SECTION I: GENERAL PRINCIPLES

1/6  Introduction to the course and paleontology. The nature of fossils. SP, BHT  
(Prothero: v.-viii.; Chapt. 1, pp 5-8)

1/8  Taphonomy and the quality of the fossil record BHT  
(Prothero: Chapt 1, pp. 8-19; Chapt. 18)

1/9 - Last day to drop a course without $3.00 Fee

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1/13  Species and their origin; some paleontological insights into evolution - SP  
(Prothero: Chapt. 2, especially pp. 30-37; Chapt. 3; Chapt. 5; some of this material will be  
covered in more detail later in the course)

1/15  Systematics, tree thinking, and common misconceptions about evolution .  
(Prothero: Chapt. 4 ) SP

1/16 – last day add a course or shift grading option w/o a $3.00 fee

SECTION II: THE FOSSIL RECORD

II A - Origins

1/20  The Hadean and Archean Earth  (Prothero: Chapt. 19, pp. 437 – 441) SP

1/22  The Proterozoic Earth and the Rise of Eukaryotes SP  (Prothero is not so good here; read p. 190, and  
skim pp. 192-213 to learn about a few eukaryotic groups)

1/23 - LAST DAY FOR SELECTION OF PAPER TOPICS

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II B – Invertebrates

1/27  The Cambrian explosion SP  
(Prothero: SCAN Chaps. 12-16 for examples of terms and organisms  
dealt with in lecture. Note -- we will NOT place detailed questions from  
these chapters on the exam, however students in laboratory will find these  
chapters very useful).

1/29  Animal Evolution SP  
(Prothero: Chaps 7, pp. 97-103; Scan 108-117 for good examples of “bringing  
fossils to life”, refer to Chapt. 12-16)

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2/2 .... LAST DAY TO DROP A COURSE (not this one!)
The dynamics of major Phanerozoic clades & the three invertebrate evolutionary faunas.  
(Prothero: Chapt. 8, pp. 141-145; Chaps 12-16 continued.) SP

IIC – Plants

Distinguishing plants from animals  BHT  
(Prothero: Chapt 19, pp. 435-437.)

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Life cycles and the origin of the seed: reproductive modes in pteridophytes and gymnosperms.  BHT  
(Prothero: Chapt 19, pp. 440-462)

2/12 - Charles Darwin’s Birthday

Invading land: The three evolutionary floras  BHT  
(Prothero: Chapt 19, pp. 440-462)

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Evening review session SP/BHT (NB – evening of President’s day)

2/17  The attack of the Mid-Term Exam

IID – Vertebrates

Vertebrate Body Plans and origins. Basic components of vertebrates.  BHT  
(Prothero: Chapt 17, pp. 343-356)

2/20 - LAST DAY TO HAVE ROUGH DRAFTS OF PAPER EVALUATED

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Terrestrial vertebrates. Diversification of tetrapods out of the water and onto land.  BHT  
(Prothero: Chapt 17, pp. 356-373)

Amniotes; “evolutionary faunas” among vertebrates; A comparison of patterns among plants, invertebrates and vertebrates.  BHT  
(Prothero: Chapt 17, pp. 373-417)

2/27 - Last day to change grading option for a course.

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SECTION III - APPLICATIONS

Biostratigraphy, Paleobiogeography, Paleoclimatology,  (Prothero: Chapt. 9-11) SP

Macroevolutionary Theory  (Prothero, p. 26-30, 44-45, 74-79) SP
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3/10  Paleontology as a window on ecosystem evolution: Terrestrial example (no reading) BHT

3/12  Extinction as an evolutionary process. BHT (Prothero: Chapt 6)

PAPER DUE Friday 3/13 (nothing symbolic here) 5:00 PM.... OR ELSE!

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Review Session: By mutual consent.

Final Exam: Tuesday 17th, 12:00—3:00, PM

Caveat: The foregoing syllabus is an outline of intent, not a promise.


Handouts: Provided by instructor

GRADING:
20% = Short paper
30% = Midterm
50% = Final (2/3 focus on post mid-term material; 1/3 on pre-midterm)

INSTRUCTORS:
(You are encouraged to come talk to us whenever confused - or better yet, when intrigued.)
Susannah Porter room 1117 Webb Hall, Official Office hours T 2:00-3:00.  porter@geol.ucsb.edu.  X 8954
Bruce H. Tiffney, Geology office = room 1120 Webb Hall, BUT he is generally found in CCS 101A where his official office hours are W 12-1:00.  Or catch him just after class Tu and Th... , otherwise by chance or by appointment. Bruce.Tiffney@ccs.ucsb.edu  X3827

Laboratory Instructors:
Leigh Anne Riedman, lriedman@umail.ucsb.edu
John L. Moore  jlmooore@umail.ucsb.edu

Website
This will not be a web-driven course, however resources and some lecture illustrations will be posted on the Geology 111 website, which you can access at http://www.geol.ucsb.edu/classes/class_websites.html It is “password-protected” from external eyes. Username: geol111  Password: paleo