

PALEONTOLOGY (GEOS 330) - LECTURE SYLLABUS (Spring 2008)

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OFFICE HOURS: M&W 10:30-11:45AM
M&R 5:15-6:30PM

DATE LECTURE TOPIC

Jan.	15	1	Subdisciplines of paleontology
	17	2	Environmental Zones and modes of life
	22	3	Arthropoda I - phylum overview and trilobite anatomy
	24	4	Arthropoda II - ecology and functional morphology of trilobites
	29	5	The utility of non-foraminiferan protists (diatoms, radiolarians, coccolithophorids, and palynomorphs)
	31	6	Foraminifera: biology, ecology, biostratigraphy, and paleoceanographic utility
Feb.	5	7	Phylum Mollusca: a phylogenetic concept (phylum overview) - "minor groups" and Bivalvia
	7	8	Mollusca II - ecology and biostratigraphic use of the Gastropoda and Cephalopoda
	12	9	Phylum Porifera (Sponges & spongiomorphs) - a unique multicellular design: Phylum Cnidaria - an introduction to corals
	14	10	Cnidaria (cont.) and Phylum Bryozoa (colonial Lophophorates)
	19	11	EXAM #1 (60 points)
	21	12	Phylum Brachiopoda: form/ecology of solitary lophophorates
	26	13	Ichnology – the variety and utility of trace fossils
Mar.	28	14	Taxonomy I - procedure in taxonomy and paleontological species
	4	15	Taxonomy II - suprageneric classification and phylogeny reconstruction (phylogenetic systematics or “cladistics”)
	6	16	No class (release time for weekend field trip)
	11 & 13		SPRING BREAK
	18	17	Echinoderms – a unique invertebrate phylum
	20	18	Biostratigraphy - concepts, methods, and objectives
	25	19	Biostratigraphy (continued)
	27	20	Paleobiogeography - faunal provincialism, terrane analysis, and intercontinental correlation
	1	21	Vertebrate paleontology I – Paleozoic vertebrates
	3	22	Vertebrate paleontology II – Pterosaurs, marine reptiles, and other “pseudodinosauurs”
Apr.	8	23	EXAM #2 (65 points)
	10	24	Paleobotany I - nature of the paleobotanical record
	15	25	Paleobotany II - ecology of ancient floras and paleoclimatology

17	26	Vertebrate paleontology III – Saurischian dinosaurs: the Theropoda and Sauropodomorpha
22	27	Vertebrate paleontology IV - Ornithischian dinosaurs (Ornithopods and Thyreophorans)
24	28	Vertebrate paleontology V - other Ornithischian groups

FINAL EXAM - 8:00-10:00 AM Thursday, May 1 – (75 points)

GRADING: Roughly 90-80-70-60 percentage score of 500 points possible during the semester. Lecture exams account for 200 points, lab exams for another 140 points, and lab exercises for 110 points. The subjective participation score that I assign accounts for the other 50 points. In terms of percentages:

- (40%) a) Lecture - 3 exams (dates and point values provided above); in each, you'll be asked to (1) define 10 paleontological terms (20%) and (2) answer short essay questions on ecology, classification, evolution, stratigraphic use, and other aspects of groups discussed in lecture, described in assigned readings, and examined on field trips (80%).
- (50%) b) Lab - 2 exams ("open-book/note/etc.")* @ 70 points each (140 pts.)
- exercises (110 pts.)
- (10%) c) Extent and quality of participation in lecture, lab, and field trips.

* The “open-book” aspect of the lab exams has one critical restriction – you may consult any source (books, notes, web-resources) *EXCEPT* for another person. Your work on those exams must be yours alone; you are strictly prohibited from seeking any input from classmates, professors, or any other individuals in completing those assignments.

PALEONTOLOGY LAB SYLLABUS - SPRING 2008

DATE	LAB #	TOPIC OR ACTIVITY
Jan. 16	1	No Lab (Release time for weekend field trips)
23	2	Phylum Arthropoda - classification of trilobites and other fossil arthropods (<u>Exercise due at start of next lab</u>)
30	3	Microbialites and protists - the fossil record of unicellular organisms (<u>Exercise due at start of next lab</u>)
Feb. 6	4	Phylum Mollusca - classification of mollusks and functional morphology of bivalves (<u>Exercise due at start of next lab</u>)
13	5	Calcareous "colonial" fossils: Porifera, Cnidaria & Bryozoa
15-27		EXAM #1: Open-book/notes/etc. - (<u>due at start of lab 2/27</u>)
20	6	Phylum Brachiopoda
27	7	Ichnofossils – Trace fossils and their utility (<u>Exercise due at start of next lab</u>)
Mar. 5	8	Paleobiogeography Exercise – Interpreting faunal (dis)similarity
Mar. 12		SPRING BREAK
19	9	Echinoderms and Chordates (<u>Exercise due at start of next lab</u>)
26	10	Biometrics Exercise (<u>due at end of day, Friday April 4</u>)
Mar 29-30		WEEKEND FIELD TRIP: Paleozoic of Ohio & northern Kentucky (Apr. 12-13 as bad-weather back-up)
Apr. 2	11	"In Lab" Field Trip** - Late Paleozoic (Pennsylvanian) marine faunas of the Conemaugh Group – paleoecology and taphonomy
9	12	Graptolites, conodonts, and chronocorrelation
April 13		SUNDAY FIELD TRIP: Paleozoic marine communities, central PA
16	13	Kingdom Plantae - the paleobotanical record
April 18-May 2		EXAM #2: (<u>due by noon, Monday, May 2</u>)
23	14	Bivariate Graphic Correlation.

*Sunday (Apr. 13) field trip leaves from 106 Walsh Hall at 7:00 AM - will return after dark - pack a lunch or plan on "fast-food" stop(s).

**"in lab" field trip will leave from 106 Walsh at 2:00 and return at 4:45.