



UNSW

UNSW Course Outline

BENV2930 Living Architecture: Green Roofs and Green Walls - 2024

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General Course Information

Course Code : BENV2930

Year : 2024

Term : Summer

Teaching Period : U1

Is a multi-term course? : No

Faculty : Faculty of Arts, Design and Architecture

Academic Unit : School of Built Environment

Delivery Mode : Multimodal

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

This course introduces you to the feasibility, planning, design and implementation of living

architecture, that is, green roofs and green walls. You will develop knowledge of the benefits of green roofs and living wall systems as elements in high-performance built form and you will explore their contribution to social amenity for medium and high density living. You will explore the integration of constructed vegetated elements into built form in diverse urban contexts.

Course Learning Outcomes

| Course Learning Outcomes |
|---|
| CLO1 : Review and analyse the benefits of green roof and green wall projects locally and from around the world |
| CLO2 : Discuss the planning, urban design and building management issues that affect the use and maintenance of green roof and green walls |
| CLO3 : Compare and contrast green roof and living walls projects using visual, digital, and written modes of communication |
| CLO4 : Identify and explain the appropriateness of green roof and living wall systems, energy use, construction materials and techniques, and environmental benefits and development feasibility. |

| Course Learning Outcomes | Assessment Item |
|---|---|
| CLO1 : Review and analyse the benefits of green roof and green wall projects locally and from around the world | <ul style="list-style-type: none">• Online course modules• Precedent Study |
| CLO2 : Discuss the planning, urban design and building management issues that affect the use and maintenance of green roof and green walls | <ul style="list-style-type: none">• Online course modules• Precedent Study |
| CLO3 : Compare and contrast green roof and living walls projects using visual, digital, and written modes of communication | <ul style="list-style-type: none">• Precedent Study |
| CLO4 : Identify and explain the appropriateness of green roof and living wall systems, energy use, construction materials and techniques, and environmental benefits and development feasibility. | <ul style="list-style-type: none">• Online course modules• Precedent Study |

Learning and Teaching Technologies

Moodle - Learning Management System | Microsoft Teams

Learning and Teaching in this course

The course content will be delivered through an intensive fully online learning mode. You will work on the modules at your own pace and will be expected to have completed established course milestones in preparation for each assignment.

The online learning includes interactive PowerPoint-type lessons, short videos, and “check in” quizzes. Assignments will require library and database research, synthesis of materials, scholarly writing, and communicating with other students in the class in small groups.

Microsoft Teams will be used to deliver online tutorials. You will be added to a Teams folder and will be sent a link to each tutorial session.

Information relating to additional resources, calendar updates, etc. will be added to the Moodle page and will be communicated through Moodle announcements, so please check Moodle on a regular basis and watch for email communications from Fatemeh.

Assessments

Assessment Structure

| Assessment Item | Weight | Relevant Dates |
|--|--------|--|
| Online course modules Assessment Format: Individual | 40% | Start Date: 02/01/2024 12:00 AM Due Date: 29/01/2024 12:00 AM |
| Precedent Study Assessment Format: Individual | 60% | Start Date: 08/01/2024 05:00 PM Due Date: 02/02/2024 12:00 AM |

Assessment Details

Online course modules

Assessment Overview

You will complete ten interactive online modules, which include multiple choice and short answer questions. Marking will be automatically calculated within each module, supported by written feedback.

Course Learning Outcomes

- CLO1 : Review and analyse the benefits of green roof and green wall projects locally and from around the world
- CLO2 : Discuss the planning, urban design and building management issues that affect the use and maintenance of green roof and green walls
- CLO4 : Identify and explain the appropriateness of green roof and living wall systems, energy use, construction materials and techniques, and environmental benefits and development feasibility.

Detailed Assessment Description

You will answer to the **quizzes** embedded in the PowerPoint lessons while completing the online learning. Marking for the quiz components will be automatically calculated within each module.

You will be assigned three topics from those listed below to write a **blog post** about. Each blog post should be accompanied with **150–200-word text** to describe what you have learned or discovered by completing the activity.

- Benefits of Living Architecture to air quality
- Living architecture and star rating systems
- Green roofs and social equity
- Green walls and connection with nature in indoor settings
- Heat-sensitive healthy places around a green wall project
- Reviewing strategic policy documents
- Rating tools and living architecture

Submission notes

Copy and paste the content of the blog directly to Moodle to the assigned folder. Attach the BE Individual Plagiarism Declaration form.

