

INVERTEBRATE PALEONTOLOGY GEOL4030 SYLLABUS SPRING 2009

Lecture Times: 9:10 – 10:05 AM Monday, Wednesday and Friday (KOM 300)

Laboratory Time: 12:40 – 2:40 PM Friday (KOM 300)

Final exam: Friday, May 1, 10:00 AM – 12:00 PM.

Instructor: Dr. Melissa K. Lobegeier

Room: KOM 322B

Phone: (615) 898-2403

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Office Hours: 3:00 – 5:00 PM Monday, Tuesday, and Thursday. After class, walk-in, and by appointment, email encouraged.

Course website: Lectures and notes will be posted on D2L.

Lecture Textbook: Prothero, D.R., 2004, BRINGING FOSSILS TO LIFE: AN INTRODUCTION TO PALEOBIOLOGY, 2nd edition, McGraw-Hill, NYC.

Supplementary Textbooks: Clarkson, E.N.K., 1998, INVERTEBRATE PALEONTOLOGY AND EVOLUTION, 4th edition, Blackwell, NYC.

Levin, H.L., 1999, ANCIENT INVERTEBRATES AND THEIR LIVING RELATIVES, Prentice Hall, New Jersey.

Moore, R.C., ed., 1953-2002, TREATISE ON INVERTEBRATE PALEONTOLOGY, Geological Society of America, New York and University of Kansas, Lawrence.

Course Description: Paleontology is the study of ancient life through the examination of fossils. Paleontologists use fossils to reconstruct the history of life on Earth and some use fossils to look at changes in ecology and climate. You will study the morphological trends, phylogenetic characteristics and evolutionary trends in the major invertebrate phyla. The goals of this course are to give you an understanding and appreciation of what paleontology entails and what paleontologists do and how they do it.

There will be three lectures per week (Monday, Wednesday and Friday) and one laboratory session (Friday). Attendance in both the lectures and lab sessions is compulsory. A good rule of thumb is to spend two or three hours reading and studying for each hour spent on lecture and lab (so you should devote a total of about 10-15 hours a week to this class).

The prerequisite for this course is GEOL1050. Special allowances will not be made for those who haven't taken GEOL1050.

Exams: Exam material includes lecture notes, supplementary material from in-class hand-outs, assigned readings, and the textbook, **Bringing Fossils to Life – Prothero**. Exam material emphasizes topics presented in class. Exams may consist of multiple-

choice, short answer questions, fill in the blanks and essay questions. The final exam will be comprehensive and will cover material from throughout the semester.

Special exam arrangements: If special arrangements (time, location, etc.) are necessary when you take the exam, I require that you notify me via email of the specifics involved two class periods prior to the test date for each exam, as well as confirming the arrangements the class before the exam.

Field Trip: There will be a field trip March 21-22 to a major fossil site in Tennessee (probably Coon Creek and/or Parsons Quarry).

I would like everybody to take part in the field trip, but I recognize the problems of scheduling and student commitments. The field trip will be an opportunity for you to collect fossils for your class project.

Significant dates and deadlines:

January 14	Last day to DROP classes for a 100% refund deadline
January 21	Last day to ADD classes
January 28	Last day for a 75% fee adjustment
January 28	Last day to DROP or WITHDRAW without a grade
February 11	Last day for a 25% fee adjustment
February 16	Exam 1
March 4	Last day to DROP or WITHDRAW with a grade of "W"
March 27	Exam 2
March 21-22	Field Trip
April 22	Last day to withdraw from the University
April 24	Exam 3
May 1	Final Exam

GRADING

Final grades will be calculated on the following scale:

A	= 90 points or above
B+	= 89.9 to 85 points
B	= 84.9 to 80 points
B-	= 79.9 to 75 points
C+	= 74.9 to 70 points
C	= 69.9 to 65 points
C-	= 64.9 to 60 points
D+	= 59.9 to 56 points
D	= 55.9 to 53 points
D-	= 52.9 to 50 points
F	= 49.9 or below

There is no curve to this class.

If your total grade is 90% or more, I'll guarantee an A. I may grade more generously than the above but I promise I won't be tougher. It is possible for EVERYONE to get an A if they do well enough.

Your grade will be based on two of the three mid-semester exams, a final exam, lab work, lab quizzes, a research project, and your participation in class and on the field trip.

