Instructor: Michael Foote
HGS 221
phone 2-4320
email mfoote@uchicago.edu
office hours Thursday 4:00-5:00 p.m. (except 31 May) and by appointment

Lab Instructor: Kim Koverman
Hinds 271
phone 5-1170
email koverman@uchicago.edu

Nature of course: An introduction to the study of past life. Lectures will cover principles of paleontology, emphasizing biological and evolutionary approaches. Labs will focus on anatomy, physiology, function, ecology, systematics, and temporal distribution of major groups of fossil organisms.

Required work: Assigned readings; midterm exam; final exam; weekly laboratory

Grades: Letter grades based on: 1. class participation (10%); 2. lab participation, exercises and exams (30%); 3. midterm exam (30%); and 4. final exam (30%).

In lieu of midterm and final exams, graduate students will write a term paper on a topic to be agreed upon.

Meeting times: Tuesday and Thursday 9:00-10:20, HGS 184; Laboratory Wednesday 1:30-5:20 (NOTE ERROR IN TIME SCHEDULE), HGS 301


Website: http://geosci.uchicago.edu/~foote/PALEO
### Schedule—Spring 2007

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
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<tbody>
<tr>
<td>March 27</td>
<td>1. Nature of the Fossil Record, I: scope of paleontology; fossilization; taphonomy</td>
<td>Chapter 1</td>
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<td>March 29</td>
<td>2. Nature of the Fossil Record, II: paleontological completeness</td>
<td>Chapter 1</td>
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<td>April 3</td>
<td>3. Nature of the Fossil Record, III: growth of paleontological knowledge</td>
<td>Chapter 1</td>
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<td>April 5</td>
<td>4. Morphology I: descriptive morphology; growth and development; allometry and scaling</td>
<td>Chapter 2</td>
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<td>April 10</td>
<td>5. Systematics I: populations, species, and speciation</td>
<td>Chapter 3</td>
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<td>April 12</td>
<td>6. Systematics II: phylogenetic inference</td>
<td>Chapter 4</td>
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<td>April 17</td>
<td>7. Systematics III: uses of phylogenetic information; classification</td>
<td>Chapter 4</td>
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<td>April 19</td>
<td>8. Morphology II: functional morphology; theoretical and constructional morphology</td>
<td>Chapter 5</td>
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<td>April 24</td>
<td>9. Paleoecology</td>
<td>Chapter 9; Chapter 10: sections on Pleistocene Extinctions and Applied Paleontology</td>
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<td>April 26</td>
<td>MIDTERM EXAM (covering topics 1-9)</td>
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May 1 10. Stratigraphy I: facies; stratigraphic units; correlation; sequence stratigraphy

May 3 11. Stratigraphy II: stratigraphic completeness; resolution; quantitative stratigraphy

May 8 12. Evolutionary Rates and Trends I: concepts and measures of rates; morphological rates

May 10 13. Evolutionary Rates and Trends II: taxonomic rates

May 14. Diversity, Origination and Extinction, I: Nature of taxonomic data; Major features of the fossil record

May 15 14. Diversity, Origination and Extinction, I: Nature of taxonomic data; Major features of the fossil record

May 17 15. Diversity, Origination and Extinction, II: Error and bias

May 22 16. Diversity, Origination and Extinction, III: Morphological and taxonomic diversity

May 24 17. Evolutionary Rates and Trends III: variation in rates; punctuated equilibrium; concepts and measures of trends

May 29 18. Evolutionary Rates and Trends IV: nature and mechanisms of phyletic and phylogenetic trends

Tuesday, June 5, 8:00-10:00 a.m. FINAL EXAM (comprehensive)