



## UNSW Course Outline

# CEIC8204 Entrepreneurship and the Innovation Cycle - 2024

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## General Course Information

**Course Code :** CEIC8204

**Year :** 2024

**Term :** Term 2

**Teaching Period :** T2

**Is a multi-term course? :** No

**Faculty :** Faculty of Engineering

**Academic Unit :** School of Chemical Engineering

**Delivery Mode :** In Person

**Delivery Format :** Standard

**Delivery Location :** Kensington

**Campus :** Sydney

**Study Level :** Undergraduate, Postgraduate

**Units of Credit :** 6

### Useful Links

[Handbook Class Timetable](#)

## Course Details & Outcomes

### Course Description

Innovation is key to maintain sustainable competitive advantage for organisations around the world. However, bringing innovations to market in the form of a product successfully and repeatedly is a daunting task. This course blends the basics every engineer/researcher/manager

needs to translate innovations into products in both entrepreneurial and established firms. The course will provide an appreciation for the realities of industrial practice and for the complex and essential roles played by the various members of product innovation teams. We will touch upon the topics of exploring and scoping innovations; product design and development, design for environment – sustainable development goals, prototyping, patents and intellectual property, product development economics, aspects of managing projects and project risk, preparing business plan, and lean startup principles. Efforts will be made to strike a balance between theory and practice through emphasis on methods. When possible, the topics are built around examples drawn from industrial practices to illustrate the important aspects of the activities. Overall, the course will introduce you to the nuts and bolts of entrepreneurship and innovation cycle. Regular class activities will be complemented with seminars/discussions by industry speakers and experts to provide practical insights.

## Course Aims

This course aims to give students a flavour of the multidisciplinary methods and activities involved in the industrial practice of product innovation and design. The course will expose students to interdisciplinary issues in the entrepreneurship and innovation cycle, such as exploring and scoping innovations, product design and development process, industrial design, design for environment, sustainable development goals, protecting innovation, managing projects and projects risks, and business plan basics.

## Relationship to Other Courses

The course will complement and reinforce the knowledge skills acquired in previous courses such as DESN1000, DESN2000, CEIC4007, CEIC4008 and other theory, design, project, and professional skills courses within their program. However, the course does not require specific assumed knowledge.

## Course Learning Outcomes

Course Learning Outcomes
CLO1 : Identify, explain and reflect on the key aspects of scoping innovation, product development process and economics, sustainable development, protecting innovation, project and associated risk management, preparing business plan, and the lean startup principle
CLO2 : Understanding the multidisciplinary approach to industrial research and innovation
CLO3 : Manage multiple, interdisciplinary tasks to achieve a common objective
CLO4 : Strengthen team working and technical communication skills
CLO5 : Integrate innovation and entrepreneurial principles in professional scenarios

Course Learning Outcomes	Assessment Item
CLO1 : Identify, explain and reflect on the key aspects of scoping innovation, product development process and economics, sustainable development, protecting innovation, project and associated risk management, preparing business plan, and the lean startup principle	<ul style="list-style-type: none"> <li>• Project proposal and pitch</li> <li>• Concept Development</li> <li>• Proof of Concept Presentation</li> </ul>
CLO2 : Understanding the multidisciplinary approach to industrial research and innovation	<ul style="list-style-type: none"> <li>• Business Plan</li> <li>• Concept Development</li> <li>• Proof of Concept Presentation</li> </ul>
CLO3 : Manage multiple, interdisciplinary tasks to achieve a common objective	<ul style="list-style-type: none"> <li>• Project proposal and pitch</li> <li>• Business Plan</li> <li>• Concept Development</li> <li>• Proof of Concept Presentation</li> </ul>
CLO4 : Strengthen team working and technical communication skills	<ul style="list-style-type: none"> <li>• Business Plan</li> <li>• Concept Development</li> <li>• Proof of Concept Presentation</li> </ul>
CLO5 : Integrate innovation and entrepreneurial principles in professional scenarios	<ul style="list-style-type: none"> <li>• Business Plan</li> <li>• Concept Development</li> </ul>

