UNSW Course Outline

ARCH1331 Architectural Fabrication - 2024

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General Course Information

Course Code : ARCH1331
Year : 2024
Term : Term 1
Teaching Period : T1
Is a multi-term course? : No
Faculty : Faculty of Arts, Design and Architecture
Academic Unit : School of Built Environment
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Undergraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

Architectural Fabrication expands your knowledge and understanding of construction material properties and their integration with architectural forms. The course is focused on exploring the role of the building façade, as a multi-layered system able simultaneously to deliver thermal

comfort and empower interaction between inside and outside of a building. You will be provided with new tools and methods to understand the technical narrative behind architectural case studies. You will also explore and develop the relationship between design and tectonics in your own projects. The course is a combination of technical analysis and workshop-based experimentation directed to understanding the hierarchy of building components and the logic behind architectural construction. Modern conceptions of architectural tectonics will be explored, and physical precedents analysed.

Relationship to Other Courses

This course requires ARCH1261 Construction and Structures 2 as a prerequisite.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Assess material and construction options informed by disciplinary knowledge.
CLO2 : Integrate construction and structural knowledge, including their environmental performance into an architectural design.
CLO3 : Communicate material, construction and structural information using drawings, models, specifications and schedules.
CLO4 : Apply knowledge of relevant legislation, quality and performance standards and codes in the selection of materials and construction systems.

Course Learning Outcomes	Assessment Item
CLO1 : Assess material and construction options informed by disciplinary knowledge.	• Case Study Report • Design Strategies • Construction and Detailed Design
CLO2 : Integrate construction and structural knowledge, including their environmental performance into an architectural design.	• Case Study Report • Design Strategies • Construction and Detailed Design
CLO3 : Communicate material, construction and structural information using drawings, models, specifications and schedules.	• Case Study Report • Design Strategies • Construction and Detailed Design
CLO4 : Apply knowledge of relevant legislation, quality and performance standards and codes in the selection of materials and construction systems.	• Design Strategies • Construction and Detailed Design

Learning and Teaching Technologies

Moodle - Learning Management System | Echo 360

Learning and Teaching in this course

The course will offer a combination of in-person lectures and studio tutorials. In the lectures, key concepts, preliminary analyses, and essential technical knowledge will be covered. The studio tutorials will concentrate on providing feedback sessions, designed to assist students in further and successfully developing their work for each assignment.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Case Study Report Assessment Format: Individual	15%	Start Date: Not Applicable Due Date: 23/02/2024 11:59 PM
Design Strategies Assessment Format: Individual	40%	Start Date: Not Applicable Due Date: 28/03/2024 11:59 PM
Construction and Detailed Design Assessment Format: Individual	45%	Start Date: Not Applicable Due Date: 02/05/2024 11:59 PM

Assessment Details

Case Study Report

Assessment Overview

You will produce a report presenting analytical drawings exploring the relationship between design and technology for selected case studies. Grading will be done against assessment criteria accompanied by written feedback. Verbal feedback will also be given in the tutorials.

Course Learning Outcomes

- CLO1 : Assess material and construction options informed by disciplinary knowledge.
- CLO2 : Integrate construction and structural knowledge, including their environmental performance into an architectural design.
- CLO3 : Communicate material, construction and structural information using drawings, models, specifications and schedules.

Detailed Assessment Description

The first assignment is designed to help you identify and reflect on the various design considerations and technical aspects that underlie the design of a residential façade. In good design and architecture, these considerations and aspects have mutual relationships and

influence one another. For instance, in a well-engineered façade, you will notice that the alignment of the windows, the choice and texture of materials, and the views enabled towards the outside are all outcomes of interconnected design decisions. In design thinking, nothing is left isolated, from the colour of the mortar used for a brick façade to the alignment of the brise-soleil. This submission is for you to understand the relationship, qualities, and roles of different layers composing a building's fabric for a selected case study.

Assessment Length

Four-page case study report

Assessment information

A detailed assessment description and criteria is available on ARCH1331 Moodle page.

