

## **Paleontology**

Earth Sciences 310W

Section: D100

Term: 2007 Fall

Instructor: Dr. Fiona J. MacEachern

Discussion Topics: Course Description: REQUIREMENT DESIGNATION: W

EASC 310W is an introduction to Paleontology, tracing the evolution of life based on evidence from the fossil record. The course will concentrate on invertebrate fossil groups and the various morphological criteria necessary for their identification. In addition, the course will consider the principles of preservation, classification and paleoecological interpretation, in relation to the main fossil groups important to geology. Lectures will provide the necessary theoretical framework. Laboratory work will focus on examining morphological elements of the main invertebrate fossil groups and their classification and analytical techniques. This course is offered as a Writing Intensive course.

### Course Topics:

Introduction to paleontology, the fossil record and variations in fossils, principles of preservation, taphonomy.

A brief summary of the early Earth and the origin of life, evolution of eukaryotes, origin of metazoans, significance of the Burgess shale, etc.

A discussion of species and speciation and systematics.

Use of paleontological data, microfossils, adaptation and functional morphology, biostratigraphy, paleoecology, biogeography.

Analysis of organisms' adaptive abilities to better suit their environment; the influence of plate tectonics and paleoclimates on the evolution of life; mass extinction events.

### Course Organization:

One 2-hour lecture and one 2-hour laboratory class per week.

Grading: Laboratory Quiz: 5%

Final Laboratory Exam: 10%

**Paleontology**

Mid-term Theory Exam:	10%
Final theory Exam:	25%
Lecture Writing Assignments:	15%
Lab Writing Assignments:	10%
Research Paper:	25%

Required Texts: Bringing Fossils to Life: An Introduction to Paleobiology, Donald Prothero, 2nd Edition, McGraw-Hill. ISBN0-07-366170-8.

Recommended Texts: 4th Edition E.N.K. Clarkson 2004 (available in the labs, no purchase necessary).

Materials/Supplies: None.

Prerequisite/Corequisite: EASC 210 or 102; and BISC 102 recommended. FAL X99

Notes: None. (Subject to change).

This outline is derived from a course outline repository database that was maintained by SFU Student Services and the University's IT Services Department. The database was retired in 2014 and the data migrated to SFU Archives in 2015.