Dynamic Earth

Earth Sciences 101

Section: D100

Term: 2008 Fall

Instructor: Dr. Brent Ward

Discussion Topics: General: REQUIREMENT DESIGNATION: B-Sci

Geology is the science that studies Earth - how it was formed, how it evolved, how it works, and how we can help to preserve it. EASC 101 is an introductory course to the Earth Sciences that has been designed both as a foundation course for Earth Science majors and as a terminal course for those in other disciplines. Lectures investigate geologic theory, while laboratory sessions focus on "hands on" exercises emphasizing rock and mineral identification, Earth structure and processes.

Course Topics:

1. Understanding Earth as a System

Minerals: Crystal structure, common rock-forming minerals

Igneous rocks: Magmas and volcanism

Sedimentary rocks: Weathering and erosion, sedimentary environments

Metamorphic rocks: Metamorphic environments

2. Surface Processes

Rivers, Oceans, Glaciers, Winds and Deserts

Mass Wasting

3. Structure of the Earth

Geologic Time and Rock Deformation

Earthquakes and plate tectonics

4. Earth Resources

Groundwater, energy and minerals

Course Organization:

Two 1-hour lectures and one 3-hour laboratory per week.

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Grading: Written Laboratory Assignments and Quizzes: 20%

Mid-Term Theory Test: 20%

Mid-Term Laboratory Test: 12.5%

Final Laboratory Test: 12.5%

Final Theory Test: 35%

Required Texts: Course Text:

Tarbuck, E.J, Lutgens F.K. and Tsujita, C.J. 2009. Earth: An Introduction to Physical Geology, Second Canadian Edition, Pearson. ISBN 0-13-613865-9

OR

Tarbuck, E.J, Lutgens F.K. and Tsujita, C.J. 2005. Eart

Recommended Texts: None.

Materials/Supplies: Pencil, ruler (30 cm), white eraser, calculator, protractor.

Prerequisite/Corequisite: None.

Notes: NOTE: Students with credit for GEOG 112 cannot take this course for further credit.

NOTE: This is a lab science course and attendance at the labs is mandatory.