

Course No	CE 5015
Course Title	Environmental Geotechnology
Credits	: L T P C 3 0 0 3
Prerequisites	Soil Mechanics / Geotechnical Engineering
Instructor(s):	Dr. Kannan Iyer

Course contents:

Basics of Environmental Geotechnology: Scope of Environmental Geotechnology, Multiphase soil behaviour, Introduction to unsaturated soil mechanics, problematic soils, Soil contamination and its impact, Waste to energy concept.

Environmental Geotechnology for Sustainable Infrastructure: Concept of sustainability for infrastructure development, Importance of Environmental Geotechnology for infrastructure projects, Overview of field and laboratory testing for infrastructure projects, Geosynthetics application for sustainable infrastructure development, Waste containment facilities, Slope stability and landslides, Re-utilization of municipal solid waste/industrial waste for various applications, Alternate geomaterials.

References Books:

1. Hsai-Yang Fang and Ronald C. Chaney, Introduction to Environmental Geotechnology, CRC Press, Taylor and Francis (Publisher), 2016.
2. P. R. Fleming, E. J. Murray, I Jefferson and E Faraghar, Problematic soils, Thomas Telford Ltd (Publisher), 2001.
3. James K. Mitchell and Kenichi Soga, Fundamentals of Soil Behaviour, John Wiley & Sons (Publisher), 2005.
4. CIDB Malaysia, Guidelines for construction on peat and organic soils in Malaysia, Construction Research Institute of Malaysia (Publishers), 2015.
5. Yunmin Chen, Liangtong Zhan and Xiaowu Tang, Advances in Environmental Geotechnics, Proceedings of the International Symposium on Geo-environmental Engineering, 2009.
6. Hari D. Sharma and Krishna R. Reddy, Geo-environmental Engineering: Site Remediation, Waste Containment and emerging Waste Management Technologies, Wiley & Sons (Publisher), 2004.
7. Recent Technical Literature on the related topics.

Any other Remarks: