CE6330 – Rock Engineering

Credit Distribution: C:9 L:3 T:0 P:0 E:0 O:6 TH:0

Course Type: Theory

Description: To introduce the basic concept, design principles and analysis procedures for various rock engineering structures and study the behavior under different loading situations.

Course Content: Geological formation of rocks, structural geology. Classification of rocks, physico-mechanical properties of rocks, Laboratory and in-situ tests. Stress-strain behaviour, failure criteria for intact rocks and rock masses, fracture mechanism. Analysis and design of underground openings, instrumentation in tunnels, rock support and reinforcement. Foundations on rocks, rock slope stability and rock blasting.

Text Books

- Introduction to Rock Mechanics by R.E.Goodman. John Wiley & Sons.
- Engineering in Rocks for Slopes, Foundation and Tunnels, Editor T. Ramamurthy, Prentice Hall India Pvt. Ltd.
- Fundamentals of Rock Mechanics, Fourth Edition by Jaeger, Cook and Zimmerman. Blackwell Publication.
- Rock mechanics and the design of structures in rock, L. Obert and Wilbur I. Duvall, John Wiley & Sons, Inc.
- Rock Mechanics for underground mining, Brady, B. H., & Brown, E. (1993). Springer Pubs.
- Rock slope engineering, Duncan C Willey and C.W.Mah, Spon Press, Taylor and Francis.
- Foundation on Rocks, Duncan C. Willey, Taylor and Francis.

Reference Books: NIL.

Prerequisite: NIL