

Reservoir Rock Mechanics 206-23921 – 2.5 credits

Prof. Yossef Hatzor

Syllabus

Index properties of rocks. Classification of rock masses for engineering purposes; Stress analysis in two dimensions; Strain analysis in two dimensions, Introduction to theory of elasticity and special cases; Theory and empirical criteria for rock strength, Friction of rock discontinuities; In-situ stress determination; Design of foundations in rock; introduction to stability of underground openings.

Bibliography

1) Brady, B. H. G. and Brown, E. T., 2004. Rock Mechanics For Underground Mining, 3rd Ed. Kluwer Academic Publishers, 628p. 2) Goodman, R. E., 1989. Introduction to Rock Mechanics. John Wiley & Sons, New York, 2nd Ed., p. 562. 3) Hoek, E., and Brown, E. T., 1982. Underground Excavation in Rock. Institute of Mining and Metalurgy. 4) Hudson, J. A. and Harison, J. P. Engineering Rock Mevchanics. Pergamon Press, 475p. 5) Jaeger, J. C., and Cook, N. G. W. and Zimmerman., 2007. Fundamentals of Rock Mechanics. Blackwell Publishin. 4th Ed. 6) Pariseau, W. G., 2007. Deisign Analysis in Rock Mechanics. Taylor and Francis. 7) Wittke, W., 1990. Rock Mechanics: Theory and Applications with Case Studies. Springer-Verlag, Berlin, 1075 p.

Course Requirements

2 hr lecture

1 hr tutorial