## Learning and Teaching Technologies

Moodle - Learning Management System

## Other Professional Outcomes

### Engineers Australia, Professional Engineer Stage 1 Competencies

This course contributes to your development of the following EA Professional Engineer competencies

- PE1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline
- PE2.3 Application of systematic engineering synthesis and design processes
- PE2.4 Application of systematic approaches to the conduct and management of engineering projects
- PE3.1 Ethical conduct and professional accountability
- PE3.2 Effective oral and written communication in professional and lay domains
- PE3.3 Creative, innovative and pro-active demeanour
- PE3.4 Professional use and management of information
- PE3.5 Orderly management of self, and professional conduct

- PE3.6 Effective team membership and team leadership

# Assessments

## Assessment Structure

Assessment Item	Weight	Relevant Dates
Project proposal and pitch Assessment Format: Individual	20%	Due Date: Week 3, Reflections Due Weekly
Concept Development Assessment Format: Group	40%	Due Date: Week 5, Week 7, Week 9, Reflections Due Weekly
Proof of Concept Presentation Assessment Format: Group	20%	Due Date: Week 10, Reflections Due Weekly
Business Plan Assessment Format: Group	20%	Due Date: Week 11

## Assessment Details

### Project proposal and pitch

#### Assessment Overview

For a given product idea or a product idea of choice, students will submit a proposal and present a 2-minute pitch incorporating a brief project title, three nearest competitors (existing solutions) and price, a description of the product opportunity which may include documentation of the market need, shortcomings of existing competitive products, and definition of the target market and its size.

#### Course Learning Outcomes

- CLO1 : Identify, explain and reflect on the key aspects of scoping innovation, product development process and economics, sustainable development, protecting innovation, project and associated risk management, preparing business plan, and the lean startup principle
- CLO3 : Manage multiple, interdisciplinary tasks to achieve a common objective

#### Detailed Assessment Description

##### *Project Proposal: a brief one to two page project proposal (Due: Week 3, Monday) – 6 %*

A brief, descriptive project title; 3 nearest competitors (existing solutions) and price; a description of the product opportunity, which may include documentation of the market need, shortcomings of existing competitive products, and definition of the target market and its size.

##### *Proposal Pitching: Proposal Presentation (Due: Week 3, Monday) – 5 %*

A 60-90 second recorded presentation is to be uploaded to Moodle. The presentation should include:

A verbal or visual demonstration of the product opportunity described in the proposal. Spend time explaining the market opportunity and demonstrating the existing competitive products.

Convincing arguments why your colleagues should vote for your product proposal.

#### ***Project Preferences: Proposals are Up for Vote (Due: Week 3, Thursday) – 5 %***

You are required to vote for the top ten proposals by marking them on a scale of 10. For this task, you should consider whether the proposal addresses a significant need/problem and if there is a good market opportunity. You should also consider the overall quality of the proposal and pitch. Please be careful when expressing preferences (marking highly) for projects that are too complex. Complexity is not necessarily equivalent to quality.

#### ***Weekly Reflection – 4% (2% per week; Due: Tuesday every week)***

As part of this course, you will have the opportunity to engage with industry professionals through weekly guest seminars. These seminars are designed to expose you to real-world insights, experiences, and challenges faced by entrepreneurs, innovators, and experts in various industries. Following each seminar, you will be required to write a short reflection to consolidate your learning and insights gained from the session. This reflection task will add 2% per week to your mark from the accompanying assessment.

## **Concept Development**

### **Assessment Overview**

Students will undertake this assessment as a team and will submit three short reports. First, they will prepare a project mission statement and customer needs for the product. Next, they will submit concept sketches, along with target specifications and an intellectual property review. The final submission should contain a few selected concept sketches along with a selection matrix and remaining uncertainties and a plan to address those.

