UNSW Course Outline

CVEN2101 Engineering Construction - 2024

Published on the 22 May 2024

General Course Information

Course Code : CVEN2101
Year : 2024
Term : Term 2
Teaching Period : T2
Is a multi-term course? : No
Faculty : Faculty of Engineering
Academic Unit : School of Civil and Environmental Engineering
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

An introduction to construction systems and processes. General Systems Theory. Engineering problem solving. Characteristics, selection and usage of plant and equipment, temporary works and specialist construction techniques. Issues relating to the design, planning and management

of construction operations. Topics selected from: earthmoving, blasting and explosives, quarrying, dredging, drilling, dewatering, ground anchors, grouting, temporary works including scaffolds and formwork, concrete production, building construction using steel, concrete and masonry, compressed air and fluid power systems, cranes; construction site layout, organisation of personnel, materials procurement and handling, suppliers, subcontractors, equipment management, maintenance, estimating, work physiology and ergonomics, recycling, waste and environmental issues, sustainable construction.

Course Aims

The objectives of this course are to:

- Introduce you to a variety of construction equipment and processes
- Provide you with quantitative tools for planning, estimating and managing the processes
- Enable you to calculate the cost of construction equipment
- Enable you to optimise some of these processes to obtain the most efficient use of equipment
- Introduce you to the many risks of construction and what is important to be safe
- Introduce you to sustainability in construction

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Explain various construction processes and equipment
CLO2 : Apply quantitative methods in planning and managing the processes and equipment
CLO3 : Produce engineering reports
CLO4 : Analyse the production and economics of different equipment
CLO5 : Examine and evaluate sustainability and safety in construction

Course Learning Outcomes	Assessment Item
CLO1 : Explain various construction processes and equipment	• Group Assignment - Part A • Mid-term Examination • Group Assignment - Part B • Final Examination
CLO2 : Apply quantitative methods in planning and managing the processes and equipment	• Mid-term Examination • Final Examination
CLO3 : Produce engineering reports	• Group Assignment - Part A • Group Assignment - Part B
CLO4 : Analyse the production and economics of different equipment	• Final Examination
CLO5 : Examine and evaluate sustainability and safety in construction	• Group Assignment - Part A • Group Assignment - Part B • Final Examination

Learning and Teaching Technologies

Moodle - Learning Management System | Echo 360

Learning and Teaching in this course

See Moodle

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Group Assignment - Part A Assessment Format: Group	5%	Start Date: Not Applicable Due Date: 14/06/2024 01:00 PM
Mid-term Examination Assessment Format: Individual	25%	Start Date: Not Applicable Due Date: Week 5: 24 June - 30 June
Group Assignment - Part B Assessment Format: Group	25%	Start Date: Not Applicable Due Date: 26/07/2024 01:00 PM
Final Examination Assessment Format: Individual	45%	Start Date: Not Applicable Due Date: Not Applicable

Assessment Details

Group Assignment - Part A

Assessment Overview

This assignment is conducted in groups of three students and provides them with the opportunity to learn how to work effectively in a team-based environment. Each group needs to identify an under- construction project and select three pieces of construction equipment and three processes for Assessment 3.

Course Learning Outcomes

- CLO1 : Explain various construction processes and equipment
- CLO3 : Produce engineering reports
- CLO5 : Examine and evaluate sustainability and safety in construction

Detailed Assessment Description

5% per day is deducted from the mark for any late assignment.

Assessment Length

100 words

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Mid-term Examination

Assessment Overview

The mid-term examination includes the material covered from Week 1 to Week 4.

Course Learning Outcomes

- CLO1 : Explain various construction processes and equipment
- CLO2 : Apply quantitative methods in planning and managing the processes and equipment

Assignment submission Turnitin type

Not Applicable

Group Assignment - Part B

Assessment Overview

This assignment is conducted in the same group as Group Assignment - Part A. Each group needs to prepare an Engineering Report on the selected construction equipment and processes in Group Assessment - Part A. The report should clearly identify individual team members' contributions to the report. All the members should contribute to reviewing and editing the report. Individual writing should be blended and integrated into the report.

Course Learning Outcomes

- CLO1 : Explain various construction processes and equipment
- CLO3 : Produce engineering reports
- CLO5 : Examine and evaluate sustainability and safety in construction

Detailed Assessment Description

5% per day is deducted from the mark for any late assignment.

Assessment Length

5000 words

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Final Examination

Assessment Overview

2 hour exam in the formal examination period.

Course Learning Outcomes

- CLO1 : Explain various construction processes and equipment
- CLO2 : Apply quantitative methods in planning and managing the processes and equipment
- CLO4 : Analyse the production and economics of different equipment
- CLO5 : Examine and evaluate sustainability and safety in construction

Detailed Assessment Description

The final examination includes the material covered from Week 5 to Week 10.

Assessment Length

120 minutes

Assignment submission Turnitin type

Not Applicable

General Assessment Information

To pass the course, you must score at least 50% in the combined mid- and final examinations.

5% per day is deducted from the mark for any late assignment.

