

GEOS 101 EARTH'S HISTORY

Course Outline Winter 2003

1. Instructor

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2. Intended Learning Outcomes

After successfully completing all components of this course students will be able to:

1. Use scientific methods of investigation of Earth History using evidence of rocks and fossils
2. Apply principles of historical geology to infer sequences of events in Earth History
3. Apply methods of rock correlation
4. Calculate the age of a sample containing a radioactive isotope
5. Identify some fossils on the basis of physical characteristics
6. Describe and recognize major sedimentary depositional environments from sediment characteristics
7. Relate rock and sediment type to plate tectonic context
8. Infer how a range of physical, chemical and biological processes have operated to produce recognizable stages of Earth History.

3. Required Materials

(a) Texts

To be decided

4. Course Content and Schedule

Classroom 3 hours, **Lab** 3 hours
14 weeks

5. Assessment

- | | |
|--------------------------|----------|
| (a) Lab exercises | 10X 2.5% |
| (b) Lab quiz | 10% |
| (b) Written exams | 55% |
| (c) Presentation | 10% |

6. Grading system

Letter grades will be assigned, as in the A&S grading system

7. Sequence of topics (subject to modification)

Introduction

Earth as a system

Review of Minerals and Rocks

Diversity and environments of Life

Sedimentary environments

Dating and correlation of the rock record

The fossil record

Review of plate tectonics

Continental tectonics and mountain chains

Archean eon

Proterozoic eon

Paleozoic Earth and life

Mesozoic Earth and life

Cenozoic Earth and life

Geology of western Canada

8. Prerequisite

Geos 100 or equivalent