### **Course Learning Outcomes**

- CLO1 : Identify, explain and reflect on the key aspects of scoping innovation, product development process and economics, sustainable development, protecting innovation, project and associated risk management, preparing business plan, and the lean startup principle

- CLO2 : Understanding the multidisciplinary approach to industrial research and innovation
- CLO3 : Manage multiple, interdisciplinary tasks to achieve a common objective
- CLO4 : Strengthen team working and technical communication skills
- CLO5 : Integrate innovation and entrepreneurial principles in professional scenarios

#### **Detailed Assessment Description**

##### ***Assignment 1: Mission Statement and Customer Needs List (Due: Week 5, Friday) – 8%***

- Describe your team's processes for getting organised and for identifying customer needs. Comment on this process and on your results.
- Write a mission statement for your project team.
- Develop an organised list of customer needs for your product
- Try to complete an importance survey. If you feel the need to understand preferences and trade-offs, this is highly recommended.

##### ***Assignment 2: Concept Sketches, Target Specifications and Patent Review (Week 7, Friday) – 12%***

- Describe some of the steps of your concept generation and target specifications processes. Comment on the process and the results.
- Hand in sketches and bullet-point descriptions of 10 alternative concepts for your product. For each sketch, note which of the important customer needs it addresses and which it does not.
- Choose a few (3 to 4) critical customer needs from your list. For these critical few, prepare a list of the target specifications and provide documentation to support these decisions.
- Perform a preliminary patent review for any prior art and related ideas. Is there any? briefly describe the closest matches and attach appropriate material from the web.

##### ***Assignment 3: Preliminary Concept Selection and Schedule (Due: Week 9, Friday) – 10%***

- Hand in sketches of the two or three concepts you believe are most promising.
- Show the concept selection matrix (screening or scoring) that you used to make these choices. Include a simple description or sketch of each of the concept alternatives considered.
- Prepare a list of the key uncertainties or questions you still need to address to determine the viability of your product. For each one, specify an associated plan of action (such as analysis, mock-ups, interviews, experiments, etc.).
- Describe your team's process. Comment on the process and the results

##### ***Weekly Reflection – 10% (2% per week; Due: Tuesday every week)***

As part of this course, you will have the opportunity to engage with industry professionals through weekly guest seminars. These seminars are designed to expose you to real-world insights, experiences, and challenges faced by entrepreneurs, innovators, and experts in various industries. Following each seminar, you will be required to write a short reflection to consolidate

your learning and insights gained from the session. This reflection task will add 2% per week to your mark from the accompanying assessment.

## Proof of Concept Presentation

### Assessment Overview

Students will give a 10 minute presentation as a team, presenting their product innovation concept, reviewing the mission statement, customer needs, selected concept, and key target specifications incorporated. Besides presenting a one-page description of the product along with the sketch, the students must reflect on the team's process and the outcome.

### Course Learning Outcomes

- CLO1 : Identify, explain and reflect on the key aspects of scoping innovation, product development process and economics, sustainable development, protecting innovation, project and associated risk management, preparing business plan, and the lean startup principle
- CLO2 : Understanding the multidisciplinary approach to industrial research and innovation
- CLO3 : Manage multiple, interdisciplinary tasks to achieve a common objective
- CLO4 : Strengthen team working and technical communication skills

### Detailed Assessment Description

#### ***Proof of Concept Presentation: Review - Final Concept and Model (Due: Week 10, Sunday) – 18%***

- Prepare a 10-minute presentation of your (single) selected product concept. The presentation should include a review of your mission statement, customer needs, selected concept, and key target specifications.
- As part of your presentation, demonstrate some form of "proof-of-concept" prototype model. Hand in a one-page description and sketch of your selected concept.
- Describe your team's process. Comment on the process and the results.

#### ***Weekly Reflection – 2% (2% per week)***

As part of this course, you will have the opportunity to engage with industry professionals through weekly guest seminars. These seminars are designed to expose you to real-world insights, experiences, and challenges faced by entrepreneurs, innovators, and experts in various industries. Following each seminar, you will be required to write a short reflection to consolidate your learning and insights gained from the session. This reflection task will add 2% per week to your mark from the accompanying assessment.

