

Liverpool John Moores University

Title: GEOTECHNICS
Status: Definitive
Code: **5504ICPDCE** (126998)
Version Start Date: 01-08-2021

Owning School/Faculty: Civil Engineering and Built Environment
Teaching School/Faculty: ICBT, Colombo

Team	Leader
Alison Cotgrave	Y

Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 24
Total Learning Hours: 200 **Private Study:** 176

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	15
Practical	6

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Written Exam	100	3

Aims

The students will be able to identify the various prerequisites involved in ground and site investigation and understand & evaluate the significance of water in soils, its movement and effects upon soil properties.

Learning Outcomes

After completing the module the student should be able to:

- 1 Identify the various prerequisites involved in ground and site investigation
- 2 Evaluate the significance of water in soils, its movement and effects upon soil properties and strength parameters
- 3 Identify the principals involved in assessing the stability of slopes, foundations and earth retaining structures.
- 4 Determine the stability and use appropriate factors of safety against sliding and overturning.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Examination	1	2	3	4
-------------	---	---	---	---

Outline Syllabus

Prerequisites involved in ground and site investigation.

Common rock and soil types, their mode of formation, geographical and geological distribution.

Significance of water in soils, its movement and effects upon soil properties and strength parameters.

The principals involved in assessing the stability of slopes, foundations and earth retaining structures.

The principle of effective stress in geotechnics.

The compression and shear failure of engineering soils to the conditions of test and field loading.

The stability and displacements for long-term loading of earth structures, earth retaining walls and foundations.

Calculate the position and magnitude of forces produced by liquids or soils on vertically retaining walls, determine the stability and use appropriate factors of safety against sliding and overturning.

Learning Activities

Students will be supported in their learning, to achieve the above learning outcomes, in the following ways:

By a series of lectures and through in class discussion sessions with lab demonstration of tests involved.

A recommended resource list - indicating key reading, internet support and physical learning assistance, is provided to help enable students to undertake self-directed study.

Notes

.