

INTRODUCTION TO PALEONTOLOGY

Geology 415 - Lecture Schedule

2009 UND Fall Semester

Lectures -- Monday, Wednesday, Friday; 9:00-10:00 a.m., 211 Leonard Hall

Labs -- Monday, 2:30-5:00 p.m., 209 Leonard Hall (and arranged)

TEXT -- Prothero, D.R., 2004, Bringing Fossils to Life: Boston, 2nd ed., WCB McGraw-Hill, 503 p.

Extra Credit Available for Attendance of LEEPS Lectures

Date	Lc#-Day	Topic/Reading (PDF Syllabus)
26-Aug	1- Wed	Introduction to Paleontology: A quick course overview Class goals and dynamic course structure; Knowledge Survey and its purpose Field Trip Announcement and Term Project(s) The Writing of Notes -- How Much Art, How Much Skill? Reading: Ch. 1, and review PowerPoints 1-3
28-Aug	Fri-Sun	Field Trip 2009j to Southwestern North Dakota and PTRM
31-Aug	2-Mon	No Class (field trip)
2-Sep	3-Wed	Matt Weiler on the taphonomy of White River fossils
4-Sep	4-Fri	Paleontology - A historical perspective; and telling geologic time Geological reasoning (The Fossil Record) Reading: Ch. 1
7-Sep	5-Mon	Labor Day Observance: No class
9-Sep	6-Wed	Taphonomy: Fossilization and data retrieval from the fossil record Reading: Chs. 1, 18
11-Sep	7-Fri	Taphonomy: The unaltered fossil record (soft-bodied)Reading: Chs. 1, 18 Reading: Chs. 1, 18
14-Sep	8-Mon	Taphonomy: The unaltered fossil record (hard-bodied)Fossil Lagerstätten occurrences (The best of the best) Reading: Chs. 1, 18 Discuss Term Project Topics.
16-Sep	9-Wed	Taphonomy: The very altered record Reading: Chs. 1, 18
18-Sep	10-Fri	Taphonomy: Trace fossils Reading: Chs. 1, 18 Student Decision on Term Project Topic

21-Sep	11-Mon	Test 1 (in class). Reading: Chs. 1, 18
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1	23-Sep	12-Wed	Evolution: Variation in fossils Reading: Ch. 2 Student Decision on Term Project Topic
2	25-Sep	10-Fri	Test 1 review Evolution: Basic concepts, historical perspective from the Greeks to Lamarck; Reading: Ch. 5
3	28-Sep	11-Mon	Evolution: Basic concepts, historical perspective featuring Lamarck and Cuvier Evolution: Darwin, Species concepts, problems and Darwin Reading: Chs.3, 5
4	30-Sep	12-Wed	Evolution: species concepts, Mendel, mutations to the Modern Synthesis Reading: Chs. 3, 5
5	2-Oct	13-Fri	Evolution: Paleontology and speciation (patterns of evolution) Reading: Chs. 3, 5 UND GGE Homecoming Event: A.G. Leonard Banquet
6	5-Oct	14-Mon	Macroevolution and extinction Reading: Ch. 6
7	7-Oct	15-Wed	Systematics: Ordering diversity Reading: Ch. 4
8	9-Oct	16-Fri	Systematics: Taxonomy and classification Reading: Ch. 4
9	12-Oct	17-Mon	Systematics: Taxonomic nomenclature Reading: Ch. 4
10	15-Oct	18-Wed	Phylogenetic/Evolutionary systematics Reading: Ch. 4 Term project discussions
Test 2 turned out			
	17-Oct	19-Fri	<i>Geological Society of America Annual Meeting (Portland)</i>
	19-Oct	20-Mon	<i>Geological Society of America Annual Meeting (Portland)</i>
	21-Oct	21-Wed	<i>Geological Society of America Annual Meeting (Portland)</i>
1	23-Oct	22-Fri	Test 2 due at beginning of class (only)
			Analysis of Term Project Papers Evolution: Functional Morphology Reading: Ch. 7
2	26-Oct	23-Mon	Paleoecology: Principles, approaches Reading: Ch. 9

- 3 28-Oct 24-Wed Paleocology: Niche -- Ways of making a living
Reading: Ch. 9
- 4 30-Oct 25-Fri Paleocology: Physical controls on organism distribution
Reading: Ch. 9
- 5 2-Nov 26-Mon Paleobiogeography: Subdividing the planet
Reading: Ch. 9
- 6 4-Nov 27-Wed Disperalist paleobiogeography
Reading: Ch. 9
- 7 6-Nov 28-Fri Telling geologic time
Reading: Ch. 1

9-Nov	29-Mon	Test 3 (in class) Chapters 1, 7, 9
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- 11-Nov 30-Wed ***Veteran's Day Observance: No Class***
- 1 13-Nov 31-Fri Stratigraphy: General; Lithostratigraphy: Principles
Reading: Ch. 10
Final writing style guide for term paper provided.
- 2 16-Nov 33-Mon
Biostratigraphy: Principles and historic development of biostratigraphy and chronostratigraphy
Reading: Ch. 10
- 3 18-Nov 34-Wed Ecosystem Evolution: Archean and Proterozoic life, micropaleontology
Reading: Ch. 11 and assigned reading
- 4 20-Nov 35-Fri Ecosystem Evolution: Cambrian divergence
Reading: Chs. 12-16 (selected) and assigned reading

23-Nov	36-Mon	Term Project Papers Due at Beginning of Class
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- 5 Ecosystem Evolution: Marine fauna of the Paleozoic I
Reading: Chs. 12-16 (selected) and assigned reading
- 6 25-Nov 37-Wed Ecosystem Evolution: Marine fauna of the Phanerozoic II
Reading: Chs. 12-16 (selected) and assigned reading
- 27-Nov 37-Fri ***Thanksgiving Holiday related observance: No Class***
- 7 30-Nov 38-Mon Ecosystem Evolution: Marine fauna of the Mesozoic and Cenozoic III
Reading: Chs. 12-16 (selected) and assigned reading
- 2-Dec 39-Wed **Presentation of Term Project Papers Student evaluation of presentations**

- 8 4-Dec 40-Fri Ecosystem Evolution: Invasion of the Land (Paleozoic), Earth's Green Mantle: Paleobotany I
Reading: Ch: 19
- 9 7-Dec Mon Vertebrates and their relatives I
Reading: Ch. 17 (selected) and assigned reading
- 10 9-Dec Wed Vertebrates and their relatives II
Reading: Ch. 17 (selected) and assigned reading
- 11-Dec Fri ***Reading and review day***

14-Dec	Mon	Final Exam at 8:00 a.m.
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22-Dec Tue Grades due, December 23, Twamley