

# CIVL 3007 ENGINEERING GEOMECHANICS

**Credit Points** 10

**Legacy Code** 301001

**Coordinator** Samanthika Liyanapathirana ([https://directory.westernsydney.edu.au/search/name/Samanthika Liyanapathirana/](https://directory.westernsydney.edu.au/search/name/Samanthika%20Liyanapathirana/))

**Description** This subject will present the application of principles of soil mechanics to the solution of foundation and geotechnical problems including the evaluation of allowable bearing capacity of shallow and pile foundations, the stability of earth retaining structures and the stability of slopes.

**School** Eng, Design & Built Env

**Discipline** Geotechnical Engineering

**Student Contribution Band** HECS Band 2 10cp

Check your fees via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 3 subject

**Pre-requisite(s)** CIVL 3014 AND  
CIVL 2012 OR  
CIVL 2011

**Equivalent Subjects** CIVL 3008 - Foundation Engineering

## 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
6. Prepare a geotechnical design report on a foundation design problem

## Subject Content

1. Site investigation
2. Design of earth retaining structures
3. Shallow foundations
4. Slope stability
5. Deep foundations

## 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.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Report	20 pages	15	N	Individual	Y
Report	20 pages	15	N	Individual	Y

Quiz	1 hour	20	N	Individual	Y
Numerical Problem Solving	2 hours	50	Y	Individual	Y

Teaching Periods

## Sydney City Campus - Term 2 (2025)

### Sydney City

#### On-site

**Subject Contact** Eileen An ([https://directory.westernsydney.edu.au/search/name/Eileen An/](https://directory.westernsydney.edu.au/search/name/Eileen%20An/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=CIVL3007\\_25-SC2\\_SC\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL3007_25-SC2_SC_1#subjects))

## Spring (2025)

### Penrith (Kingswood)

#### Hybrid

**Subject Contact** Samanthika Liyanapathirana ([https://directory.westernsydney.edu.au/search/name/Samanthika Liyanapathirana/](https://directory.westernsydney.edu.au/search/name/Samanthika%20Liyanapathirana/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=CIVL3007\\_25-SPR\\_KW\\_3#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL3007_25-SPR_KW_3#subjects))

## Parramatta City - Macquarie St

#### Hybrid

**Subject Contact** Samanthika Liyanapathirana ([https://directory.westernsydney.edu.au/search/name/Samanthika Liyanapathirana/](https://directory.westernsydney.edu.au/search/name/Samanthika%20Liyanapathirana/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=CIVL3007\\_25-SPR\\_PC\\_3#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL3007_25-SPR_PC_3#subjects))