

Department: Mining Engineering

Division: Mining Exploitation and Rock Mechanics

Level and Major: BSc, Mining Exploitation and Rock Mechanics

Course Title: Hydrogeology

Number of Credits: 2

Prerequisite: Fluid Mechanics

Lecturer: Dr. Homayoon Katibeh

Course Goals and Objectives

This course aims to familiarize students with the topic of groundwater and hydrogeology and to learn the definitions and concepts of this topic as well as the water wells hydraulic.

Course Topics

- Hydrogeology
- Aquifer characteristics
- Aquifer appearance
- Types of aquifers
- Darcy's law
- Bernoulli's law
- Flow nets
- Isopotential maps
- Water well hydraulics
- Water well pumping tests
- Water well drawdown
- Water well efficiency
- Step drawdown test.

Reading Resources

- Groundwater Hydrology by Dr. K, Todd
- Groundwater Hydrology, Homayoon Katibeh, Yazd University (in Persian)
- Land and Water Resources, Mahmoud Sedaghat, Payam Noor Publications, (in Persian)
- Drainage and Water Supply in Mines, Hasan Madani, Amirkabir University of Technology Publications, (in Persian)

Evaluation

- Midterm exam: 35%
- Final exam: 60%
- Assignments: 5%