Assessment information

Label the name of the blog as follows:

SURNAME First Name_ Blog post #

For example: **AMINPOUR Fatemeh_ Blog post 2**

You should **include** a signed UNSW/BE Individual Plagiarism Declaration Form to your submission. Available on the BE website under current students: <https://www.be.unsw.edu.au/sites/default/files/upload/PlagDecl-Indiv.pdf>

Precedent Study

Assessment Overview

You will compare and contrast two precedents of living architecture. Your work will be submitted as an illustrated report, approximately 2,000 words. Marking will be done using a rubric and written feedback will be provided.

Course Learning Outcomes

- CLO1 : Review and analyse the benefits of green roof and green wall projects locally and from around the world
- CLO2 : Discuss the planning, urban design and building management issues that affect the use and maintenance of green roof and green walls
- CLO3 : Compare and contrast green roof and living walls projects using visual, digital, and written modes of communication
- CLO4 : Identify and explain the appropriateness of green roof and living wall systems, energy

use, construction materials and techniques, and environmental benefits and development feasibility.

Detailed Assessment Description

You will be assigned two green roof projects to review, compare and analyse based on the concepts introduced in the learning modules. The projects will be based on a building in an urban context, having a green roof. You will prepare an illustrated report of **2,000 words** to discuss the context of each project in its setting, the key features, the projects implementation, the experience of the project site, the issues that affect the use and maintenance and justify the appropriateness of the green roof system.

Assessment Length

2000

Submission notes

1 x PDF file (including the BE Individual Plagiarism Declaration form) submitted to Moodle

Assessment information

Submit your work as one pdf combining all the pages of your document. Be sure to include a **cover page** with the name of the projects assigned to you. On the cover page, include your name and student number clearly shown.

Label your pdf file as follows:

SURNAME First Name_Precedent projects Names_Assignment 2

For example: **AMINPOUR Fatemeh_Harvard Business School Rooftop and Javits Center Green Roof_Assignment 2**

Your pdf should also include a signed UNSW/BE Individual Plagiarism Declaration Form to your submission. Available on the BE website under current students: <https://www.be.unsw.edu.au/sites/default/files/upload/PlagDecl-Indiv.pdf>

General Assessment Information

You are expected to work independently with the online material and have completed the assignments before each milestone. You will compete 10 online modules. In this blended, online delivery, it will be totally up to you to monitor your completion of the modules and quizzes imbedded in each module. To get the most out of the course you will need to plan your days and weeks carefully to allow yourself to engage fully in the course. We recommend completing

Modules 1-3 in WK1, Modules 4-6 in WK2, Modules 7, 8 in Week 3, and Modules 9, 10 in WK4. This way you will finalise your precedent study in Assignment 2 with full knowledge of the course material.

For the assessment tasks in this course, you may use standard editing and referencing software, but not generative AI. You are permitted to use the full capabilities of the standard software to answer the question (e.g. you may wish to specify particular software such as Microsoft Office suite, Grammarly, etc.). If the use of generative AI such as ChatGPT is detected, it will be regarded as serious academic misconduct and subject to the standard penalties, which may include 00FL, suspension and exclusion.

Referencing must be correct for Harvard Style. In-text referencing must be used and correctly and a bibliography included at the end of your writing – also stylistically correct. Photos or drawings that you have taken or created should also be identified. Assistance on this can also be found on the [UNSW Learning Centre's website](#).

All assignments will be submitted electronically, and feedback to you will be delivered via Moodle.

Grading Basis

Standard

Requirements to pass course

You are expected to come to the tutorial and being prepared to critically engage with the activities. The assignments set in this course involve individual work based on critical thinking, clear expression and rigorous standards of scholarship. You will from time to time make presentations of your own work in the tutorial sessions and participate in peer review exercises.