# **Business Plan**

## **Assessment Overview**

As part of this assessment students will prepare a Lean Canvas business plan on their innovation.

## **Course Learning Outcomes**

- CLO2 : Understanding the multidisciplinary approach to industrial research and innovation
- CLO3 : Manage multiple, interdisciplinary tasks to achieve a common objective
- CLO4 : Strengthen team working and technical communication skills
- CLO5 : Integrate innovation and entrepreneurial principles in professional scenarios

## **Detailed Assessment Description**

As part of this assessment, you will prepare a Lean Canvas business plan on your team's product/solution.

*(Due: Week 11, Friday)*

## **General Assessment Information**

All assessments centre around an innovation tournament: innovate a product for a 'relatively simple application' of your choice

This activity aims to inculcate a team-based approach to product innovation and development mock practice. You will be tasked to design a consumer product - a simple one that doesn't require a technology breakthrough and involves fewer parts; sustainable sunscreen packaging, accessibility in the fridge, easy carrying picnic wagon are some examples - from a set of product ideas, proposed by you and your colleagues, for genuine unmet needs that no one bothered addressing. You will work as a team and present a conceptual prototype and a business case by preparing a Lean Canvas at the end of this course. This exercise will help you learn the principles and multidisciplinary aspects of innovation and entrepreneurship and improve teamwork skills.

## **Group and individual marking for team submissions**

From concept development through to business plan, all submissions are group assessment tasks, and 40% of the total mark for these assessments will be based on the group effort (which includes how coherent the group effort is). However, the submission/assignment sections must be numbered, and you must identify on the cover sheet which sections of the report were written/worked on by which members.

## **Weekly Reflection – worth 2% per week**

As part of this course, you will have the opportunity to engage with industry professionals through weekly guest seminars. These seminars are designed to expose you to real-world insights, experiences, and challenges faced by entrepreneurs, innovators, and experts in various industries. Following each seminar, you will be required to write a short reflection to consolidate your learning and insights gained from the session. This reflection task will add 2% per week to your mark from the accompanying assessment. ***Please note that these seminars are part of the workshop, which, unlike the lecture, won't be recorded.*** Therefore, to be able to write the reflection, you are required to attend the seminars.

## **Submission of Assessment Tasks**

All assessment tasks must be via Moodle unless otherwise specified. When you submit work through Moodle for assessment, you are agreeing to uphold the Student Code.

Marking guidelines for assignment submissions will be provided at the same time as assignment details to assist with meeting assessable requirements. Submissions will be marked according to the marking guidelines provided.

