

**Department:** Mining Engineering

**Division:** Mining Exploration and Mineral Processing

**Level and Major:** BSc, Mining Exploration and Mineral Processing

---

**Course Title:** Physical Separation

**Number of Credits:** 2

**Prerequisite:** Principles of Mineral Processing

**Lecturer:** Dr. Mehdi Irannajad

---

### **Course Goals and Objectives**

Principles of physical separations including gravity, magnetic and sorting

### **Course Topics**

- Generalities-Gravity Separations- Jigs- mineral separation in thin layers- Heavy Media- Magnetic Separation- Electrical Separation
- Gravity Separations
- Jigs
- Mineral separation in thin layers
- Heavy Media
- Electrical Separation
- Magnetic Separation.

### **Reading Resources**

- Wills, B. A., Mineral processing, 6<sup>th</sup> Edition, Worth Heineman, SME, 1997
- Weiss L., Editor, SME, Mineral Processing Handbook. Vol. 1 and 2, SME, 1989.
- Kelly, G. E. and Spottiswood, J. D., Introduction to Mineral Processing, Mineral Engineering Services, Australia, 1989
- Furestenau M C and Han K N, Principles of Mineral Processing, SME, 2003