GEOS-308; BIOL-308 BIODIVERSITY THROUGH TIME FALL 2008

INSTRUCTOR

Dr. David Goodwin
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Office Hours: Monday & Wednesday, 1:30–2:20; or by appointment

MEETING TIMES

Lecture: MWF 11:30-12:20, Olin 312; Lab: T 1:30-4:20, Olin 312

REQUIRED TEXTS

- Clarkson, E., 1998, Invertebrate Palaeontology & Evolution, 4th ed., Blackwell Science Ltd., Oxford, UK. ISBN: 0632052384.
- Knoll, A., 2003, Life on a Young Planet: The First Three Billion Years of Evolution on Earth, Princeton University Press, Princeton, NJ. ISBN: 0691120293.
- Erwin, D., 2006, Extinction: How Life on Earth Nearly Ended 250 Million Years Ago, Princeton University Press, Princeton, NJ. ISBN: 0691136289.
- Carroll, S., 2005, Endless Forms Most Beautiful: The New Science of Evo Devo, W. W. Norton & Co, New York, NY. ISBN: 0393327795.

GRADING

Lab Exercises	20%	Lab Exam	20%
Research Project	10%	Final Exam	20%
Lecture Exams (2)	20%	Book Groups	10%

Lab Exercises Each week you will complete a laboratory exercise and/or field project. You are required to hand in a *complete* and *thoughtful* report for each exercise. Reports are due at the beginning of class on the Monday following the lab.

Research Project Each student will research, prepare and display a poster at our end-of-semester paleo research symposium. You may choose the subject of your own research project, however, each will focus on a different taxonomic groups. You will receive additional information about the research project in the second week of the semester. Nevertheless, you should start thinking of potential topics now.

Lecture Exams These should be self-explanatory. They will cover material discussed in lectures since the previous exam.

Lab Exam This hands-on exam will focus on topics covered in our lab exercises. Special emphasis will be placed on identifying fossil specimens, age determination paleoecological significance.

Final Exam This cumulative exam will touch on all aspects of the material covered throughout the semester.

Book Groups We will read three books this semester (see above). After completing each book, we will meet for "book group." These meeting will take the form of seminar discussions. Prior to each book group, each student will submit a list of discussion questions. You will be evaluated on the quality of your submitted questions and on you participation in the actual book group discussion.

ATTENDANCE AND LATE WORK POLICY

While I do not officially take attendance, I expect you to attend all lectures. You are required to attend all labs. There will be no make-up labs, quizzes or exams and late work will not be accepted. I expect each and every student to make appropriate, insightful and sustained contributions throughout the semester.

ACADEMIC INTEGRITY

Denison University students and the faculty in the Department of Geosciences are committed to academic integrity and will not tolerate any violation of this principle. Academic honesty, the cornerstone of teaching and learning, lays the foundation for lifelong integrity. Academic dishonesty is, in most cases, intellectual theft. It includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for evaluation. This standard applies to all work ranging from daily homework assignments to major exams. Students must clearly cite any sources consulted—not only for quoted phrases but also for ideas and information that are not common knowledge. **Neither ignorance nor carelessness is an acceptable defense in cases of plagiarism.** It is the student's responsibility to follow the appropriate format for citations. As is indicated in Denison's Student Handbook, available through mydenison.edu, instructors **must** refer every act of academic dishonesty to the Associate Provost, and violations may result in failure in the course, suspension, or expulsion. For further information, see:

http://www.denison.edu/student-affairs/handbook/ar03s02s01.html

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DISABILITY STATEMENT

Any student who feels he or she may need an accommodation based on the impact of a disability should contact me privately as soon as possible to discuss his or her specific needs. I rely on the Academic Support & Enrichment Center in 102 Doane to verify the need for reasonable accommodations based on documentation on file in that office.

