

CIVL 2012 SOIL MECHANICS

Credit Points 10

Legacy Code 300985

Coordinator Pan Hu (<https://directory.westernsydney.edu.au/search/name/Pan Hu/>)

Description This is an introductory subject covering the use of soil, and the water in it, as an engineering material. It will provide students with a basic understanding of the physical and mechanical properties of soils, simple soil testing methods to characterise soil strength and deformation behaviour, and how to apply basic techniques to assess the hydro-mechanical response of soils subjected to loading.

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/) page.

Level Undergraduate Level 2 subject

Pre-requisite(s) MATH 1016

Equivalent Subjects CIVL 2011 - Soil Engineering CIVL 2013 - Soil Mechanics (WSTC AssocD)

Learning Outcomes

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

1. Explain the concepts of soil mechanics
2. Apply soil mechanics concepts to soil engineering problems
3. Analyse the response of soil and the water in it when subjected to loading
4. Apply basic laboratory tests to measure the engineering properties of soils
5. Solve simple design problems in soil engineering

Subject Content

soil formation
 clay mineralogy
 soil classification
 soil compaction
 effective stress in soils
 flow of water in soils
 flow nets and the engineering effects of water movements
 consolidation and settlement
 stress increases in soils
 shear strength in soils
 lateral stresses in 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.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Short Answer	5	N		Individual	N

Report	15 pages in total	15	N	Individual	N
Quiz	Closed book - 2x 50 minutes	30	N	Individual	N
Final Exam	2 hours	50	N	Individual	Y

Teaching Periods

Autumn (2025)

Penrith (Kingswood)

On-site

Subject Contact Pan Hu (<https://directory.westernsydney.edu.au/search/name/Pan Hu/>)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2012_25-AUT_KW_1#subjects)

Parramatta - Victoria Rd

On-site

Subject Contact Pan Hu (<https://directory.westernsydney.edu.au/search/name/Pan Hu/>)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2012_25-AUT_PS_1#subjects)

Sydney City Campus - Term 1 (2025)

Sydney City

On-site

Subject Contact Eileen An (<https://directory.westernsydney.edu.au/search/name/Eileen An/>)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2012_25-SC1_SC_1#subjects)

Sydney City Campus - Term 3 (2025)

Sydney City

On-site

Subject Contact Eileen An (<https://directory.westernsydney.edu.au/search/name/Eileen An/>)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2012_25-SC3_SC_1#subjects)