## **Grading Basis**

Standard

# Course Schedule

Teaching Week/Module	Activity Type	Content
Week 0 : 20 May - 26 May	Homework	Read the course outline; check Moodle and make sure you have access to the Teams page for the course.
Week 1 : 27 May - 2 June	Lecture	Course introduction and objectives Exploring Innovations - Quest for breakthrough ideas – where to start? "fuzzy front end" of product innovation introduction to strategic and industrial context to innovations Product Design & Development - development processes, opportunity identification.
	Workshop	Guest seminar by relevant industry speakers with entrepreneurial experience/expertise
Week 2 : 3 June - 9 June	Lecture	Product Design & Development - product planning, identifying customer needs, product specifications, and concept generation
	Workshop	Guest seminar by relevant industry speakers with entrepreneurial experience/expertise
Week 3 : 10 June - 16 June	Lecture	Public Holiday
	Workshop	Public Holiday
Week 4 : 17 June - 23 June	Lecture	Design for Environment - environmental impacts associated with products, methods for reducing such impacts through design decisions, sustainable development goals (UN-SDG) Patents and Intellectual property – role of intellectual property in product development, types of intellectual property and how to protect, overview of patents, preparing a disclosure (general overview and introduction)
	Workshop	Guest seminar by relevant industry speakers with entrepreneurial experience/expertise
Week 5 : 24 June - 30 June	Lecture	Managing Projects and Risk –baseline project planning, accelerating projects, project execution, assessing project status, corrective actions, project evaluation, project risk management, agile method of project management
	Workshop	Guest seminar by relevant industry speakers with entrepreneurial experience/expertise
Week 6 : 1 July - 7 July	Homework	Flexibility week: time for revision/consolidation
Week 7 : 8 July - 14 July	Lecture	Product Development Economics - elements of economic analysis, when to perform economic analysis, and the process
	Workshop	Guest seminar by relevant industry speakers with entrepreneurial experience/expertise
Week 8 : 15 July - 21 July	Lecture	Preparing Business Plan part 1 – Business plan considerations, do's and don'ts in preparing a Business Plan, organisational plan, marketing plan
	Workshop	Guest seminar by relevant industry speakers with entrepreneurial experience/expertise
Week 9 : 22 July - 28 July	Lecture	Preparing Business Plan part 2 – financial documents, business plan for non-profits, financing business Business Model Canvas and Lean Canvas
	Workshop	Guest seminar by relevant industry speakers with entrepreneurial experience/expertise
Week 10 : 29 July - 4 August	Lecture	Entrepreneurship – Lean startup principles for continuous innovation in any venture
	Workshop	Guest seminar by relevant industry speakers with entrepreneurial experience/expertise
Week 11 : 5 August - 11 August	Lecture	Product Development Economics - elements of economic analysis, when to perform economic analysis, and the process
	Workshop	Guest seminar by relevant industry speakers with entrepreneurial experience/expertise

## Attendance Requirements

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

# General Schedule Information

Each week's activity includes 2 h lecture, and 2 h of workshop, including a guest seminar. The timing of the seminar will vary depending on the guest's availability. Please note that the workshop component, which includes the guest seminar, won't be recorded.

# Course Resources

## Recommended Resources

Karl T. Ulrich, Steven D. Eppinger, Maria C. Yang - Product Design and Development

Linda Pinson - Anatomy of a Business Plan

Eric Ries - The Lean Startup; How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses

Further reading suggestions will be provided in the lecture slides

## Course Evaluation and Development

The School of Chemical Engineering evaluates each course each time it is run through (i) myExperience Surveys, and (ii) Focus Group Meetings. As part of the myExperience process, your student evaluations on various aspects of the course are graded; the Course Coordinator prepares a summary report for the Head of School. Any problem areas are identified for remedial action, and ideas for making improvements to the course are noted for action the next time that the course is run. Focus Group Meetings are conducted each term. Student comments on each course are collected and disseminated to the Lecturers concerned, noting any points which can help improve the course.

All of the activities in this course from the online lessons through to the team project have been designed in response to student feedback.

# Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Dipan Kundu		E10 222	293854339	Email and Teams	Yes	Yes
Lecturer	Johannes le Coutre		E8 437	293857195	Email and Teams	No	No

# 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 Plagiarism

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](http://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

### Course Workload

Course workload is calculated using the Units-Of-Credit (UOC). The normal workload expectation for one UOC is approximately 25 hours per term. This includes class contact hours, private study, other learning activities, preparation and time spent on all assessable work.

Most coursework courses at UNSW are 6 UOC and involve an estimated 150 hours to complete, for both regular and intensive terms. Each course includes a prescribed number of hours per week (h/w) of scheduled face-to-face and/or online contact. Any additional time beyond the prescribed contact hours should be spent in making sure that you understand the lecture material, completing the set assignments, further reading, and revising for any examinations. Most 6 UoC courses will involve approximately 10-12 hours per week of work on your part. If you're not sure what to do in these hours of independent study, the resources on the [UNSW Academic Skills](#) pages offer some suggestions including: making summaries of lectures, read/summarise sections from the textbook, attempt workshop problems, reattempting workshop problems with some hints from the solutions, looking for additional problems in the textbook.

