



Faculty of Earth Sciences



Department of Mineral Resources & Rocks 3rd & 4th Years Program



The Geological Society
Accredited degree courses

SYSTEMATIC MINERALOGY

Course Name	Course ID	Prerequisites
<i>SYSTEMATIC MINERALOGY</i>	<i>EMR 311</i>	EMR 211 / CHEM 110, CHEM 281

Course Description

Introduction in basis of mineralogy. Basis of chemical and structural classification of minerals. Systematic study of silicate and non-silicate minerals. Study of structural and chemical properties and their relation with physical properties of minerals. Origin of minerals and their occurrences.

Course Objectives

1. The course is designed as an introduction to the study of crystal chemistry, systematic mineralogy, and providing an understanding of important relationships among their physical properties, chemical composition, crystal structure, and geologic occurrence. Learn how minerals are formed and classified.
2. The syllabus listed on the accompanying pages is a tentative outline of lecture topics and associated reading. Unlike many other courses, this will start with silicates. Manual of Mineralogy, by Klien and Hurlbut is the main text and will be used extensively in this course.

General References for the Course: (Books/Journals...etc.)

Students in this course can read from:

1. *An Introduction to the Rock Forming Minerals, 16th Edition*, by Deer, W.A., Howie, R.A., and Zussman, J., 1989. Longman New York.
2. *Manual of Mineralogy*, by Klien, C., and Hurlbut, C.S., Jr., 1998. John Wiley & Sons, Inc., New York, 704 p.

3. *Manual of Mineral Science*, by Klein, C., 2001. John Wiley & Sons, Inc., New York.

List of URLs for this Course

- <http://www.angelfire.com/ms/snasir/page0.html>
- <http://un2sg4.unige.ch/athena/mineral/minlinks.html>

Course Outcome

By the end of this course, the students should have the ability to:

1. Student can be acquainted in general with crystal chemistry and systematic mineralogy.
2. Student can understand the important relationships among minerals' physical properties, chemical composition, and crystal structure and occurrences.
3. Student can recognize the genesis of minerals.
4. Student can be familiar with the basis of mineral classifications.
5. Student can be acquainted with different minerals.