Lecture: 50% Lab: 50%

Lecture (100 pts. total):

Mid-semester exams (50 pts.): Three in-class exams will be given, and the lowest score of these will be dropped (i.e. each student's best 2 mid-semester exams will be worth 50 pts.). The final exam is not included in this option and it must be taken. Because you may drop your lowest grade, missed mid-semester exams CANNOT be made up. If you have a problem attending an exam, see me as soon as possible BEFORE the exam. Mid-semester exams will involve short answer and essay questions but may also involve multiple choice, matching, true-false questions and fill in the blank questions. These exams will be held on February 16, March 27 and April 24.

Final exam (30 pts.): The final exam is comprehensive. Final exams will involve short answer and essay questions but may also involve multiple choice, matching, true-false questions and fill in the blank questions. **If you miss the final exam**, contact me immediately and be prepared to explain/document the reason for your absence. If your absence seems legitimate, I will then arrange for you to take the final exam. The final exam will be held on May 1.

Attendance (20 pts.): The attendance policy for this course is taken directly from the MTSU Undergraduate Catalogue (pp. 49-50), and is stated as such:

Class attendance will be monitored during the term. Students who are reported for nonattendance will be assigned a grade of F to appear on their transcripts, and nonattendance will be reported to appropriate agencies. Distribution of future financial aid will be suspended if applicable. The fact that a student may be absent from a class does not, in any way, relieve that student of the responsibility for work covered or assigned during the absence. It is the responsibility of the student to obtain excuses for absences and to arrange with the faculty member in question to make up the work missed. Absences begin with the first date the student is enrolled in class.

Thus, I will take attendance periodically throughout the semester in both lecture and lab classes, which will count for a portion of your grade. The attendance portion of your grade will reflect the percentage of classes you attend (i.e., if I take attendance twenty times, and you are present for seventeen of them, your attendance grade will be 17 points of 20 points).

Laboratory (100 pts. total):

Lab exercises and quizzes (60 pts.): Attendance in the labs is expected. In laboratory periods, you will study various invertebrate fossil groups to lead to a better understanding of the theory taught in lectures. Exercises will be assigned and are due in the next lab meeting (1 week later). If they are turned in late at the next class meeting following the lab (Monday) there will be a 10% grade reduction; at the following class meeting (Wednesday) there will be a 30% grade reduction; and a full week late will garner a 50% grade reduction. Labs won't be accepted for a grade later than 1 week overdue (barring a legitimate excuse). There will be a quiz on the previous week's material at the start of each lab (except for the first lab of the semester) and this quiz will include lecture material as well as that from the lab. If you are late to class and miss the quiz you will receive a grade of 0 for that quiz.

Project (40 pts.): The best way to understand scientific inquiry is to practice it firsthand. Therefore, you will be required to collect, identify, and catalogue 20 different taxa. You will need to complete a report to be handed in with your fossils. Your report will include aspects of stratigraphy, sedimentary structures, taphonomy, and paleoecology at the collection site for each taxon. More specific information will be provided in lab class. This project will be due on the day of the final exam.

Miscellaneous:

To retain Tennessee Education Lottery Scholarship eligibility, you must earn a cumulative TELS GPA of 2.75 after 24 attempted hours and a cumulative TELS GPA of 3.0 thereafter. A grade of C, D, F, or I in this class may negatively impact TELS eligibility. Dropping a class after 14 days may also impact eligibility. If you withdraw from this class and it results in an enrollment status of less than full time, you may lose eligibility for your lottery scholarship. For additional lottery scholarship rules please refer to your Lottery Statement of Understanding form, review lottery scholarship requirements on the web at <http://scholarships.web.mtsu.edu/telsconteligibility.htm> or contact the MTSU financial aid office at 898-2830.

Academic Honesty/Cheating: MTSU's policy on academic misconduct is as follows (excerpted from <http://www.mtsu.edu/~judaff/ainews.pdf>):

It is expected that all work you complete for this course is your own. You are expected to include appropriate citations (when applicable) in all of your work for this course. The University policy for academic misconduct will be followed. Academic misconduct includes the following behaviors:

Academic Misconduct. Plagiarism, cheating, fabrication, or facilitating any such act. For purposes of this section, the following definitions apply:

- (1) **Plagiarism.** The adoption or reproduction of ideas, words, statements, images, or works of another person as one's own without proper acknowledgment.

- (2) **Cheating.** Using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit or hours.
- (3) **Fabrication.** Unauthorized falsification or invention of any information or citation in an academic exercise.
- (4) **Facilitation.** Helping or attempting to help another to violate a provision of the institutional code of academic misconduct.

