UNSW Course Outline

BLDG2021 High Rise Building Construction - 2024

Published on the 23 Sep 2024

General Course Information

Course Code : BLDG2021
Year : 2024
Term : Term 3
Teaching Period : T3
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 the functional requirements of high-rise building and the technologies and processes used in high-rise building construction. You will learn about foundation systems; typical vertical and horizontal loads on high-rise buildings, structural systems including structural

steel and reinforced concrete construction; enclosure systems; material handling and construction methods including selection of mobile and tower cranes, and lift systems. You will also explore the contributions of high-rise building features, processes and technologies to the practice of sustainable construction and opportunities for high-rise building practice to align with UN Sustainability Development Goal 11 of making cities and human settlements inclusive, safe, resilient and sustainable.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Summarise key sub-systems of high-rise buildings that should be identified and managed throughout the building life cycle.
CLO2 : Analyse high-rise building systems and determine their suitability in the project context.
CLO3 : Use theories to develop solutions to problems related to high-rise building construction.
CLO4 : Analyse the suitability of construction equipment, technologies and sustainability features to build high-rise buildings in different contexts.

Course Learning Outcomes	Assessment Item
CLO1 : Summarise key sub-systems of high-rise buildings that should be identified and managed throughout the building life cycle.	• Assessment 1: Online tests • Online final exam
CLO2 : Analyse high-rise building systems and determine their suitability in the project context.	• Assessment 1: Online tests • Online final exam
CLO3 : Use theories to develop solutions to problems related to high-rise building construction.	• Assessment 1: Online tests • Online final exam
CLO4 : Analyse the suitability of construction equipment, technologies and sustainability features to build high-rise buildings in different contexts.	• Assessment 1: Online tests • Online final exam

Learning and Teaching Technologies

Moodle - Learning Management System | Echo 360

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Assessment 1: Online tests Assessment Format: Individual	40%	
Online final exam Assessment Format: Individual	60%	Start Date: Exam period Due Date: Exam period

Assessment Details

Assessment 1: Online tests

Assessment Overview

Four online quizzes will be given throughout the term. You will have about one week to complete each quiz. Correct answers will be released after the due date of each online quiz.

Course Learning Outcomes

- CLO1 : Summarise key sub-systems of high-rise buildings that should be identified and managed throughout the building life cycle.
- CLO2 : Analyse high-rise building systems and determine their suitability in the project context.
- CLO3 : Use theories to develop solutions to problems related to high-rise building construction.
- CLO4 : Analyse the suitability of construction equipment, technologies and sustainability features to build high-rise buildings in different contexts.

Assignment submission Turnitin type

This is not a Turnitin assignment

Generative AI Permission Level

Not Applicable

Generative AI is not considered to be of assistance to you in completing this assessment. If you do use generative AI in completing this assessment, you should attribute its use.
For more information on Generative AI and permitted use please see here.

Online final exam

Assessment Overview

You will complete an exam on high-rise building construction theories, relevant technologies,

construction methods and sustainability principles, and their application in practice. Multiple-choice questions, short-answer questions, and extended-response questions.

Course Learning Outcomes

- CLO1 : Summarise key sub-systems of high-rise buildings that should be identified and managed throughout the building life cycle.
- CLO2 : Analyse high-rise building systems and determine their suitability in the project context.
- CLO3 : Use theories to develop solutions to problems related to high-rise building construction.
- CLO4 : Analyse the suitability of construction equipment, technologies and sustainability features to build high-rise buildings in different contexts.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Generative AI Permission Level

Planning/Design Assistance

You are permitted to use generative AI tools, software or services to generate initial ideas, structures, or outlines. However, you must develop or edit those ideas to such a significant extent that what is submitted is your own work, i.e., what is generated by the tool, software or service should not be a part of your final submission. You should keep copies of your iterations to show your Course Authority if there is any uncertainty about the originality of your work.
If your Convenor has concerns that your answer contains passages of AI-generated text or media that have not been sufficiently modified you may be asked to explain your work, but we recognise that you are permitted to use AI generated text and media as a starting point and some traces may remain. If you are unable to satisfactorily demonstrate your understanding of your submission you may be referred to UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties.
For more information on Generative AI and permitted use please see here.

You are allowed to use generative AI as 'inspiration' for answering questions. Beyond that, use of generative AI is prohibited.

General Assessment Information

- Due dates for online quizzes will be announced to students through Moodle. You are required to keep yourself updated by following the information and instructions distributed through Moodle.

- Final exam will be held during the exam week. The exam date will be set by UNSW. I will give you the exact time and the details of the exam at the end of the term.

Grading Basis

Standard

Requirements to pass course

Average mark based on the assessment tasks must be at least 50%.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 9 September - 15 September	Module	Overview of high-rise building construction and design
Week 2 : 16 September - 22 September	Module	Underpinning and foundation systems
	Assessment	Online quiz #1
Week 3 : 23 September - 29 September	Module	Retaining walls, basement construction, and structural systems
Week 4 : 30 September - 6 October	Module	Loads on high-rise buildings
	Assessment	Online quiz #2
Week 5 : 7 October - 13 October	Other	• No lecture and tutorial due to public holiday • Additional reading and exercise materials, particularly on loads, will be provided • Course convenor is available for consultation
Week 6 : 14 October - 20 October	Other	Flexibility week
Week 7 : 21 October - 27 October	Module	Enclosure systems
Week 8 : 28 October - 3 November	Module	Material handling
	Assessment	Online quiz #3
Week 9 : 4 November - 10 November	Module	• Formwork system • Lift system
Week 10 : 11 November - 17 November	Module	• Sustainability in high-rise buildings • Course review
	Assessment	Online quiz #4

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

General Schedule Information

The lectures are pre-recorded and will be made available at least one week before the session commences. You are strongly encouraged to watch the pre-recorded videos before attending the tutorials. The tutorials will be in person and live streamed. Industry speakers will be invited from time to time during the tutorial session.

Course Resources

Prescribed Resources

Ascher, K. (2011). The Heights: Anatomy of a Skyscraper. New York: The Penguin Press.

It is not compulsory to buy the book. However, I believe that this book covers various systems in a high-rise building in a way that is easy to follow and will be beneficial for your learning about this topic. The books are available in UNSW Bookshop, which also offers a discount.

Recommended Resources

Chew, M.Y.L. (2018). Construction Technology for Tall Buildings, 5th ed. Singapore: World Scientific.

Dave, P. and Wood, A. (Eds.) (2013). The Tall Buildings Reference Book. Abingdon: Routledge.

Course Evaluation and Development

This course has undergone many revisions based on feedback from past students.

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	Riza Yosia Sunin dijo				Make an appointment through email for consultation	No	Yes

Other Useful Information

Academic Information

For essential student information relating to:

- UNSW and Faculty policies and procedures;
- Student Support Services;
- Student equity and disability;
- Special Consideration in the event of illness or misadventure;
- Examination information;
- Review of results;

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

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

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.

Important note: UNSW has a "fit to sit/submit" rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit to do so and cannot later apply for Special Consideration. This is to ensure that if you feel unwell or are faced with significant circumstances beyond your control that affect your ability to study, you do not sit an examination or submit an assessment that does not reflect your best performance. Instead, you should apply for Special Consideration as soon as you realise you are not well enough or are otherwise unable to sit or submit an assessment.

School Contact Information

beadmin@unsw.edu.au