

HONR 259C “Fearfully Great Lizards”: Topics in Dinosaur Research

Spring Semester 2007

CCC 1111 12:30-1:45 pm TTh

Instructor: Dr. Thomas R. Holtz, Jr.

Room: Centreville 1216, Office Hours: T 8:30-11:00 am or by appointment

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“The combination of such characters, some, as the sacral ones, altogether peculiar among Reptiles, others borrowed, as it were, from groups now distinct from each other, and all manifested by creatures far surpassing in size the largest existing reptiles, will, it be presumed, be deemed sufficient ground for establishing a distinct tribe or sub-order of Saurian Reptiles, for which I would propose the name of *Dinosauria*.”

-Owen, *British Fossil Reptiles*, 1842

NOTE: It is your responsibility as a student to completely read through and understand this syllabus. If you have questions about it, please contact Dr. Holtz. You will be held responsible for following all requirements of this syllabus.

Course Organization: 2 lectures/discussions per week (Tuesday, Thursday)

Field Trip: 1 non-graded, non-mandatory field trip to the Smithsonian Institution National Museum of Natural History is planned for February 24.

Grade:	Five (5) critical reviews of technical papers	5% each for total of 25%
	Five (5) in-class small group projects	5% each for total of 25%
	Mid-term exam	25%
	Final Exam	25%

All students in a group receive the same grade for that small group project.

Grade Scale: ≥ 90 , A; 80-89, B; 70-79, C; 60-69, D; < 60 , F. “+” and “-” grades are given to the top and bottom two-point range, respectively, within each grade. No separate extra credit assignments are planned for this course.

“Fearfully Great Lizards”: Topics in Dinosaur Research is a CORE course. CORE Distributive Studies courses are designed to ensure that you will take a look at several different academic disciplines and the way they create and analyze knowledge about the world. A faculty and student committee approved this CORE Distributive Studies course because it will introduce you to the ideas and issues that are central to a major intellectual discipline and because it promises to involve you actively in the learning process. Please take advantage of the opportunities this course offers you.

Textbook: *Dinosaurs: The Science Behind the Stories* edited by Judith G. Scotchmoor, Dale A. Springer, Brent H. Breithaupt & Anthony R. Fiorillo (2002, AGI)

Readings: Each student will be responsible for a series of five (5) readings from the primary technical literature. Copies of these papers will be provided by the instructor. Additionally, there will be links to these papers on the website: from a University Account you should have free access to these online versions.

Website: <http://www.geol.umd.edu/~tholtz/H259C/>
Website includes copies of the syllabus, handouts, lecture notes, additional reading resources, etc.

Policies: Academic integrity: The University of Maryland has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are

responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://www.studenthonorcouncil.umd.edu/whatis.html>

The University of Maryland is one of a small number of universities with a student-administered Honors Code and an Honors Pledge, available on the web at <http://www.jpo.umd.edu/aca/honorpledge.html>. The code prohibits students from cheating on exams, plagiarizing papers, submitting the same paper for credit in two courses without authorization, buying papers, submitting fraudulent documents, and forging signatures. The University Senate encourages instructors to ask students to write the following signed statement on each examination or assignment: "I pledge on my honor that I have not given or received any unauthorized assistance on this examination (or assignment)."

Academic Accommodations: If you have a documented disability, you should contact Disability Support Services 0126 Shoemaker Hall. Each semester students with documented disabilities should apply to DSS for accommodation request forms which you can provide to your professors as proof of your eligibility for accommodations. The rules for eligibility and the types of accommodations a student may request can be reviewed on the DSS web site at http://www.counseling.umd.edu/DSS/receiving_serv.html.

Religious Observances: The University System of Maryland policy provides that students should not be penalized because of observances of their religious beliefs, students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. It is the responsibility of the student to inform the instructor of any intended absences for religious observances in advance. **Notice should be provided as soon as possible but no later than the end of the schedule adjustment period (February 6).** Faculty should further remind students that prior notification is especially important in connection with final exams, since failure to reschedule a final exam before the conclusion of the final examination period may result in loss of credits during the semester. The problem is especially likely to arise when final exams are scheduled on Saturdays.

Other: All work on tests, homework, etc. must be your own. Although group study can be very useful, make sure that all your work you turn in is your own.

Absences from exams and small-group projects will not be excused except for those causes approved by University policy (see p. 33-34 of the *UMCP Undergraduate Catalog 2006/2007*). Only those students excused for these causes will be eligible for a make-up exam.

Late materials will not be accepted for grading without written explanation and (where applicable) independent verification. If you are aware that you may miss a class in which a review is due (and consequently in which a small-group project will take place), it is your responsibility to contact the instructor in advance barring unforeseen circumstances; should the circumstances be such that your absence is not predictable in advance, you are required to contact the instructor as soon as reasonable to inform him of your explanation. NOTE: the next class is considered too late for informing the instructor. NOTE ALSO: written explanation does not guarantee that the instructor will accept your material for grading.

Attendance in class is not graded, but is required. The Honors Seminar series is intended to be an experience beyond the standard class; that experience requires close contact with your peers and instructor. Furthermore, your participation in small groups is necessary for your classmates. Additionally, much of the information presented is not available in the textbook. If you cannot make a certain lecture, try and find another student who might lend you their notes. (In fact, establishing a study group early in the course has proven useful for many students in the past.)

Keep up with the required readings! Although the format of the lectures and the chapters do not always match, the readings are important as well. Some of the material to be tested is covered in more detail in the readings than in class.

Readings should be done **prior** to the classtime they are listed.

NOTE: As part of the nature of the course, there will be a lot of memorization (less than a foreign language class, but more than that found in more mathematically-oriented introductory science classes). This will include lots of anatomical, geological, and paleontological terms, as well as evolutionary and temporal relationships. If you have difficulty memorizing, this may not be the class for you. Also, if there are words or concepts with which you are not familiar, feel free to ask Dr. Holtz (in class, after class, over email, etc.) for an explanation or clarification.

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MAIN SYLLABUS

- Jan. 25 Introduction to the Course; “Fearfully Great Lizards” and The Discovery of the Dinosaurs
Readings: Chaps. 1, 2
- Jan. 30 Introduction to the Dinosaurs; Scientific Research Examined
Reading: “The Nature of Science” from *Science for All Americans* (online)
- Feb. 1 The Earth Engine and Deep Time
Reading: Chaps. 5
- Feb. 6 The Fossil Record
Reading: Chap. 13-15
- Feb. 8 Comparative Anatomy, Homology & Analogy
Reading: Chap. 3
- Feb. 13 **Group Project 1: Eaters and Eatees**
DUE: Critical Review 1
- Feb. 15 Evolution
- Feb. 20 Phylogenetics
Reading: Chap. 4
- Feb. 22 Dinosaurs in the Tree of Life
Reading: Chap. 3
- Feb. 24 (Saturday) Field Trip: Smithsonian Institution National Museum of Natural History**
- Feb. 27 **Group Project 2: Trace Fossil Analysis**
DUE: Critical Review 2
- Mar. 1 Dinosaur Diversity I: Ornithischia I
- Mar. 6 Dinosaur Diversity II: Ornithischia II; Sauropodomorpha I
- Mar. 8 Dinosaur Diversity III: Sauropodomorpha II; Theropoda I
- Mar. 13 Dinosaur Diversity IV: Theropoda II
- Mar. 15 **Mid-Term Exam**
- Mar. 19-23 **SPRING BREAK!**
- Mar. 27 Dinosaur Terrestrial Locomotion
Reading: Chap. 14
- Mar. 29 Dinosaur Aerial Locomotion
Reading: Chap. 11
- Apr. 3 Dinosaur Behavior
Reading: Chap. 9
- Apr. 5 **Group Project 3: Functional Anatomy and Biomechanics**
DUE: Critical Review 3

- Apr. 10 Eggs, Babies, and Ontogeny
- Apr. 12 Dinosaur Physiology I
- Apr. 17 Dinosaur Physiology II
- Apr. 19 **Group Project 4: Dinosaur Growth and Behavior**
DUE: Critical Review 4
- Apr. 24 Denizens of the World of the Dinosaurs
Reading: Chaps. 7, 8
- Apr. 26 Cretaceous/Paleogene Extinction I: Cast of Characters and Basic Principles
Reading: Chap. 12
- May 1 Cretaceous/Paleogene Extinction II: Alternative Models Examined
- May 3 **Group Project 5: The Cretaceous/Paleogene Extinction and Recovery**
DUE: Critical Review 5
- May 8 After the Dinosaurs; From Field to Museum
Reading: Chap. 15
- May 10 Dinosaurs in Popular Culture; The Future of Dinosaur Research
Reading: Chap. 16-20
- May 16 (**THURSDAY!**) **Final Exam**, CCC 1111, 1:30-3:30 pm