

# CIVL 2017 SUSTAINABLE CONSTRUCTION MATERIALS

**Credit Points** 10

**Legacy Code** 301399

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

**Description** This subject focusses on the suitability for purpose (performance, durability, sustainability and standards and regulatory compliance) of building and construction materials. Students investigate the physical properties and behaviour of various timbers, metals, concretes, polymers, new materials and composite systems, and their durability within Australia's diverse environments. Students also consider sustainable and eco-friendly construction materials in life-cycle assessment of construction systems and materials selection at the design stage.

**School** Eng, Design & Built Env

**Discipline** Structural 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 2 subject

**Incompatible Subjects** CIVL 2009 - Material Science in Construction

**Assumed Knowledge**

Content covered in Residential Building.

## Learning Outcomes

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

1. Characterise properties of different building materials and their application in building construction.
2. Analyse how and why materials degrade in the built environment.
3. Assess the environmental impacts associated with materials selection for construction.
4. Assess the suitability of materials in building components used in buildings.
5. Apply Australian standards and regulations relating to eco-friendly and durable buildings.

## Subject Content

1. Properties of construction materials.
2. Application of various materials in construction.
3. Durability of construction materials and components.
4. Sustainable and eco-friendly construction materials.
5. Selection of materials in construction.
6. Life-cycle assessment of construction systems.
7. Compliance with Australian standards and regulations.

## 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
Report	1200 words	30%	N	Individual
Case Study	2000 words	40%	N	Individual
Quiz	x3 (10% each) 45 minutes per Quiz.	30%	N	Individual

Teaching Periods

### Autumn (2022) Penrith (Kingswood)

**Day**

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

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL2017\\_22-AUT\\_KW\\_D#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL2017_22-AUT_KW_D#subjects))

### Parramatta - Victoria Rd

**Day**

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

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### Autumn (2023) Penrith (Kingswood)

**On-site**

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

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=CIVL2017\\_23-AUT\\_KW\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2017_23-AUT_KW_1#subjects))

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