

Igneous Petrology

Earth Sciences 301

Section: D100

Term: 2012 Fall

Instructor: Kevin Cameron

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Discussion Topics: Course Outline:

This course will examine igneous and metamorphic rocks in the contexts of mineralogical and chemical composition, experimental petrology, field geology, and tectonic environment. Lectures will deal with phase relations, melt generation and transport, facies characterization, geochemical modelling, mode of emplacement, and tectonic framework. Laboratory exercises will focus on rock suites using optical microscopy and computer manipulation of geochemical analyses. Course Topics:

1. Origin and evolution of magma. Phase relations.
2. Magmatism in convergent, divergent, and intraplate environments.
3. Petrologic and field characterization of igneous and metamorphic rocks.

Grading:

Required Texts: Principles of Igneous and Metamorphic Petrology (2nd edition). John D. Winter. 2010. Prentice-Hall. ISBN 978-0-321-59257-6

Recommended Texts: Introduction to Mineralogy, William D. Nesse, 2000, Oxford University Press, ISBN 0-19-510691-1 (Note: This is the text used for EASC 202 and 205) or any other good text on Optical Mineralogy (see instructor for a possible list).

Materials/Supplies: Students must have their own handlens, hammer, and field notebook.

Prerequisite/Corequisite: EASC 205 and 208.

Notes: None

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.