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 27 May - 2 June	Lecture	Course Introduction
	Lecture	Demolition
	Workshop	Demolition
Week 2 : 3 June - 9 June	Lecture	Earthworks
	Lecture	Earthworks
	Workshop	Earthworks
Week 3 : 10 June - 16 June	Lecture	Concreting
	Lecture	Concreting
	Workshop	Concreting
	Assessment	Group Assignment, Part A
Week 4 : 17 June - 23 June	Lecture	Temporary Structures
	Lecture	Temporary Structures
	Lecture	Temporary Structures
Week 5 : 24 June - 30 June	Lecture	Permanent Structures
	Workshop	Permanent Structures
	Assessment	Mid-term exam
Week 6 : 1 July - 7 July	Other	Non-Teaching Period
Week 7 : 8 July - 14 July	Lecture	Sustainability and Digital Engineering
	Lecture	Sustainability and Digital Engineering
	Workshop	Sustainability and Digital Engineering
Week 8 : 15 July - 21 July	Lecture	Construction Equipment 1
	Lecture	Construction Equipment 1
	Workshop	Construction Equipment 1
Week 9 : 22 July - 28 July	Lecture	Construction Equipment 2
	Lecture	Construction Equipment 2
	Workshop	Construction Equipment 2
	Assessment	Group Assignment, Part B
Week 10 : 29 July - 4 August	Lecture	Construction Equipment 3
	Lecture	Construction Equipment 3
	Workshop	Construction Equipment 3

Attendance Requirements

You need to attend at least 80% of the workshops.

General Schedule Information

5% per day is deducted from the mark for any late assignment.

Course Resources

Prescribed Resources

See Moodle

Recommended Resources

See Moodle

Course Evaluation and Development

See Moodle

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Mohsen Kal antari		Civil Engineering Building (H20) Level 2, Room CE205	93481162	Wednesday 2:00-4:00 pm	No	Yes

Other Useful Information

Academic Information

I. Special consideration and supplementary assessment

If you have experienced an illness or misadventure beyond your control that will interfere with your assessment performance, you are eligible to apply for Special Consideration prior to, or within 3 working days of, submitting an assessment or sitting an exam.

Please note that UNSW has a Fit to Sit rule, which means that if you sit an exam, you are declaring yourself fit enough to do so and cannot later apply for Special Consideration.

For details of applying for Special Consideration and conditions for the award of supplementary assessment, please see the information on UNSW's Special Consideration page.

II. Administrative matters and links

All students are expected to read and be familiar with UNSW guidelines and polices. In particular, students should be familiar with the following:

- Attendance
- UNSW Email Address
- Special Consideration
- Exams
- Approved Calculators

- Academic Honesty and Plagiarism
- Equitable Learning Services

III. Equity and diversity

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equitable Learning Services. Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.

IV. Professional Outcomes and Program Design

Students are able to review the relevant professional outcomes and program designs for their streams by going to the following link: https://www.unsw.edu.au/engineering/student-life/student-resources/program-design.

Note: This course outline sets out the description of classes at the date the Course Outline is published. The nature of classes may change during the Term after the Course Outline is published. Moodle or your primary learning management system (LMS) should be consulted for the up-to-date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline/Moodle/LMS, the description in the Course Outline/Moodle/LMS applies.

Academic Honesty and Plagarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism at UNSW is defined as using the words or ideas of others and passing them off as your own.*

Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. UNSW has produced a website with a wealth of resources to support students to understand and avoid plagiarism, visit: student.unsw.edu.au/plagiarism. The Learning Centre assists students with understanding academic integrity and how not to plagiarise. They also hold workshops and can help students one-on-one.

You are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis or contract cheating) even suspension from the university. The Student Misconduct Procedures are available here:

www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf

Submission of Assessment Tasks

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of five percent (5%) of the maximum mark possible for that assessment item, per calendar day.

The late penalty is applied per calendar day (including weekends and public holidays) that the assessment is overdue. There is no pro-rata of the late penalty for submissions made part way through a day. This is for all assessments where a penalty applies.

Work submitted after five days (120 hours) will not be accepted and a mark of zero will be awarded for that assessment item.

For some assessment items, a late penalty may not be appropriate. These will be clearly indicated in the course outline, and such assessments will receive a mark of zero if not completed by the specified date. Examples include:

- Weekly online tests or laboratory work worth a small proportion of the subject mark;
- Exams, peer feedback and team evaluation surveys;
- Online quizzes where answers are released to students on completion;
- Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date; and,
- Pass/Fail assessment tasks.

Faculty-specific Information

Engineering Student Support Services – The Nucleus - enrolment, progression checks, clash

requests, course issues or program-related queries

Engineering Industrial Training – Industrial training questions

UNSW Study Abroad – study abroad student enquiries (for inbound students)

UNSW Exchange – student exchange enquiries (for inbound students)

UNSW Future Students – potential student enquiries e.g. admissions, fees, programs, credit transfer

Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

School-specific Information

Final Examinations

Final Exams in T2 2024 will be held on campus between the 9th - 22nd August, and Supplementary Exams between the 2nd - 6th September 2024. You are required to be available on these dates. Please do not to make any personal or travel arrangements during this period.

School Contact Information

For assistance with enrolment, class registration, progression checks and other administrative matters, please see the Nucleus: Student Hub. They are located inside the Library – first right as you enter the main library entrance. You can also contact them via http://unsw.to/webforms or reserve a place in the face-to-face queue using the UniVerse app.

For course administration matters, please contact the Course Coordinator.

Questions about the this course should normally be asked during the scheduled class so that everyone can benefit from the answer and discussion.