1.	Title of the course	Advanced Soil Mechanics Laboratory
2.	Course number	CE534P
3.	Structure of credits	0-0-3-2
4.	Offered to	PG
5.	New course/modification to	Modification To CE5199/11
6.	To be offered by	Department of Civil and Environmental Engineering
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	**Course Objective(s):** To provide hands on experience in the advanced field and laboratory testing techniques for measuring the strength, stiffness, and hydraulic characteristics of different soil types. To interpret the measured properties of soils from the view of the likely performance of civil infrastructure.	
10.	**Course Content:** Laboratory tests: visual classification of soils; Preparation of samples: sand and clay; Consolidation test; Direct shear test; Vane shear test; Triaxial tests: unconfined compression test, unconsolidated undrained test, consolidated drained test, consolidated undrained test with pore water pressure measurement, stress path testing; Free swell index test; Swelling pressure test; California bearing ratio test; Field investigations: drilling of bore hole, standard penetration test, undisturbed and representative sampling, MASW testing.	
11.	**Textbook(s):** 1. Bardet J P, *Experimental Soil Mechanics*, 1st Edition, Prentice Hall (1997). 2. Head K H, *Manual of Soil Laboratory Testing, Vol. I, II, and III*, 3rd Edition, Whittles Publishing (2006).	
12.	**Reference(s):** 1. Bishop A W and Henkel D J, *The Measurement of Soil Properties in the Triaxial Test*, 1st Edition, Edward Arnold Ltd. (1957). 2. Germaine J T and Germaine A V, *Geotechnical Laboratory Measurements for Engineers*, 1st Edition, John Wiley & Sons (2009). 3. Lambe T W, *Soil Testing for Engineers*, 1st Edition, John Wiley & Sons (1957).	