

Physical Geology

Earth Sciences 101

Section: D100

Term: 2005 Spring

Instructor: Glyn Williams-Jones

Discussion Topics: 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 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 classes focus on "hands on" exercises emphasizing rock and mineral identification, Earth structure and processes. Attendance at a one-day field trip late in the semester is required to obtain credit for the course.

PLEASE NOTE: Students with credit for Geog 112 cannot take this course for further credit.

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

Mass Wasting

Rivers, Oceans, Glaciers, Winds and Deserts

3. Structure of the Earth

Geologic Time and Rock Deformation

Earthquakes and plate tectonics

4. Earth Resources

Groundwater, energy and minerals

Course Organization

Physical Geology

1 two-hour lecture and 1 three-hour laboratory per week.

There will be a compulsory one-day field trip along the Howe Sound-Whistler corridor on a Saturday in mid-March (exact date to be announced in first week of classes).

Grading: (a) Lab Quizzes 10%

(b) Weekly Lab Assignments 15%

(c) Rock and Mineral Test 10%

(d) Field Trip Report 5%

(e) Mid-term Lectur Exam 20%

(f) Final Lab Exam 5%

(g) Final Lecture Exam 35% (exam is cumulative)

Required Texts: Course Text:

Tarback, E.J. & Lutgens, F.K. and Tsujita, C.J., 2005. Earth: An Introduction to Physical Geology 1st Edition, Prentice-Hall, New Jersey.

Laboratory Manual:

The EASC 101 laboratory manual is required for the cours

Recommended Texts:

Materials/Supplies:

Prerequisite/Corequisite:

Notes: There will be a compulsory one-day field trip along the Howe Sound-Whistler corridor, date to be determined during the first week of class.

Inquiries:

Further information about this course can be obtained from the instructor, Glyn Williams-Jones, in P9306 (Phone 291-3306 or e-mail glynwj@sfu.ca) or from the Earth Sciences General Office, P 9304 (Phone 291-5387).

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.