

# CIVL 7011 BUILDING ENGINEERING

**Credit Points** 10

**Legacy Code** 300713

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

**Description** The aim of this unit is to provide students with an understanding of the factors that contribute to decisions in building design in respect of compliance with building regulations and standards. Topics include soil classification for construction, footing systems, loadings and their evaluation, structural materials and systems, structural behaviour and strength, and failure and rectification.

**School** Eng, Design & Built Env

**Discipline** Building Services Engineering

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

**Level** Postgraduate Coursework Level 7 subject

**Equivalent Subjects** CUVL5001 - Building Engineering  
LGYB 8310 - Building Engineering

## Restrictions

Students must be enrolled in a postgraduate program.

## Learning Outcomes

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

1. describe the underlying concepts of building engineering
2. explain the soil classification and its implication on footing systems
3. discuss loading and structural behaviour of various structural members and perform simple performance evaluation
4. carry out rudimentary review of designs for NCCA compliance
5. assess existing structures in terms of the acceptability of their performance.
6. apply various codes of practice related to structural engineering in assessing a design solution.

## Subject Content

1. Structural design actions: dead and live load, wind effect
2. Load combinations and Limit State Design
3. Soil classification and footing systems
4. Structural engineering concepts
5. Behaviour of structural materials
6. Reinforced concrete members and prestressed concrete
7. Structural timber members and connections
8. Structural steel members: beams, columns and tension members
9. Steel connections, frames and composite members

## 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
Quiz	3 x 30 minutes	30	N	Individual
Report	4000 words	40	N	Individual
Final Exam	2 hours	30	N	Individual

Teaching Periods

## Summer A

### Online

### Online

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

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL7011\\_22-SUA\\_ON\\_O#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL7011_22-SUA_ON_O#subjects))

## Spring

### Online

### Online

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

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL7011\\_22-SPR\\_ON\\_O#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL7011_22-SPR_ON_O#subjects))