous exams are available on BlackBoard.

Primary Learning Objectives – To understand and apply methods and appropriate technology to the study of the fossils

- to recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing to demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies

- to demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

- to identify and recognize the differences among competing scientific theories

Expected Learning Outcomes – Upon completion of this course, students will apply critical reasoning and problem solving skills to be able to:

- Understand the diagnostic characters of the major fossil taxa.

- Use the diagnostic characters to identify representatives of the major fossil groups.

- Understand the variables of the marine environment (temperature, depth, etc.)

- Understand the effects of the variables of the marine environment on modern major taxa.

- Interpret ancient environmental settings from the paleoecological evidence of fossil taxa.

- Understand the significance of environmental change on evolution.

- Apply the information to examples in the field.

DISABILITY: “It is Sul Ross State University policy to provide reasonable accommodation to students with disabilities. If you would like to request such accommodations because of a physical, mental, or learning disability, please contact the Disabilities Counseling and Disabilities Center in Ferguson Hall, Rm. 112, 837-8203.

Please inform ASAP if accommodation is needed.