SFU SIMON FRASER UNIVERSITY
THINKING OF THE WORLD

***EASC 310W - 3 Paleontology***
***Section:*** D100 - 2011 Fall
***Instructor:*** Dr. Shahin Dashtgard
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***Description Topic:***
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 their relation to the main fossil groups important to geology. Lectures 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.

· A discussion of species and speciation and systematics.

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

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

Course Organization: Two 1-hour lectures and one 3-hour laboratory class per week.

***Grading:***
Final Theory Exam: 20%
Midterm Lab Exam: 15%
Final Lab Exam: 25%
Writing Assignments: 40%

***Required Text:***

Benton, M.J. and Harper, D.A. 2009. Introduction to Paleobiology and the Fossil Record. Wiley-Blackwell, 592 p. ISBN: 978-1-4051-4157-4

***Recommended Text:***

Clarkson, E.N.K., 2004, Invertebrate Palaeontology and Evolution, 4th Edition. Blackwell Science. ISBN:978-0-632-05238-7

Bringing Fossils to Life: An Introduction to Paleobiology, Donald Prothero, 2nd Edition, McGraw-Hill. ISBN 978-0-073-66170-4

***Material List:***

***Prerequisite/Corequisite:***

EASC 210 or 102; and BISC 102 recommended. FAL X99

***Notes:***