CIVL 7003 ADVANCED GEOTECHNICAL ENGINEERING

Credit Points 10

Legacy Code 300604

Coordinator Samanthika Liyanapathirana (https://directory.westernsydney.edu.au/search/name/Samanthika Liyanapathirana/)

Description This unit will provide an overview of soil mechanics concepts required for the solution of practical geotechnical engineering problems. Students will be taught soil and foundation analysis including design techniques. The topics will cover shallow foundations, pile foundations, the stability of earth retaining structures, excavations, soft soils, groundwater flow and stability of slopes. Practical engineering cases will be emphasized.

School Eng, Design & Built Env

Discipline Geotechnical Engineering

Student Contribution Band HECS Band 2 10cp

Level Postgraduate Coursework Level 7 subject

Equivalent Subjects LGYA 6113 - Foundation Engineering (PG)

Restrictions

Students must be enrolled in a postgraduate program

Assumed Knowledge

Fundamental knowledge of soil mechanics.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Apply soil mechanics principles to analyse foundation problems
2. Apply a systematic engineering approach to designing foundations
3. Interpret soil properties and soil test data for use in foundation analysis and design
4. Apply engineering software as a tool in foundation analysis and design
5. Interpret and apply Australian Standards when designing foundations

Subject Content

Introduction to foundation engineering
Site investigations
Shallow foundation design
Mat foundations
Lateral earth pressure
Retaining structures
Slope stability
Soft soils

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/ Group Task
Major Project 1	Equivalent 25 pages	30	N	Group
Major Project 2	Equivalent 25 pages	30	N	Individual
Final Exam	2 hours	40	N	Individual

Teaching Periods