Assignment submission Turnitin type

This is not a Turnitin assignment

Design Strategies

Assessment Overview

You will produce design strategies that explore opportunities for a building façade to respond to different scenarios in a project site. Grading will be done against assessment criteria accompanied by written feedback. Verbal feedback will also be given in the tutorials.

Course Learning Outcomes

- CLO1 : Assess material and construction options informed by disciplinary knowledge.
- CLO2 : Integrate construction and structural knowledge, including their environmental performance into an architectural design.
- CLO3 : Communicate material, construction and structural information using drawings, models, specifications and schedules.
- CLO4 : Apply knowledge of relevant legislation, quality and performance standards and codes in the selection of materials and construction systems.

Detailed Assessment Description

Submission 2 is about developing three different design strategies for various residential façades. Each façade strategy needs to respond to a specific scenario where data such as orientation, prevailing wind, and urban context is provided. You have to consider the three façade strategies as belonging to different buildings, each two stories high, in an abstract location in the inner west suburbs of Sydney. The pillars of your strategies are the same as those you used for your case study analysis. In this way, you are empowered to apply what you learned in the case study analysis. You can choose your three scenarios from a list of five. Each scenario is defined

by a bay including a generic section developed with the same detail as a 1:200 design.

Assessment Length

Three A2 panels

Assessment information

A detailed assignment description and criteria is available on ARCH1331 Moodle page.

Assignment submission Turnitin type

This is not a Turnitin assignment

Construction and Detailed Design

Assessment Overview

You will reflect on the arrays of solutions presented for design strategies assessment to finalise the detailed design of a building façade. Grading will be done against assessment criteria accompanied by written feedback. Verbal feedback will also be given in the tutorials.

Course Learning Outcomes

- CLO1 : Assess material and construction options informed by disciplinary knowledge.
- CLO2 : Integrate construction and structural knowledge, including their environmental performance into an architectural design.
- CLO3 : Communicate material, construction and structural information using drawings, models, specifications and schedules.
- CLO4 : Apply knowledge of relevant legislation, quality and performance standards and codes in the selection of materials and construction systems.

Detailed Assessment Description

Submission 3 involves developing a detailed design for one of your scenarios, bringing it to a 1:10 scale, ready for construction. After your second submissions, you need to select one of the three scenarios you have been working on. Choose either the one that interests you the most or the one that presents the greatest challenge. Remember, the more you are challenged, the more you will learn. The focus of this submission is to provide technical documentation for your chosen scenario, identifying tangible components, materials, and systems within your design.

Assessment Length

Two A1 panels and one physical model

Assessment information

A detailed description of the assessment and criteria is available on ARCH1331 Moodle page.

Assignment submission Turnitin type

This is not a Turnitin assignment

General Assessment Information

Assessment 1: Case Study Analysis

In this assessment, you are required to produce a report with analytical drawings that explore the relationship between design and technology in selected case studies. Your work will be evaluated based on specific assessment criteria. You will receive individual written feedback online, as well as verbal feedback during tutorial sessions.

Assessment 2: Design Strategies

For this assessment, you will develop design strategies to investigate how a building façade can respond to various scenarios at a project site. Your work will be marked against established assessment criteria. As with the first assessment, individual written feedback will be provided online, accompanied by verbal feedback during the tutorials.

Assessment 3: Construction and Detailed Design

This assessment involves reflecting on the range of solutions presented in the Design Strategies assessment to finalise the detailed design of a building façade. Your work will again be marked against specific assessment criteria and you will receive individual written feedback online, along with verbal feedback during tutorial sessions.

