भारतीय प्रौद्योगिकी संस्थान तिरुपति
TIRUPATI

INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
भारतीय प्रौद्योगिकी संस्थान तिरुपति
Yerpedu-Venkatagiri Road, Yerpedu Post, Tirupati District, Andhra Pradesh - 517 619

1.	Title of the course	Geotechnical Engineering
2.	Course number	CE313L
3.	Structure of credits (L-T-P-C)	2-1-0-3
4.	New course/modification to	Modified with CE307L/GEOTECHNICAL ENGINEERING
5.	To be offered by	Civil and Environmental Engineering
6.	Proposed by	Adapa Murali Krishna
7.	Prerequisite	None
8.	**Course Objective(s):** To explain the concepts of subsoil exploration methods and to familarize with the analysis and design of various geotechnical structures like foundations, slopes and retaining walls.	
9.	**Course Content:** Site investigation and subsoil exploration; Earth pressure theories; Design of retaining walls, sheet piles and bulkheads; Earth pressures in open cuts; Bearing capacity: theories and settlement evaluation; Design of shallow and deep foundations; Stability of slopes: analysis of infinite and finite slopes, stability conditions for earth dam reservoirs; Introduction to soil dynamics.	
10.	**Textbook(s):** 1. Coduto D P, Yeung M C and Kitch W A, Geotechnical Engineering: Principles and Practices, 3rd Edition, New Delhi (2011). 2. Rajan G and Rao A S R, Basic and Applied Soil Mechanics, 5th Edition, New Age International Publishers (2024).	
11.	**Reference(s):** 1. Bowles J, Foundation Analysis and Design, 5th Edition, McGraw Hill Education India (2008). 2. Murthy V N S, Advanced Foundation Engineering, CBS Publishers (2007). 3. Terzaghi K, Peck R B and Mesri G, Soil Mechanics in Engineering Practice, 3rd Edition, John Wiley & Sons (1996).	