

# CIVL 4008 PILE FOUNDATIONS

**Credit Points** 10

**Legacy Code** 300990

**Coordinator** Samantha Liyanapathirana (<https://directory.westernsydney.edu.au/search/name/SamanthikaLiyanapathirana/>)

**Description** This subject covers analysis and design criteria for pile foundations subjected to axial, lateral and dynamic loading based on the Australian Standards. Computer software necessary to carry out analysis and design will be introduced. Also field testing methods available for pile integrity testing will be discussed.

**School** Eng, Design & Built Env

**Discipline** Geotechnical Engineering

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

Check your HECS Band contribution amount 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 4 subject

**Pre-requisite(s)** CIVL 3007 OR CIVL 3008

## Learning Outcomes

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

1. evaluate settlement and bearing capacity of single piles and pile groups
2. compute the lateral load carrying capacity of piles
3. design piled raft foundations
4. interpret and apply Australian standards for design of deep foundations
5. explain the different pile integrity testing methods and their suitability for different conditions

## Subject Content

1. Single piles and pile groups subjected to vertical loads
2. Laterally loaded piles
3. Piled raft foundations
4. Application of Australian standards in design of pile foundations
5. Design of piles subjected to dynamic loading
6. Pile integrity testing

## 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/<br>Group Task |
|------------|----------|---------|-----------|---------------------------|
| Quiz       | 1 hour   | 20      | N         | Individual                |
| Report     | 40 pages | 30      | Y         | Individual                |
| Final Exam | 2 Hour   | 50      | Y         | Individual                |

Teaching Periods

### Autumn (2022) Penrith (Kingswood)

**Day**

**Subject Contact** Samantha Liyanapathirana (<https://directory.westernsydney.edu.au/search/name/SamanthikaLiyanapathirana/>)

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL4008\\_22-AUT\\_KW\\_D#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL4008_22-AUT_KW_D#subjects))

### Parramatta - Victoria Rd

**Day**

**Subject Contact** Samantha Liyanapathirana (<https://directory.westernsydney.edu.au/search/name/SamanthikaLiyanapathirana/>)

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL4008\\_22-AUT\\_PS\\_D#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL4008_22-AUT_PS_D#subjects))