

Course syllabus

Department of Civil Engineering, Indian Institute of Technology Madras

CE5330 - Advanced Foundation Engg

Credit Distribution: C:10 L:3 T:1 P:0 E:0 O:6 TH:0

Course Type: Theory

Description: Advanced knowledge on foundation design, execution and retrofitting.

Course Content: "Foundation classification, Choice of foundations, Bearing capacity and settlement analysis of shallow foundations like footings and rafts". "Deep foundations like piles, piers and caissons, Foundations on expansive soils, laterites, fills and rock". Construction aspects of foundations, Shoring and underpinning, Groundwater lowering and drainage, Legal aspects of foundation engineering Field tests in foundation engineering including instrumentation for monitoring of foundation.

Text Books:

- Kurian, N.P. (1994), Design of Foundation Systems - Principles and Practices, 2nd Edn., Narosa Publishing House, New Delhi.
- Kurian, N.P. (1984) Modern Foundations - Introduction to Advanced Techniques, Tata McGraw-Hill Publishing Company Limited, New Delhi.
- Peck, R.B., Hanson, W.E. and Thornburn, T.H., (1980) Foundation Engineering, 2nd Edn., Wiley Eastern Ltd., New York.
- Teng, W.C.,(1965) Foundation Design ,Prentice-Hall of India (Pvt) Ltd., New Delhi. Tomlinson, M.J.,(1986) Foundation Design and Construction , 5th Edn., English Language Book Society, Longman Group Ltd., Singapore, 1986.
- Nayak, N.V.,(1985) Foundation Design Manual For Practising Engineers and Civil Engineering Students, Dhanpatrai and Sons, New York Winterkorn,
- H.F. and Fang,H.(1975), Foundation Engineering Handbook, Van Nostrand Reinhold Company, New York.

Reference Books: NIL

Prerequisite: NIL