



Course Weekly Outline

Week No.	Theoretical	Experimental
1	Foundations: Their Importance and Purpose, Foundation Classification, Requirements of Foundations	
2	Soil Exploration	
3	Purpose of Subsurface Exploration, Planning for Subsurface Exploration, Methods of Soil Exploration, Soil Samples, Causes of Disturbance, Soil Samplers, Number of Borings, Depth of Borings,	
4	Purpose of Subsurface Exploration, Planning for Subsurface Exploration, Methods of Soil Exploration, Soil Samples, Causes of Disturbance, Soil Samplers, Number of Borings, Depth of Borings,	
5	Purpose of Subsurface Exploration, Planning for Subsurface Exploration, Methods of Soil Exploration, Soil Samples, Causes of Disturbance, Soil Samplers, Number of Borings, Depth of Borings,	
6	In-Situ (Field) Tests, Standard Penetration Test - ASTM-D1586, Cone Penetration Test (CPT) - ASTM-D5778, Vane Shear Test (VST) - ASTM D 2573M, Plate Loading Test (PLT) - ASTM- D1194, Soil Exploration Report	
7	In-Situ (Field) Tests, Standard Penetration Test - ASTM-D1586, Cone Penetration Test (CPT) - ASTM-D5778, Vane Shear Test (VST) - ASTM D 2573M, Plate Loading Test (PLT) - ASTM- D1194, Soil Exploration Report	

8	Bearing Capacity of Shallow Foundations; Introduction, Bearing Capacity, Modes of Soil Failure, Terzaghi's Bearing Capacity Equation, Factor of Safety, Effect of Water Table on B.C., Meyerhof's Bearing Capacity Equation,	
9	General (Hansen's) Bearing Capacity Equation, Skempton's Method [$\phi = 0$], Footings with Eccentric Loadings, Footing on Layered Soils, Bearing Capacity of Footings Adjacent to a Slope, Bearing Capacity from Field Tests	
10	Foundation Settlement; Introduction, Contact Pressure, Stresses in a Soil Mass,	
11	Consolidation Settlement, Secondary Settlement, Allowable Settlement	
12	Spread Footing Design; Ultimate Strength Design Method (USD) (ACI: 318 - 19),	
13	Design of R.C. Spread Footings, Design of Plain Concrete Spread Footings,	
14	Rectangular Footings, Eccentrically Loaded Spread Footings	
15	Applications of PDE	