

Practices in Rock Engineering (465.326) - 2nd semester, 2010

Instructor: Associate Professor Jae-Joon Song

Office: Building 36, Room 308D

Phone: 880-9043

E-mail: songjj@snu.ac.kr

Web page: <http://rockeng.snu.ac.kr>

Class hours: 11:00 ~ 12:15 Mon. & Wed.

1. Description / objective

This course introduces the advanced principles of rock mechanics as well as fundamental theories applied to stability analysis, design and construction of underground mines. It covers the topics such as stress and strain, rock mass classification, rock strength and deformation, excavation design in massive, stratified or blocky rock mass and mining methods.

2. Text and reference

Text: B.H.G. Bray and E.T. Brown, Rock Mechanics for underground mining (3rd ed.), 2006, Springer.

Reference: J.A. Hudson and J.P. Harrison, Engineering Rock Mechanics: An Introduction to the principles, 1997, Pergamon.

R.E. Goodman, Introduction to Rock Mechanics (2nd Ed.), 1989, John Wiley & Sons 1)

B.H.G. Bray and E.T. Brown, Rock Mechanics for underground mining (3rd Ed.), 2006, Springer.

3. Schedule

- ① Rock mechanics and rock engineering (1~2)
- ② Stress and strain (3~4)
- ③ Rock mass structure and characterization (5~6)
- ④ Strength and deformability (7~8)
- ⑤ Excavation design in stratified rock (9~10)
- ⑥ Pillar supported mining methods (11~12)
- ⑦ Mining-induced surface subsidence (13~15)

4. Grading plan

Midterm exam 35%, Final exam 35%, Assignments 20%, Attendance 10%

5. General

- Students are recommended to download class materials in PDF format from Rock Mechanics Laboratory homepage (<http://rockeng.snu.ac.kr>) before each class begins.
- Advanced theories of rock mechanics can be emphasized according to students' degree of understanding.
- 'Rock Mechanics' class is not prerequisite.
- More than 4 weeks of practice in numerical analysis are included.
- Class room: 36 - 210
- Class time: 11:00 - 12:14 Mon. & Wed.