

Department: Mining Engineering

Division: Tunneling and Underground Spaces

Level and Major: MSc, Tunneling and Underground Spaces

Course Title: Numerical Methods in Geomechanics

Number of Credits: 3

Lecturer: Dr. Parviz Maarefvand

Course Goals and Objectives

Introduce the students in numerical methods and its application on geomechanical problems.

Course Topics

- Definition and principals theory on the numerical solution
- Different numeric methods
- Implicit and explicit approaches
- Introduction on finite elements method
- Finite elements method
- Finite difference methods
- Distinct elements method
- Application of distinct element method in geomechanics
- Application of Finite elements in geomechanics
- Application of finite difference method in geomechanics

Reading Resources

- Computations and numerical Analysis: Dr. M. Amirfakhrian