

Introduction to Mineralogy

Earth Sciences 202

Section: D100

Term: 2013 Fall

Instructor: Kevin Cameron (Email: kjc@sfu.ca; Phone: 778-782-4703; Office: TASC2 Room 7530.2)

Discussion Topics: Course Outline: Since minerals are the basic building blocks of earth materials, this course is designed to give the student a fundamental background in minerals, necessary to understand earth materials. Introduction to Mineralogy will examine the physical and chemical characteristics of the main rock-forming and economic minerals. Lectures will cover the principles of symmetry, mineral chemistry, and mineral-forming environments. Laboratory exercises will deal with basic mineral identification. Students must provide their own handlens and mineral identification kits.

Course Topics:

1. Basic crystallography; including elements of symmetry, atomic order, and stereographic projection.
2. Physical and chemical properties of minerals; methods of mineral identification.
3. Characteristics of the main silicate and non-silicate mineral groups; mineral associations and paragenesis; basic phase equilibria.
4. Economic interest and scientific application of minerals.

Grading: Laboratory Mid-terms (2) 10% each

Final Lab Test 20%

Lecture Mid-term 20%

Final Lecture Exam 40%

Required Texts: Nesse, W.D., Introduction to Mineralogy 2nd Edition, 2012. Oxford University Press ISBN 0-19-982738-1 (This text is also used for EASC 205.)

Recommended Texts: A mineral identification "handbook" and a Geological dictionary.

Materials/Supplies: A 10X magnifying lens should be brought to labs. Parts of a mineral identification kit can be purchased from the department during the first few weeks of the course.

Prerequisite/Corequisite: Prerequisites: EASC 101 and CHEM 121.

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.