Course syllabus
Department of Civil Engineering, Indian Institute of Technology Madras

CE6350 – Critical State Soil Mechanics

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

Course Type: Theory

Description: To introduce the basic critical state frame work to interpret soil behavior under different stress path conditions.

Course Content: Stresses and strains in soils; stress, strain paths and invariants; one-dimensional and isotropic compression of soils and idealisation; state boundary of compression of soils; stress paths and soil tests; critical state line and Roscoe surface; Drained and undrained planes; Critical state line for sands; Behaviour of overconsolidated soils and Hvorslev surface; Behaviour of soils before failure; Interpretation of index tests in the light of critical state concept; Cam-clay models, Determination of critical state parameters.

Text Books: NIL

Reference Books


Prerequisite: NIL