

BLDG 1013 BUILDING SCIENCE

Credit Points 10

Legacy Code 301219

Coordinator Alan Todhunter (<https://directory.westernsydney.edu.au/search/name/Alan Todhunter/>)

Description This subject provides students with an introductory overview of the way in which scientific principles impact on the structure, fabric and performance of the built environment. Areas covered will include the concepts of force, energy and work in building structures; properties of common building materials; and significant aspects of heat, light and sound in buildings. All the theoretical content will be contextualised within examples drawn from the construction industry. Students will be able to recognise the critical data required for practical decision-making in the area of building technology.

School Eng, Design & Built Env

Discipline Building Science and Technology

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 1 subject

Learning Outcomes

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

1. Describe the ways that forces act on building structures
2. Compare and contrast the properties of common building materials
3. Explain the causes of deterioration in building materials over time and suggest remedies for this deterioration
4. Distinguish the concepts of embodied energy and embodied carbon as they relate to buildings
5. Correlate the concepts of heat, light and sound transmission through building elements with decision making on materials for buildings

Subject Content

1. Introduction to scientific concepts as they impact on buildings
2. Energy, mass, force, velocity and acceleration in building structures
3. Properties of timber, steel, concrete and other common building materials
4. Durability and deterioration in building materials
5. Embodied energy and embodied carbon in building materials and systems
6. Management and control of heat, light and sound in buildings

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
Quiz	30 minutes	10	N	Individual	N
Case Study	2500 words	30	N	Group	N
Quiz	45 minutes	15	N	Individual	N
Reflection	1500 words	30	N	Individual	N
Quiz	45 minutes	15	N	Individual	N

Teaching Periods

Spring (2025)

Penrith (Kingswood)

Hybrid

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

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=BLDG1013_25-SPR_KW_3#subjects)

Parramatta - Victoria Rd

Hybrid

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