

Course 460 305: Evolution and Geological Time

Instructors:

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Department of Earth and Planetary Sciences

Time: Tuesdays: 3.30-6.20 (double period)

Prior to the first class, electronic invites will be sent to registered students.
“Office hours” will be by appointment only via e-mail [aubry@eps.rutgers.edu]

Objectives.

The course aims at giving students a solid understanding of the succession of biological and geological events that have led to life on Earth as we know it today. Among other themes, we will discuss the basic chemistry of life, and how its main building blocks came about; the role of bacteria in the rise of more complex organisms and in the rise of oxygen; the appearance of the first animals over 600 million years ago, and the explosion of life between 541 and 520 Mega-annum (Ma). We will then follow the evolution of the vertebrates from jawless fishes to humans, while learning about radiations and extinctions, convergence and adaptation.

Requirements

Participation in discussions and hands-on activities are efficient ways towards understanding the content of a course, even when delivered online. Consequently, students will be required to prepare two scrolls to illustrate on a temporal scale the succession of geological and biological events that have accompanied the rise of biological diversity on the planet to this day. They also will be expected to write their own “book of life” as a companion to the scrolls. These two undertakings will represent 50% of the final grade.

Text-books and additional material

The Book of Life: An Illustrated History of the Evolution of Life on Earth; second edition, Stephen J. Gould. W. W. Norton & Company, New York. Highly recommended.

The Story of Life in 25 Fossils: Tales of Intrepid Fossil Hunters and the Wonders of Evolution. D.R. Prothero, Columbia University Press. A good read.

Earth System History, S. M. Stanley, Freeman. Highly recommended for a solid geological background.

In addition, notes and copies of the power point presentations will be available in BOX

Grades

The final grade will be based on:

One written exam, in mid- November	40%
Scrolls and book of life	50%
Participation in class	10%

The final grade will be delivered after meeting with each student for discussion of their scrolls and book and general discussion of their achievements.