

Office of Academic Affairs
Tarleton State University
January 2008

Master Course Syllabus

Department: Chemistry and Geoscience

Course Prefix/Number: GEOL 300

Official Course Title: Crystallography and Mineralogy

Master Syllabus Approved by Department on: ____/____/____
Month Day Year

I. Catalog Description

A study of the basic crystallographic forms, some of the common ore and rock forming minerals. An introduction to Optical Mineralogy.

II. Prerequisites

GEOL 1054

III. Expanded Course Description

This course introduces students to the science of crystals and minerals. The course covers the physical and optical properties of minerals, the crystallography of minerals, the chemistry of minerals, and the atomic and molecular structure of minerals. The economic uses of minerals, and the environmental impact of minerals are also introduced in the course. The laboratory component of the course focuses on physical properties of minerals, symmetry of minerals, and the identification of minerals in hand sample.

IV. Intended Student Learning Outcomes

Knowledge outcomes

Upon completion of this course students will:

- * understand the physical and chemical nature of minerals
- * understand the link between minerals, rocks, and planets

Skill outcomes

Upon completion of this course students will:

- * achieve competency in mineral identification
- * acquire the ability to determine physical properties of minerals

Value outcomes

Upon completion of this course students will:

- * appreciate the role of minerals in nature
- * understand the link between minerals and economics

V. Unless otherwise stipulated in this master syllabus by the department, the following items are subject to faculty discretion as described in each faculty member's individual course outline/syllabus.

Course Requirements (grading/evaluation procedures; class attendance policy; term papers; projects; field assignments; examinations; class participation; etc)

The grading is based upon lecture exams (2-4), laboratory exams (2-4), and laboratory exercises.
The final exam is cumulative

Required Text Mineralogy text

Department Head Signature/Date

Signature

____/____/____