

CIVL 5001 BUILDING ENGINEERING

Credit Points 10

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Description This subject provides students with an understanding of the factors that contribute to decisions in building design, particularly compliance with the National Construction Code and related standards. Students apply their learning to real world contexts as they integrate the construction codes, standards and engineering structural principles to building engineering. Students build their skillset to assess the structural performance acceptability of buildings.

School Eng, Design & Built Env

Discipline Building Services 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/) page.

Level Postgraduate Coursework Level 5 subject

Equivalent Subjects CIVL 7011 - Building Engineering

Restrictions

Students enrolled in the 3693 Master of Engineering (Civil Engineering) cannot enrol in this subject.

Students enrolled in Undergraduate Construction programs can enrol in this subject with the approval of the Director of Academic Programs for PG Construction.

Learning Outcomes

1. Analyse the underlying concepts of building engineering.
2. Interpret soil classification and its implication on footing systems.
3. Determine structural design actions and strength of various structural members through simple performance evaluation.
4. Interpret the performance requirements of the structural provisions of the National Construction Code as they relate to all classes of buildings.
5. Apply various standards and codes of practice related to structural engineering.
6. Evaluate existing structures in terms of the acceptability of their performance.

Subject Content

1. Structural provisions of the National Construction Code (Volumes 1 and 2)
2. Structural design actions: dead and live load, wind effect
3. Load combinations and Limit State Design
4. Soil classification and footing systems
5. Structural engineering concepts
6. Behaviour of structural materials
7. Reinforced concrete members and prestressed concrete
8. Structural timber members and connections
9. Structural steel members: beams, columns, and tension members
10. 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

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=CIVL5001_22-SPR_ON_O#subjects)