

EARTH 7 — HISTORY OF LIFE

History of Life is intended to provide a long-term perspective on the evolution of life. The emphasis is on the nearly 4 billion year fossil record of life and the information it gives about the evolution of organisms and their ecosystems. You will also learn how scientists formulate hypotheses and how data is collected to test those hypotheses. Some of major themes of this class include:

- 1) What have been the main stages in the 4 billion year evolution of life?
- 2) What have been the main trends and processes involved in the evolution of life?
- 3) How has global change (e.g. movement of the continents, ice ages and other climate changes, major volcanic eruptions, meteorite impacts, etc.) affected the evolution of life?
- 4) How, in turn, has the continuing evolution of life changed the nature of the Earth itself?

2010 Course Summary:

Instructor:

Matthew Clapham
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Phone: 459-1276
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Office Hours (or by appointment)

Monday 10:30-11:30
Tuesday 10:00-11:00
Wednesday 14:00-15:00

Course Website: <http://ic.ucsc.edu/webct> (log in to WebCT with your UCSC ID and password)

Lecture Notes: Lecture slides will be posted on the course page prior to every lecture. Important notices and information about quizzes, labs, and exams can also be found there.

Textbook: History of Life (4th Edition, 2005) by Richard Cowen is recommended but not required. Exams will be based on lecture material only. You may find the textbook a useful supplement to reinforce what you learn in lectures, although it sometimes focuses more on details not covered in the lecture. New and used copies should be readily available at the bookstore and elsewhere. Some chapters have been changed from the third edition, but you may be able to use it if you wish.

Grading Scheme:

Midterm Exam 30%	(Covers lectures 1-6)
Final Exam 40%	(Covers lectures 7-15)
Timescale Quiz 5%	
Discussion Section Assignments 25%	

Academic Integrity and Disability Resource Center

You are encouraged to work in groups during the discussion sections so you can learn from each other, but your written answers must be original. There will be no tolerance for academic dishonesty on quizzes or exams. University guidelines and descriptions of academic integrity can be found at http://www.ucsc.edu/academics/academic_integrity/undergraduate_students. If you have any special needs for exams or lectures, I am happy to accommodate them. Please register with the office (<http://drc.ucsc.edu/index.shtml>) and talk to me.

Discussion Sections

The discussion sections are designed to give you hands-on experience with actual fossil specimens and with some of the scientific methods used in disciplines like paleontology. You will also formulate hypotheses and collect data to test your predictions.

The TAs for the discussion sections are Timothy Lambert (tlambert@ucsc.edu) and Heidi Stauffer (hstauffe@ucsc.edu). Your TA will give you more information about how to contact them, their office hours, etc. at the first discussion meeting.

The schedule of topics for discussion sections is given below – there are five assignments spread over seven weeks of the quarter. Each assignment will be due at the end of the section, or at the end of the second section in the case of the two-part assignments. There will also be a short quiz during the week of January 25th to test your knowledge of the geological timescale.

All sections will be in **room D236** in the Earth and Marine Science building.

Week of:

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| January 11 | Constructing the geological timescale: relative and absolute dating |
| January 18 | No sections due to holiday Monday |
| January 25 | Fossils and geological correlation, part 1 (Geological Timescale Quiz) |
| February 1 | Fossils and geological correlation, part 2 |
| February 8 | Predation in the seas |
| February 15 | No sections due to holiday Monday |
| February 22 | Dinosaur cladistics, part 1 |
| March 1 | Dinosaur cladistics, part 2 |
| March 8 | Evolutionary trends and random walks |