

**Department:** Mining Engineering

**Division:** Mineral Processing

**Level and Major:** MSc, Mineral Processing

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**Course Title:** Advanced Flotation

**Number of Credits:** 2

**Lecturer:** Dr. Bahram Rezai

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### **Course Goals and Objectives**

Introducing students to advanced concepts of flotation and its industrial application.

### **Course Topics**

- Overview
- Application, disadvantages, advantages, and limitations
- Physico-chemical surface phenomena
- Chemicals and interactions, all parameters and interactions
- Flotation mechanism of minerals
- Advanced cells
- Bubble, mechanism and effective parameters
- Bubble-particle bonding methods
- Circuit Design
- Floating fine and coarse particles
- RTD
- Examples