

**MEA 102, GEOLOGY II: HISTORICAL  
Spring Semester, 2002**

**INSTRUCTOR:** Dr. Elana (Lonnie) Leithold  
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**CLASS MEETING TIME AND PLACE:** 12:25-1:15 MWF, Rm. 1109 Jordan Hall

**OFFICE HOURS:** Monday and Wednesday 1:15-2:15, or by appointment

**TEXT:** Evolution of the Earth by Donald Prothero and Robert Dott (6<sup>th</sup> edition)

**COURSE WEB PAGE:** <http://courses.ncsu.edu/mea102/lec/001/>

**COURSE GRADING:** Your grade in the course will be based on:

Three exams (100 points each). Your highest exam score will be doubled.	400 points
Final exam	150 points
Five Quizzes (10 points each)	50 points
Research assignment	50 points

This course will be graded on a +/- basis.

**ATTENDANCE POLICY:** Regular attendance of classes is expected of all students at NCSU, and, as an instructor of a 100-level course, I am required to keep attendance records. This course moves quickly and we cover a lot of material that is not in the textbook. You will be at a substantial disadvantage if you miss the lectures and make-up exams and quizzes will only be given in cases where your absence is explicitly excused. Examples of excused absences include: participation in an official university function, certified required court attendance, religious observance, illness or injury certified by an attending physician, death or serious illness in the family. If you intend to have an absence excused, you must discuss it with me before or within one week after the absence. **Five points will be deducted for each unexcused absence above three.**

**HOW TO SUCCEED IN THIS COURSE:** I think that you will find this course to be both interesting and challenging. Earth history is a fascinating subject, but there is a lot of material to learn-- we cover 4.6 billion years of history in one semester! To do well in this course you need first and foremost to attend lectures. At the lectures you should pay careful attention, take good notes, and ask questions when points are unclear. Read the assigned chapters in the book either before the lecture or soon after-- don't wait until the night before the exam. I do several things to try to help you organize and understand the material. First, before each lecture I will present an outline of what will be covered. Many students find it useful to arrive a few minutes early to copy the outline into their notes. The outline for each lecture will also be posted on the class web page. Second, I will show a lot of overheads transparencies and slides in this class to

illustrate the topics we discuss. Copies of many of the overhead transparencies will be available for your review on the course web site by the time of the next lecture. Third, one week before each exam I will hand out a review sheet. This sheet will include a list of topics and terms that you should be familiar with for the exam, and will give some sample questions. Fourthly, I will hold a review session during the week before each exam at which I will answer any questions about the material to be covered. I am also happy to meet with you in my office to answer any questions that you have after lectures or during my office hours. **I would prefer that you do not stop by my office in the hour immediately before lectures since I am usually busy preparing.** I will do my best to promptly answer any questions that you care to send me by email.

**IN CASE OF BAD WEATHER:** In case of snow or ice on a lecture or lab day you should listen to radio or television to see if the University will be closing. The University is closed only under very extreme circumstances and at least once in the past I have had to cancel class even though it was officially open (I live quite a distance away). If you have doubts about whether or not class will be held, please call the office of the Department of Marine, Earth, and Atmospheric Sciences at 515-7778 to inquire.

**LABORATORY:** MEA 111 is the laboratory that accompanies this lecture course. In the lab you will have the opportunity to examine fossils, rocks, maps and other types of geologic data that pertain to the lecture material. I highly recommend that you take both the lecture and lab. Lab sections meet in room 2115 Jordan Hall at 3:40-5:30 on Wednesdays and 10:15-12:05 on Thursdays. The labs will begin meeting during the second week of classes (on Wednesday, January 16). Lab exercises will be posted on the course web site. ***IT IS YOUR RESPONSIBILITY TO PRINT OUT THE WEEKLY LAB EXERCISE BEFORE COMING TO LAB.***

**FIELD TRIP:** An optional field trip to examine sedimentary rocks of the Appalachians in Virginia will be held on Saturday, April 20 and Sunday, April 21 pending sufficient interest on the part of class members. Mark your calendars now! Details to be provided in class.

