

EARTH SCIENCES 101 PHYSICAL GEOLOGY

Course Outline

General

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 in the Earth Sciences, designed both as a foundation course for Earth Science majors and as a general interest course for other disciplines. Lectures investigate geologic theory, while laboratory classes focus on practical exercises emphasizing rock and mineral identification, Earth structure, processes, cycles and systems. Attendance at a one-day field trip late in the semester (on a Saturday) is mandatory to obtain credit for the course.

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
 - ❖ Landscape Evolution
3. Structure of the Earth
 - ❖ Geologic Time and Rock Deformation
 - ❖ Earthquakes and plate tectonics
4. Earth Resources
 - ❖ Groundwater, energy and minerals

Course Organization and Requirements

- 2 one-hour lectures and 1 three-hour laboratory.
- The EASC laboratory manual is required for the course and can be picked up at the first lab.
- There will be a compulsory one-day field trip along the Howe Sound-Whistler corridor on Saturday March 20th.

Textbook

Press, F. and Siever, R. 1998. Understanding Earth, 3rd Edition. Freeman, New York.

Course Grading

1. Midterm Lab Exam	10%
2. Lab Quizzes	10%
3. Written Lab Assignments	20%
4. Field Trip Report	5%
5. Mid-term Theory Exam	20%
6. Final Theory Exam	35%

Inquiries

Further information about this course can be obtained from the Instructor, Dan Marshall, Room P9308 (Phone 291-5474, or email marshall@sfu.ca) or from the Earth Sciences General Office, P9304 (Phone 291-5387)

NOTE: THERE WILL BE A LAB DURING THE FIRST WEEK OF CLASSES