CE7S01: S1 – Geotechnical Engineering [5 credits]

Module co-ordinator: Associate Prof. Brendan O’Kelly (bokelly@tcd.ie)

Lecturer(s): Second lecturer who delivers 50% of module (Lecturer TBC)

Module organisation
The module is available each year. 27 hours of lectures.

Module description, aims and contribution to programme
To provide an understanding of the geotechnical concepts and processes and the application of geotechnical principles and practical guidelines in geotechnical design.

Learning outcomes
To understand and apply appropriately in geotechnical design:
1. Basic geotechnical principles and processes
2. Laboratory and field testing
3. Ground investigation
4. Design correlations
5. Embankments
6. Ground improvements

Module content

Dr. O’Kelly will present a series of lectures on the following topics:
- Atterberg limits and soil plasticity
- Embankments on soft ground
- Ground improvement
- Slope stabilization
- Geotechnical properties of peat and effect of decomposition
- Field geotechnical monitoring including case study

Second lecturer will present a series of lectures on selected topics.

Teaching strategies
Lectures, tutorials, coursework.

Assessment
Written examination plus coursework during the semester.
Overall module marks comprises: Examination = 85%; coursework = 15%

Required textbook