

Geology 4510: PALEONTOLOGY

Fall 2008

Lecture: MWF, 12:00 - 12:50 pm, PS 103

Lab: W, 2:00 - 4:00 pm, PS 103

INSTRUCTOR: DR. DANIEL A. STEPHEN

email: daniel.stephen@uvu.edu

Office: EN 115 Office hours: M 2-5 pm, *or by appointment*. Phone: 863-8584

TEXTBOOK: *Bringing Fossils to Life*, 2nd edition. Prothero, 2004.

Attention students with disabilities: If you need accommodations for this course, please notify me in writing with a current signed ADA letter from UVU's Accessibility Services Department. The Accessibility Services Department is located on the Orem Campus in WB-146. The phone number is 801-863-8747, or you can access our Advisor for the Deaf by calling the operator at 866-FAST-VRS (866-327-8877) and then give the number, 801-221-0908.

BRIEF COURSE OVERVIEW: In this advanced undergraduate geology class, you will be exposed to a wide variety of topics encompassed within the field of paleontology. Upon successful completion of this course, students will have substantial knowledge of the major groups of life represented in the fossil record. Equally important, students will leave with a solid comprehension of the most fundamental concepts in paleontology, such as key principles of evolution and paleoecology. Most important, students will know what paleontologists do – and why the field is so crucial. Hopefully, you will also come to appreciate why all earth scientists should have at least a basic understanding of paleontology.

Important note: There are two required weekend field trips; dates will be discussed in class.

ACADEMIC MISCONDUCT: Don't cheat -- I take it seriously, and you should too. The following is an excerpt from the UVU "Student Rights and Responsibilities Code":

"Each student is expected to maintain academic ethics and honesty in all its forms including, but not limited to, cheating and plagiarism as defined hereafter:

Cheating is the act of using, attempting to use, or providing others with unauthorized information, materials, or study aids in academic work. Cheating includes, but is not limited to, passing examination answers to or taking examinations for someone else, or preparing or copying other's academic work.

Plagiarism is the act of appropriating any other person's or group's ideas or work (written, computerized, artistic, *etc.*) or portions thereof and passing them off as the product of one's own work in any academic exercise or study."

Fabrication is the use of invented information or the falsification of research or other findings. Examples include, but are not limited to, the following:

citation of information not taken from the source indicated; listing of sources in a bibliography not used in the academic exercise; submission in a paper, thesis, lab report, or other academic exercise of falsified, invented, or fictitious data or evidence; or deliberate and knowing concealment or distortion of the true nature, origin, or function of such data or evidence; submitting as your own any academic exercises (*e.g.*, written work, printing, sculpture, music, computer graphics, *etc.*) prepared totally or partially by another person or group.

No form of academic dishonesty will be tolerated. The penalty for the first offense will be a zero on the assignment or exam. The penalty for the second offense will be a zero for the entire course (= "E", = "Failing"). In addition, students exhibiting any form of academic misconduct will be reported to the UVU Vice President of Academic Affairs for further disciplinary action, possibly including academic probation and/or suspension from the school.

GRADES: You will have the opportunity to facilitate and enhance your learning experience numerous ways this semester by: participating in fun field trips; asking an expert (that's me) questions about topics that intrigue you; reading about how paleontology is done and what some of the important and controversial discoveries have been; practicing your skills through interesting laboratory exercises; engaging in lively class discussions; refining your writing and critical thinking skills by doing a review article on a subject of special interest to you; and, of course, assessing your own progress through daily short quizzes, two midterm exams, and ultimately the final exam. (See following page for more details.)

GRADES: Your grade in this course will be determined by your performance on the following:

Laboratory exercises	25 %
Paper	15 %
Quizzes	10 %
Midterm exams (2@15% each)	30 %
Final exam	20 %

Laboratory exercises: These will be assigned during our regular lab meetings (15 total), which are mandatory. Although the nature of the assignments will vary, the exercises will always include written answers to problems posed by the instructor. Information covered in labs will appear on the tests.

Paper: Students will write a short review paper on a paleontology topic of their choice (subject to instructor approval). You are to select a recent article (within the last ~5 years) from a major scientific journal (e.g., *J.Paleo.*, *JVP*, *Paleobiology*, *Palaeontology*, etc.), and write a two-part paper about it. The first half of your paper should consist of a thorough review of the article, and the second half should include detailed critiques of the methods, analyses, conclusions, and potential applicability of the contribution. The length of your paper should be about 6 to 8 pages of text (i.e., not including title page, bibliography, illustrations, etc.). The paper must be typed in 12-point Times font, with double spacing and 1-inch margins, and must include a complete bibliography. In addition, your first submitted full draft will be edited by a classmate and returned to you for revision; you will also be responsible for editing the paper of one of your classmates, as assigned by the instructor. Students will earn points during each step of the process. More information will be forthcoming.