<b>DATE</b>	<b>LECTURE SCHEDULE</b>	<b>READING AND ASSIGNMENTS</b>
Mon., Jan. 7	(1) Introduction	
Wed., Jan. 9	(2) Time and the changing Earth	Chapter 1
Fri., Jan. 11	(3) Development of concepts about the Earth's history—ideas about fossils and layered rocks (part 1)	Chapter 2
Mon. Jan. 14	(4) Development of concepts about the Earth's history—ideas about fossils and layered rocks	Chapter 2
Wed., Jan. 16	(5) Organic evolution and the fossil record (part 1)	Chapter 3
Fri., Jan. 18	(6) Organic evolution and the fossil record (part 2); <b><u>Quiz 1</u></b>	Chapter 3
Mon., Jan. 21	<b><i>Holiday—No Class</i></b>	
Wed., Jan. 23	(7) Stratigraphy and sedimentary rocks (part 1)	Chapter 4
Fri., Jan. 25	(8) Stratigraphy and sedimentary rocks (part 2)	Chapter 4
Mon., Jan. 28	(9) Stratigraphy and sedimentary rocks (part 3)	Chapter 4
Wed., Jan. 30	(10) The relative geologic time scale; <b><u>Quiz 2</u></b>	Chapter 4
Fri., Feb. 1	(11) Numerical dating of the Earth (part 1)	Chapter 5
Mon., Feb. 4	(12) Numerical dating of the Earth (part 2)	Chapter 5
Wed., Feb. 6	<b><i>EXAM 1</i></b>	
Fri., Feb. 8	(13) Origin and early evolution of the Earth (part 1)	Chapter 6
Mon., Feb. 11	(14) Origin and early evolution of the Earth (part 2)	Chapter 6
Wed., Feb. 13	(15) Plate tectonics and mountain building (part 1)	Chapter 7
Fri., Feb. 15	(16) Plate tectonics and mountain building (part 2)	Chapter 7
Mon., Feb. 18	(17) The Cryptozoic Eon-- Early evolution of the continents	Chapter 8
Wed., Feb. 20	(18) The Cryptozoic atmosphere and climate; <b><u>Quiz 3</u></b>	Chapter 8
Fri., Feb. 21	(19) Early life and its patterns (part 1)	Chapter 9
Mon., Feb. 22	(20) Early life and its patterns (part 2)	Chapter 9
Wed., Feb. 27	(21) Early Paleozoic Epeiric Seas	Chapter 10
Fri., Mar. 1	(22) Ordovician Epeiric Seas and Mountain Building (part 1)	Chapter 11
Mon., Mar. 4	(23) Ordovician Epeiric Seas and Mountain Building (part 2)	Chapter 11

Wed., Mar. 6	(24) Ordovician Epeiric Seas and Mountain Building (part 3)	Chapter 11
Friday, Mar. 8	<b>EXAM 2</b>	
Mon., Mar. 11	<b>Spring Break</b>	
Wed., Mar. 13	<b>Spring Break</b>	
Fri., Mar. 15	<b>Spring Break</b>	
Mon., Mar. 18	(25) The Middle Paleozoic—The invasion of land	Chapter 12
Wed., Mar. 20	(26) The Middle Paleozoic —Reefs, evaporites, and mountain building	Chapter 12
Fri., Mar. 22	(25) The Late Paleozoic assembly of Pangea	Chapter 13
Mon., Mar. 25	(27) Late Paleozoic Cyclothem and Coal Forests; <b>Quiz 4</b>	
Wed., Mar. 27	<b>Holiday—No Class</b>	
Fri., Mar. 29	<b>Holiday—No Class</b>	
Mon., Apr. 1	(28) Life and extinction in the late Paleozoic	Chapter 13
Wed., Apr. 3	(29) The Mesozoic Era—Breakup of Pangea	Chapter 14
Fri., Apr. 5	(30) Mesozoic Mountain Building and Environments in Western North America	Chapter 14
Mon., Apr. 8	(31) Mesozoic Mountain Building and Environments in Western North America; <b>Quiz 5</b>	Chapter 14
Wed., Apr. 10	(32) Life of the Mesozoic Era	Chapter 14
Fri., Apr. 12	(33) Life of the Mesozoic Era	Chapter 14
Mon., Apr. 15	(34) The end-Cretaceous mass extinction	Chapter 14
Wed., Apr. 17	<b>EXAM 3</b>	
Fri., Apr. 19	(35) Cenozoic Tectonics and Environments	Chapter 15
Mon., Apr. 22	(36) Cenozoic Tectonics and Environments	Chapter 15
Wed., Apr. 24	(37) The Age of Mammals	Chapter 15
Fri., Apr. 26	(38) The Cenozoic Ice Age	Chapter 15, 16; <b>RESEARCH ASSIGNMENT DUE</b>
Mon., Apr. 29	(39) Pleistocene glaciation and the evolution of hominids	Chapter 16
Wed., May 1	(40) Pleistocene glaciation and the evolution of hominids	Chapters 16
Friday, May 3	(41) Summary	Chapter 17
Mon., May 13	<b>FINAL EXAM, 1:00- 3:00 p.m.</b>	