

**Department:** Mining Engineering

**Division:** Mining Exploration

**Level and Major:** MSc, Mining Exploration

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**Course Title:** Water Resources Engineering

**Number of Credits:** 2

**Lecturer:** Dr. Homayoon Katibeh

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### **Course Goals and Objectives**

This course aims to familiarize students with the drilling of water wells and special topics related to the exploitation of groundwater resources and the maintenance of groundwater wells and hydrochemistry.

### **Course Topics**

- Water well drilling
- Special notes in water well drilling
- Water well selection
- Water well design
- Well development
- Water well drawdown
- Step drawdown test and its interpretation
- Hydrochemistry of groundwater
- Corrosion and incrustation in water wells
- Hydrochemical maps
- Dug wells

### **Reading Resources**

- Groundwater Hydrology by D 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)