Grading Basis

Standard

Requirements to pass course

Achieve a composite mark of at least 50 out of 100.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Lecture	Introduction to the course; How to read a construction detail? Introduction to the first assessment.
	Tutorial	Introduction to the First Assessment. Each student will be provided with a case study.
Week 2 : 19 February - 25 February	Lecture	Façade fundamentals, design and technical principles in facade engineering.
	Tutorial	Feedback on the work produced by each student for the tutorial session: The more work you produce, the more detailed and useful the feedback will be.
Week 3 : 26 February - 3 March	Lecture	Challenging the role of façade; Internal activities and façade design; Social interaction and façade design.
	Tutorial	Introduction to the Second Assessment.
Week 4 : 4 March - 10 March	Lecture	Thermal comfort and façade design; Shading Strategies; Thermal Bridges.
	Tutorial	Feedback on the work produced by each student for the tutorial session. The more work is produced by the student the more detailed and useful the feedback will be.
Week 5 : 11 March - 17 March	Lecture	Ventilation Strategies; Façade design strategies; How to submit the second assessment.
	Tutorial	Feedback on the work produced by each student for the tutorial session. The more work is produced by the student the more detailed and useful the feedback will be.
Week 6 : 18 March - 24 March	Other	Flexibility Week: No lecture or tutorial is scheduled. Students are encouraged to work on the final drawings for the second submission. The work produced during Week 6 will enable students to receive thorough feedback for Assessment 2 in Week 7, prior to the submission date.
Week 7 : 25 March - 31 March	Lecture	Façade components; Construction detailing.
	Tutorial	Feedback on the work produced by each student for the tutorial session. The more work is produced by the student the more detailed and useful the feedback will be.
Week 8 : 1 April - 7 April	Lecture	Effective Strategies for Moisture Control: Understanding and Implementing Techniques in Building Design and Maintenance.
	Tutorial	Introduction to the Third Assessment.
Week 9 : 8 April - 14 April	Lecture	Windows and Glazing Components: Exploring Design and Functionality.
	Tutorial	Feedback on the work produced by each student for the tutorial session: The more work a student produces, the more detailed and useful the feedback will be.
Week 10 : 15 April - 21 April	Lecture	Architectural Cladding with Diverse Materials: Exploring Design Innovations and Functional Applications
	Tutorial	Feedback on the work produced by each student for the tutorial session: The greater the volume of work produced by the student, the more detailed and useful the feedback will be.
Week 11 : 22 April - 28 April	Homework	Study Period

Attendance Requirements

You are expected to be regular and punctual in attendance at all classes for the School of Built Environment courses in which you are enrolled. If and where individual courses have specific attendance requirements, these will be stated in the course outline.

If you do not attend, engage, or participate in scheduled class activities, including lectures, tutorials, studios, labs, etc, you run the risk of failing a course.

If illness or unexpected and beyond your control circumstances prevent you from completing a task on time, or substantially disturb your assessment performance, you should apply for Special Consideration, as soon as practicable, accompanied by appropriate documentation.

No special consideration will be provided if you miss out on essential course information and materials, or if you miss assessment tasks and deadlines due to unexplained absences or an unapproved lack of attendance.

You may be advised by the Course Convenor to withdraw from the course if significant learning activities are missed.

Course Resources

Prescribed Resources

Prescribed Resources for this course will be available on the Moodle page.

Additional Costs

For the final assessment, students are required to produce a physical model, which might result in additional costs.

Course Evaluation and Development

We encourage and support students to maintain regular contact with the course convenor to provide informal feedback throughout the course. For specific issues or detailed feedback, please arrange a meeting with the course convenor via email.

In this course there is an option for students to provide anonymous feedback via the course's Moodle page, which is directly sent to the convenor. As a final step, students are invited to share their insights and experiences by completing the MyExperience survey. The feedback gathered each year is integral to the continuous enhancement and development of the course.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Dr Luciano Cardellicchio		Anita B. Lawrence Centre, West Wing H13, Second Floor, Room 2007.		Appointment to be arranged via email.	No	Yes

Other Useful Information

Academic Information

Due to evolving advice by NSW Health, students must check for updated information regarding online learning for all Arts, Design and Architecture courses this term (via Moodle or course information provided).

Please see: https://www.unsw.edu.au/arts-design-architecture/student-life/resources-support/protocols-guidelines for essential student information relating to:

- UNSW and Faculty policies and procedures;
- Student Support Services;
- Dean's List;
- review of results;
- credit transfer;
- cross-institutional study and exchange;
- examination information;
- enrolment information;
- Special Consideration in the event of illness or misadventure;
- student equity and disability;

And other essential academic information.

