

Introduction to Geochemistry

Earth Sciences 208

Section: D100

Term: 2009 Spring

Instructor: Dr. Dan Marshall

(Email: marshall@sfu.ca; Phone: 778 782-5474)

Discussion Topics: General: REQUIREMENT DESIGNATION: Q

- Introductory concepts of geochemical systems:
Nucleosynthesis, Atomic structure, Periodic Table, Cosmic Evolution

- Global Chemical Differentiation

- Chemical Bonds

- Ionic Substitution in Crystals

- Thermodynamics

- Isotope Geology

- Stable Mineral Assemblages, Phase Diagrams

- Geothermobarometry

- Atmospheric/Oceanic Evolution and Chemistry

- Geochemical Cycles

- Crustal Fluids

- Simple and Multicomponent Mixing

- Geochemistry of the Major Rock Types: Sedimentary Rocks, Igneous Rocks, Metamorphic Rocks

Grading:

Midterm examination: 15%

Laboratory assignments 15%

Final lab examination 25%

Introduction to Geochemistry

Presentation/paper 15%

Final theory examination 30%

Required Texts: Principles and Applications of Geochemistry, 2nd edition, Gunter Faure, Prentice-Hall Inc., 1991, ISBN 0-02-336450-5

Recommended Texts: None.

Materials/Supplies: Calculator

Prerequisite/Corequisite: EASC 101, CHEM 121, CHEM 122, CHEM 126.

Notes:

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.