WRITING CENTER

The Center is a free resource available to all Denison students. Student writing consultants from many majors help writers one-on-one in all phases of the writing process, from deciphering the assignment, to discussing ideas, to developing an argument, to finalizing a draft. Because proofreading is a last step in that process, writers should leave plenty of time for getting their ideas right before expecting proofreading help. Consultants also can help writers with personal documents, like job and internship applications. The Center is located on the fourth floor of Barney-Davis Hall; satellite locations are on the third floor of the Library (the Entry level) and the first floor of Fellows near the Computer Lab. Appointments between 4 p.m. and 9 p.m., Sunday through Thursday, can be made in the Barney location on-line at:

http://www.denison.edu/academics/writingcenter/index.html

The satellite locations are drop-in; check the website at http://www.denison.edu/writingctr/ for those hours.

HOW TO DO WELL IN BIODIVERSITY THROUGH TIME

- Come to class! You are responsible for everything said during our meetings—this includes unannounced quizzes and modifications to the syllabus. But most importantly, this is the best place to clarify problems and ask questions.
- Read the assigned material before you come to class. I guarantee you will perform better if you know what to expect at the beginning of class. Furthermore, you will be able to understand more complex concepts rather than struggling with the basics.
- Take a few minutes every day to work on this course. Sometime after class take a look at your notes. It will not take much time—probably less than 15 minutes. You will be amazed, you will remember more than you ever thought possible. If you follow my advice, you may never cram for an exam again.
- If you have questions—about anything—come and talk with me. I am usually pretty busy, but you will find I will make time for you.
- Be an active learner. **This is your education and you get out what you put in.** I am here to share information with you, so think of me as a resource. I love what I do and am happy to talk with you about class material (or most anything else for that matter). Remember, I am here to help.
- Lastly, have fun!

TENTATIVE SCHEDULE (SUBJECT TO CHANGE)

LECTURES

Week	Dates	Topic
1	9/1-9/5	Fossil Preservation & Taphonomy
2	9/8-9/12	Temporal Changes in the Nature of the Fossil Record & Describing and Measuring Aspects of Form
3	9/15-9/19	The Nature of Growth and Development
4	9/22-9/26	Populations & Species
5	9/29-10/3	Naming and Description of Species & Phylogenetics
6	10/6-10/10	Geological Society of America **(Book Group I: Knoll, 2003)**
7	10/13-10/17	Functional Morphology & Theoretical Morphology **MIDTERM EXAM I (Friday, October 17)**
8	10/20-10/24	Evolutionary Rates and Trends
9	10/27-10/31	Global Diversification
10	11/3-11/7	Extinction **(Book Group II: Erwin, 2006)**
11	11/10-11/14	Paleocommunities & Evolutionary Paleoecology
12	11/17-11/21	Paleoenvironmental and Paleoclimatic Reconstruction & Paleobiogeography **MIDTERM EXAM II (Friday, November 21)**
	11/19-11/23	THANKSGIVING BREAK
13	11/26-11/30	Ediacaran Biota & Cambrian Explosion & Paleocene—Eocene Thermal Maximum **Paleontology Research Symposium (Friday, November 30)**
14	12/5-12/9	*Homo* Evolution & Pleistocene Megafaunal Extinctions **(Book Group III: Carroll, 2005)**
	12/18	**CUMULATIVE FINAL EXAM (9:00-11:00 AM)**

LABS

Week	Dates	Topic	Reading
1	9/2	Fossil Preservation & Taphonomy	Handouts
2	9/9	NO LAB: DEPARTMENTAL FIELD TRIP	
3	9/16	Classification, Systematics, Cladistics	Handouts
4	9/23	Protista and Porifera	Clarkson: Chapter 4
5	9/30	Cnidarians	Clarkson: Chapter 5
6	10/7	TBD	
7	10/14	Lophophorates	Clarkson: Chapters 6 & 7
8	10/21	Arthropods	Clarkson: Chapter 11
9	10/28	Mollusks	Clarkson: Chapter 8
10	11/4	Echinoderms	Clarkson: Chapter 9
11	11/11	Miscellaneous Fossil Groups	Clarkson: Chapter 10 + handouts
12	11/18	Dinosaur Locomotion	Handouts
	11/25	THANKSGIVING BREAK	
13	12/2	Trace Fossils	Clarkson: Chapter 12
14	12/9	**Lab Exam**	