



UNSW
SYDNEY

Australia's
Global
University

Built Environment

ARCH7213
High Performance Building Systems



Course Outline – Term 2, 2020

Disclaimer

Information within this document is subject to change. The full and most accurate course outline will be available in Moodle closer to the start of the term in which the course is offered.

1. COURSE STAFF

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2. COURSE DETAILS

Credit Points	6 units of credit (uoc)
Workload	Approx. 150 hours including class contact hours, weekly individual and group online learning activities, readings, class preparation, and assessment activities.
Teaching Times and Location	Find details in timetable http://www.timetable.unsw.edu.au

Description

This course introduces the students to the analysis of the users' needs related to the architectural space, translating these into performance-based requirements and specifications. Further, the students will investigate the durability of building envelope components and the possible design countermeasures to the most common defects due to errors in conception, construction, or maintenance. In the computer labs, detailed technological design will be informed by daylighting analyses and software simulations of the hygrothermal performance of building components. Finally, the students will orient themselves in the regulatory framework – including the National Construction Code and technical standards (e.g., AS/NZS or ISO standards) – to develop specifications, and verify the delivered performance and building quality, beyond compliance.

Aims

1. develop a method to identify the users' needs and design the buildings and their components in direct response to these needs, with a performance-based approach
2. to take into account the performance over time of building components to avoid pathological conditions (i.e., early failures because of design or construction errors) and grant the desired performance for the whole service life

Course Learning Outcomes (CLOs)

At the successful completion of this course, you will be able to:

1. Identify the users' needs related to building performance.
2. Identify all the performance requirements which are relevant to a building system.
3. Compare multiple design options which can provide the same performance for a given situation.
4. Investigate the performance over time of building components (durability and building pathology).
5. Specify performance targets and verify that the performance objectives are achieved.

3. ASSESSMENT

Assessment task	Weight	CLOs Assessed
1. Task 1 - Design Brief	10%	1, 2
2. Task 2 - Performance Analysis	30%	1, 2, 3
3. Task 3 - Implementing Performance	30%	1, 3, 4
4. Task 4 - Performance Verification	30%	3, 4, 5

4. COURSE IMPROVEMENT AND FEEDBACK

Feedback from students is an integral part of improving courses and teaching approaches. One of the primary mechanisms of feedback is myExperience, which we strongly urge all students to complete at the end of term. Course convenors use the feedback to make ongoing improvements to the course. This is communicated in Moodle in the myFeedback Matters page.