Any student suspected of committing academic misconduct will be required to meet with me to discuss the situation. Your name will also be forwarded to the Assistant Dean for Judicial Affairs and Mediation Services for possible disciplinary action. If you are found responsible for committing an act of academic misconduct, you will receive an "F" for the course. For more information concerning academic integrity and academic misconduct, please go to the Judicial Affairs website (www.mtsu.edu/~judaff).

****I take cheating and plagiarism very seriously. Please do not harm your future (both educational and professional) by cheating or plagiarizing. Honestly it not only makes me angry, but it hurts personally. It is as if someone has violated my trust. Think about this before committing an act of academic misconduct! ****

Casual conversation with classmates during lecture will not be tolerated. The use of cell phones or audible beepers is not permitted in lecture or lab. Mute or turn them OFF before class begins!

If you have specific questions or want to discuss class material, I am more than happy to meet with you and help. I cannot be your personal tutor, however it is important that you communicate to me any problems you are having that may affect your class performance, your ability to take an exam, or your class attendance.

If you think that you may have a learning disability, contact the Counseling and Testing Center (898-2670; KUC-329) and talk to a counselor.

Notice: If you have a disability (physical, learning, etc.) that may require you to need an accommodation or other assistance, please speak with me as soon as possible. You should also contact Disabled Student Services by calling (615) 898-2783, visiting the office located in KUC, Room 120, or by visiting the Disabled Student Services Web site at www.mtsu.edu/~dssemail.

COURSE OUTLINE (dates subject to change)

Deviations from this outline are routine and expected. Any changes will be announced in class. This outline should give you a general idea of what topics will be covered in which order.

Tentative dates	Topics	Reading
January 16	Introduction and Fossils Preservation	Chapter 1
January 16	Lab 1 Fossil Preservation	Chapter 1
January 19	Martin Luther King Day	
January 21	Taxonomy and Micropaleontology	Chapters 4, 11
January 23	Micropaleontology (Foraminifera)	Chapter 11
January 23	Lab 2 Micropaleontology	Chapter 11
January 26	Micropaleontology (Diatoms, Radiolaria, Coccoliths)	Chapter 11
January 28	Sponges and Archaeocythans	Chapter 12
January 30	Cnidaria	Chapter 12
January 30	Lab 3 Porifera and Cnidaria	Chapter 12
February 2	Phylogenetics and species concepts	Chapters 2, 3
February 4	Evolution I	Chapter 5
February 6	Evolution II	Chapter 5
February 6	Lab 4 Micropaleontology (SEM lab)	Chapter 11
February 9	Biostratigraphy and the time scale	Chapter 10
February 11	Bryozoans	Chapter 13
February 13	Bryozoans	Chapter 13
February 13	Lab 5 Bryozoans	Chapter 13
February 16	EXAM 1	
February 18	Brachiopods	Chapter 13
February 20	Brachiopods	Chapter 13
February 20	Lab 6 Brachiopods	Chapter 13
February 23	Arthropods	Chapter 14
February 25	Trilobites	Chapter 14
February 27	Trilobites	Chapter 14
February 27	Lab 7 Trilobites	Chapter 14
March 2	Functional Morphology	Chapter 7
March 4	Functional Morphology	Chapter 7
March 6	Catch Up Day	
March 6	No Lab	
March 9-13	Spring Break	Chapter 15
March 16	Molluscs	
March 18	Molluscs: Gastropods	Chapter 15
March 20	Molluscs: Bivalves	Chapter 15
March 20	Lab 8 Molluscs: Gastropods and Bivalves	Chapter 15
March 23	Molluscs: Cephalopods	Chapter 8
March 25	Molluscs: Cephalopods	Chapter 8
March 27	EXAM 2	

March 27	Lab 9 Molluscs: Cephalopods	
March 28-29	Class Field Trip	
March 30	Catch Up Day	
April 1	Echinoderms	Chapter 15
April 3	Echinoderms	Chapter 15
April 3	Lab 10 Echinoderms	Chapter 15
April 6	Extinction	Chapter 6
April 8	Graptolites	Chapter 16
April 10	Graptolites	Chapter 16
April 10	Lab 11 Graptolites	Chapter 16
April 13	Mass Extinctions	Chapter 6
April 15	Trace Fossils	Chapter 17
April 17	Trace Fossils	Chapter 17
April 17	Lab 12 Trace Fossils	Chapter 17
April 20	Paleoecology & Paleoclimatology	Chapter 18
April 22	Catch Up Day	
April 24	EXAM 3	Chapter 18
April 24	Lab 13 Work on Research Projects	Chapter 18
April 27	Review/Work on Research Projects	
April 29	Review/Work on Research Projects	
May 1	FINAL	