

Department: Mining Engineering

Division: Mining Exploitation and Rock Mechanics

Level and Major: BSc, Mining Exploitation and Rock Mechanics

Course Title: Optical Mineralogy

Number of Credits: 1

Prerequisite: Economic Geology

Lecturer: Dr. Abbas Maghsoudi

Course Description

Optical Mineralogy is the study of minerals and rocks by measuring their optical properties. The course provides the theoretical and practical aspects of silicate group minerals identification using the petrological microscope.

Course Goals and Objectives

Identification of common rock-forming minerals in thin sections using optical properties.

Course Topics

- Optical properties of minerals
- Nature of light
- Isotropic and anisotropic crystals
- Polarized light
- The polarizing microscope
- Textures of Igneous Rocks in Thin Section
- The different optical properties of minerals
- Microscopic examination of silica group minerals

Reading Resources

- Klein, C. Dutrow, B., 2007. The manual of mineral science.
- Mollaei, H, 2006. Atlas of optical mineralogy, Azad university press, Mashhad.
- Verma, 2010. Optical mineralogy, CRC PRESS.

Evaluation

- Quiz: 20 %
- Final Exam: 80 %