Course Schedule

| Teaching Week/Module | Activity Type | Content |
|----------------------------------|---------------|---|
| Week 1 : 1 January - 7 January | Module | You will complete Modules 1-3, and the quizzes embedded in these modules to get familiar with Living Architecture before our first tutorial in WK2. Module 1: Introduction to Living Architecture Module 2: Living Architecture in 21st Century Cities Module 3: Renewed and enhanced urban ecological systems |
| Week 2 : 8 January - 14 January | Seminar | We will discuss the course material for Modules 1-3. |
| | Module | You will complete Modules 4-6, the quizzes embedded in these modules and the blog posts assigned to you and scheduled for this week. Module 4: Improved built environment performance Module 5: Enhanced human quality of life Module 6: Green roofs in more detail |
| Week 3 : 15 January - 21 January | Lecture | We will listen to Alex's lecture on his experience of designing and delivering green roofs and green walls. |
| | Seminar | We will discuss the course material for Modules 4-6 and your answers to the blog posts scheduled for this week. |
| | Module | You will complete Modules 7, 8, the quizzes embedded in these modules and the blog posts assigned to you and scheduled for this week. Module 7: Green walls in more detail Module 8: Climate responsive design and Living Architecture features |
| Week 4 : 22 January - 28 January | Seminar | We will discuss the course material for Modules 7, 8 and your answers to the blog posts scheduled for this week. |
| | Assessment | We will workshop your Assessment 2 work in progress. |
| | Module | You will complete Modules 9, 10, the quizzes embedded in these modules and the blog posts assigned to you and scheduled for this week. Module 9: Planning + implementation: Issues, policies, legislation + resources Module 10: Trends and future prospects for Living Architecture |
| Week 5 : 29 January - 4 February | Seminar | We will discuss the course material for Modules 9, 10 and your answers to the blog posts scheduled for this week. |
| | Assessment | We will workshop your Assessment 2 work in progress. |

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 you do not attend, engage, or participate in scheduled class activities, 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.

General Schedule Information

In Weeks 2-5, you should participate in the 2-hour tutorials, which will run online in MS Teams on Mondays, 15:00 – 17:00pm. The aim of the tutorials is to provide opportunities for interactive learning related to the topics of the lectures and the assignment activities. This will be achieved best when you attend each session.

Course Resources

Prescribed Resources

Hopkins, G. and Goodwin, C., 2011. *Living architecture: green roofs and walls*. CSIRO Publishing.

Chiquet, C., Dover, J.W. and Mitchell, P., 2013. Birds and the urban environment: the value of green walls. *Urban Ecosystems*, 16, pp.453-462.

Mayrand, F. and Clergeau, P., 2018. Green roofs and green walls for biodiversity conservation: a contribution to urban connectivity?. *Sustainability*, 10(4), p.985.

Kennedy, C., Pinceti, S. and Bunje, P., 2011. The study of urban metabolism and its applications to urban planning and design. *Environmental pollution*, 159(8-9), pp.1965-1973.

Pugh, T.A., MacKenzie, A.R., Whyatt, J.D. and Hewitt, C.N., 2012. Effectiveness of green infrastructure for improvement of air quality in urban street canyons. *Environmental science & technology*, 46(14), pp.7692-7699.

Kellert, S.R., 2012. *Building for life: Designing and understanding the human-nature connection*. Island press.

Kaplan, S., 1995. The restorative benefits of nature: Toward an integrative framework. *Journal of environmental psychology*, 15(3), pp.169-182.

Coutts, A.M., Tapper, N.J., Beringer, J., Loughnan, M. and Demuzere, M., 2013. Watering our cities: The capacity for Water Sensitive Urban Design to support urban cooling and improve human thermal comfort in the Australian context. *Progress in physical geography*, 37(1), pp.2-28.

Chun, C., Kwok, A. and Tamura, A., 2004. Thermal comfort in transitional spaces—basic concepts: literature review and trial measurement. *Building and environment*, 39(10), pp.1187-1192.

Course Evaluation and Development

Last year 10/40 students completed the MyExperience evaluation for the course.

They liked the engagement tools on Moodle and the ability to complete the course remotely.

They requested more lively tutorials by bringing in experts or guest speakers. They also asked feedback on their work in progress for Assignment 2. To respond to these comments, we have invited a guest speaker to deliver a guest lecture on green walls and green roofs in WK2. We have also dedicated two tutorial sessions to give students feedback on Assign 2 work in progress.

Staff Details

| Position | Name | Email | Location | Phone | Availability | Equitable Learning Services Contact | Primary Contact |
|----------|-------------------|-------|--|-------|---------------------------------|-------------------------------------|-----------------|
| Convenor | Fatemeh A minpour | | Room 3015, Level 3, Anita B. Lawrence Centre | | Please email for an appointment | No | Yes |
| Tutor | Mia Thornton | | | | Please email for an appointment | No | No |

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 Plagiarism

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

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