Quizzes: A short quiz will be given during each scheduled class meeting. It's important that you get to class on time because quizzes will be given at the beginning of class, and extra time will not be given to those who arrive late. Quizzes will be brief: just a few questions that will take no more than about five minutes. The questions will not be very difficult (if you do the reading); they are intended to stimulate thought and to provide you with added incentive to prepare for and attend class.

Midterm exams: There will be two midterm exams, and they will be administered in the classroom. You will be tested on the material covered in class (lectures and labs), as well as the corresponding textbook chapters, and any supplementary reading material. Exams will present diverse question types and may include: sample identifications, true/false, multiple choice, matching, fill in the blank, short answer, drawings/diagrams, and essays. Midterms are closed-book, closed-notes exams.

Final exam: The final exam will be given in the classroom during finals week. The final will be cumulative; you will be tested on all of the material covered in class throughout the semester, including both lecture and lab, as well as information in the textbook, and any supplemental reading material. The format will be similar to the midterms. The final is a closed-book, closed-notes exam.

GRADING SCALE: Letter grades will be assigned as follows:

A: 90–100 % B: 80–89 % C: 70–79 % D: 60–69 % E: 0–59 % (= "Failing")

LATE WORK: It is important that students submit work on time. *Therefore, there will be a 50% penalty on assignments submitted after the beginning of class on the due date but before the following class meeting; no work will be accepted thereafter, except in unusual circumstances and with prior approval of the instructor.*

MAKE-UPS: Students are expected to attend every class meeting and should be present for all exercises, quizzes, and exams. *Therefore, there will be no make-ups, except in unusual circumstances and with prior approval of the instructor.*

OTHER IMPORTANT POLICY NOTES:

Class will begin and end at the scheduled time, and will meet every day for which it is scheduled.

This syllabus is subject to change; any changes will be announced in class.

Tentative Schedule of Events

Date	N.B.	Textbook	Topic
Aug. 27, 29		Ch. 1, 2	Geologic Time; The Fossil Record; Variation
Sep. 1	<i>Labor Day -- holiday -- NO CLASSES</i>		
Sep. 3, 5		Ch. 3, 4	Species, Speciation, and Systematics
Sep. 5	review article selection due (please submit a copy of the proposed article)		
Sep. 8 - 12		Ch. 5, 6	Evolution; Origination and Extinction
Sep. 12	detailed paper outline due (please be sure to use outline style)		
Sep. 15 - 19		Ch. 7, 8	Morphology and Paleocology
Sep. 22 - 26		Ch. 9, 10	Biogeography and Biostratigraphy
Sep. 29	MIDTERM 1		
Oct. 1, 3		Ch. 11, 19	Protists and Plants
Oct. 8	<i>LAST DAY to WITHDRAW from semester classes</i>		
Oct. 6 - 10		Ch. 12	Sponges, Corals, and Archaeocyathans
Oct. 10	review portion of paper due (please include title page, bibliography, illustrations, etc.)		
Oct. 13, 15		Ch. 13	Brachiopods and Bryozoans
Oct. 17	<i>Fall Break -- holiday -- NO CLASSES</i>		
Oct. 20 - 24		Ch. 15	Molluscs and Hyoliths
Oct. 27 - 31		Ch. 14	Arthropods and Annelids
Nov. 3 - 7		Ch. 16	Echinoderms
Nov. 10		Ch. 18	Trace Fossils
Nov. 12	MIDTERM 2		
Nov. 14		Ch. 17	Graptolites and Conodonts
Nov. 17	first full draft of paper due (please submit two identical copies plus edits of review portion)		
Nov. 17 - 21		Ch. 17	Early Vertebrates, Fish, and Early Tetrapods
Nov. 21	detailed paper edits due (please get this done on time, out of respect for your classmates)		
Nov. 24		Ch. 17	Dinosaurs and Birds
Nov. 26 - 28	<i>Thanksgiving Break -- holiday -- NO CLASSES</i>		
Dec. 1 - 5		Ch. 17	Mammals
Dec. 8	final draft of paper due (please also submit all three edited copies of the rough draft)		
Dec. 8, 10		Ch. 17	Human Evolution

Dec. 15 FINAL EXAM : 11 am – 1 pm (Monday)