

**Department:** Mining Engineering

**Division:** Mining Exploitation and Rock Mechanics

**Level and Major:** BSc, Mining Exploitation and Rock Mechanics

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**Course Title:** Underground Mining Methods

**Number of Credits:** 2

**Prerequisite:** Drilling Engineering+ Principles of Mining Methods

**Lecturer:** Dr. Kourosch Shahriar

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### **Course Goals and Objectives**

Acquiring essential abilities for doing underground excavation.

### **Course Topics**

- Introduction of Lessons, Resources, Assessment and Introduction to the Mining Industry, History
- Different stages of mine work - prospecting and exploration - preparation - extraction - closing and closing of the mine
- Factors Affecting the Value of Mineral Resources
- Effective factors in preparing and selecting extraction methods
- Different stages of preparation
- Major workshops, service rooms, shunting systems, minor workshops and how to prepare workshops
- Estimating and Estimating the Dimensions of Mining Plots
- Determine the floor space and the division of the storage into panels, floors, and sections
- Calculate and estimate annual production
- Major and minor operations in the mines and extractive qualities
- Mining methods
- Open methods - Underground methods
- Unsafe methods
- Maintenance methods
- Destructive methods
- New methods
- Comparison of methods and selection of suitable methods according to geological conditions and geometry of ore deposit

### **Reading Resources**

- An Introduction to Mining L. J THOMAS 1979, Australia
- Introduction to Mining, Bohuslav Stooce, 1956
- The Working of Mining Deposits G.POPOV, 1971
- Mining Engineering Handbook 1992 Hartman SME
- Coal Mine Ground Control, Peng. John Willey, New York, 1978
- Longwall Mining, SYD S. Peng, H. Schiang, John Wiley, USA, 1984
- Introductory Mining Engineering, H.L. Hartman, John Willey, 2002, 1987