Academic Honesty and Plagarism

Plagiarism is using the words or ideas of others and presenting them as your own. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement.

UNSW groups plagiarism into the following categories:

- Copying: Using the same or very similar words to the original text or idea without acknowledging the source or using quotation marks. This includes copying materials, ideas or concepts from a book, article, report or other written document, presentation, composition, artwork, design, drawing, circuitry, computer program or software, website, internet, other electronic resource, or another person's assignment without appropriate acknowledgement.
- Inappropriate paraphrasing: Changing a few words and phrases while mostly retaining the original information, structure and/or progression of ideas of the original without acknowledgement. This also applies in presentations where someone paraphrases another's ideas or words without credit and to piecing together quotes and paraphrases into a new whole, without appropriate referencing.

- Collusion: Working with others but passing off the work as a person's individual work. Collusion also includes providing your work to another student for the purpose of them plagiarising, paying another person to perform an academic task, stealing or acquiring another person's academic work and copying it, offering to complete another person's work or seeking payment for completing academic work.
- Inappropriate citation: Citing sources which have not been read, without acknowledging the "secondary" source from which knowledge of them has been obtained.
- Duplication ("self-plagiarism"): Submitting your own work, in whole or in part, where it has previously been prepared or submitted for another assessment or course at UNSW or another university.

The UNSW Academic Skills support offers resources and individual consultations. Students are also reminded that careful time management is an important part of study. One of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and proper referencing of sources in preparing all assessment items. UNSW Library has the ELISE tool available to assist you with your study at UNSW. ELISE is designed to introduce new students to studying at UNSW, but it can also be a great refresher during your study.

Completing the ELISE tutorial and quiz will enable you to:

- analyse topics, plan responses and organise research for academic writing and other assessment tasks
- effectively and efficiently find appropriate information sources and evaluate relevance to your needs
- use and manage information effectively to accomplish a specific purpose
- better manage your time
- understand your rights and responsibilities as a student at UNSW
- be aware of plagiarism, copyright, UNSW Student Code of Conduct and Acceptable Use of UNSW ICT Resources Policy
- be aware of the standards of behaviour expected of everyone in the UNSW community
- locate services and information about UNSW and UNSW Library

Use of AI for assessments

As AI applications continue to develop, and technology rapidly progresses around us, we remain committed to our values around academic integrity at UNSW. Where the use of AI tools, such as ChatGPT, has been permitted by your course convener, they must be properly credited and your submissions must be substantially your own work.

In cases where the use of AI has been prohibited, please respect this and be aware that where unauthorised use is detected, penalties will apply.

Use of AI for assessments | UNSW Current Students

Submission of Assessment Tasks

Turnitin Submission

If you encounter a problem when attempting to submit your assignment through Turnitin, please telephone External Support on 9385 3331 or email them on externalteltsupport@unsw.edu.au

Support hours are 8:00am – 10:00pm on weekdays and 9:00am – 5:00pm on weekends (365 days a year). If you are unable to submit your assignment due to a fault with Turnitin, you may apply for an extension, but you must retain your ticket number from External Support (along with any other relevant documents) to include as evidence to support your extension application. If you email External Support, you will automatically receive a ticket number, but if you telephone, you will need to specifically ask for one. Turnitin also provides updates on their system status on Twitter.

Generally, assessment tasks must be submitted electronically via either Turnitin or a Moodle assignment. In instances where this is not possible, alternative submission details will be stated on your course's Moodle site. For information on how to submit assignments online via Moodle: https://student.unsw.edu.au/how-submit-assignment-moodle

Late Submission Penalty

UNSW has a standard late submission penalty of:

- 5% per calendar day,
- for all assessments where a penalty applies,
- capped at five calendar days (120 hours) from the assessment deadline, after which a student cannot submit an assessment, and
- no permitted variation.

Students are expected to manage their time to meet deadlines and to request Special Consideration as early as possible before the deadline. Support with Time Management is available here.

School Contact Information

beadmin@unsw.edu.au