Department: Mining Engineering **Division:** Mining Exploration and Mineral Processing

Level and Major: BSc, Mining Exploration and Mineral Processing

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Course Title: Descriptive Mineralogy **Number of Credits: 2**

Prerequisite: General chemistry1+ General Geology **Lecturer:** Dr. Abbas Maghsoudi

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Course Description

Minerals are found on and within the Earth's crust. More than 4000 different minerals have already been identified. Minerals are everywhere around us and divided into two broad classes, silicates and non-silicates.

Course Goals and Objectives

The course describes the identification, classification, occurrence, and uses of minerals.

Course Topics

- Definitions
- Crystallography
- Methods of identifying minerals
- Physical properties of minerals
- Classification of minerals
- Native element
- Sulfide and Sulfosalts minerals
- Oxides and hydroxides
- Halides and Carbonate
- Sulfates
- Borates
- Phosphates
- Molybdates
- Nesosilicates
- Sorosilicates and Cyclosilicates
- Inosilicates
- Phyllosilicates
- Tectosilicates

Reading Resources

- Dana, J.D., 1993. Manual of Mineralogy, Wiley.
- Mirneja, H. Zaeimnia, F., 2013. Mineralogy (principles and applications), Tehran University Press.
- Razavi, S.M.H., 2003. Mineralogy silicates, Tarbiat Moalem University Press.
- Razavi, S.M.H., 2003. Mineralogy Non-Silicates, Tarbiat Moalem University press.