Full-time enrolment at university means that it is a *full-time* occupation for you and so you would typically need to devote 35 hours per week to your studies to succeed. Full-time enrolment at university is definitely incompatible with full-time employment. Part-time/casual employment can certainly fit into your study schedule but you will have to carefully balance your study obligations with that work and decide how much time for leisure, family, and sleep you want left after fulfilling your commitments to study and work. Everyone only gets 168 hours per week; overloading yourself with both study commitments and work commitments leads to poor outcomes and dissatisfaction with both, overtiredness, mental health issues, and general poor quality of life.

### On-campus Class Attendance

Most classes at UNSW are "In Person" and run in a face-to-face mode only. Attendance and

participation in the classes is expected. As an evidence-driven engineer or scientist, you'll be interested to know that education research has shown students learn more effectively when they come to class, and less effectively from lecture catch-up recordings. If you have to miss a class due to illness, for example, we expect you to catch up in your time, and within the coming couple of days.

For most courses that are running in an "in person" mode:

- Lectures are normally recorded to provide an opportunity to review material after the lecture; lecture recordings are not a substitute for attending and engaging with the live class.
- Workshops/tutorials are not normally recorded as the activities that are run within those sessions normally cannot be captured by a recording. These activities may also include assessable activities in some or all weeks of the term.
- Laboratories are not recorded and require in-person attendance. Missing laboratory sessions may require you to do a make-up session later in the term; if you miss too many laboratory sessions, it may be necessary to seek a Permitted Withdrawal from the course and reattempt it next year, or end up with an Unsatisfactory Fail for the course.
- Assessments will often require in-person attendance in a timetabled class or a scheduled examination.

## Submission of Assessment Tasks

In the School of Chemical Engineering, all written work will be submitted for assessment via Moodle unless otherwise specified. Attaching cover sheets to uploaded work is *not* required unless specifically requested for an individual assessment task; when you submit work through Moodle for assessment you are agreeing to uphold the Student Code.

Some assessments will require you to complete the work online and it may be difficult for the course coordinator to intervene in the system after the due date. You should ensure that you are familiar with assessment systems well before the due date. If you do this, you will have time to get assistance before the assessment closes.

All submissions are expected to be neat and clearly set out. Your results are the pinnacle of all your hard work and should be treated with respect. Presenting results clearly gives the marker the best chance of understanding your method; even if the numerical results are incorrect. Please make it easy for the markers who are looking at your work to see your achievement and give you due credit.

Marking guidelines for assignment submissions will be provided at the same time as assignment details to assist with meeting assessable requirements. Submissions will be marked according

to the marking guidelines provided.

## Academic Integrity

Academic integrity is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility and courage (International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013). At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.

Further information about academic integrity and plagiarism can be located at:

- The [Current Students site](#)
- The [ELISE training site](#)

The Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student: <https://student.unsw.edu.au/conduct>.

To help describe what we are looking for, here are some things that we consider to be quite acceptable (even desirable!) actions for many assessments, and some that we consider to be unacceptable in most circumstances. Please check with the instructions for your assessments and your course coordinator if you're unsure. As a rule of thumb, if you don't think you could look the lecturer in the eye and say "this is my own work", then it's not acceptable.

### Acceptable actions

- ☒ reading/searching through material we have given you, including lecture slides, course notes, sample problems, workshop problem solutions
- ☒ reading/searching lecture transcripts
- ☒ reading/searching resources that we have pointed you to as part of this course, including textbooks, journal articles, websites
- ☒ reading/searching through your own notes for this course
- ☒ all of the above, for any previous courses
- ☒ using spell checkers, grammar checkers etc to improve the quality of your writing

- ☒ studying course material with other students

### Unacceptable actions

- ☒ asking for help completing an assessment from other students, friends, family
- ☒ asking for help on Q&A or homework help websites
- ☒ searching for answers to the specific assessment questions online or in shared documents
- ☒ copying material from any source into your answers
- ☒ using generative AI tools to complete or substantially complete an assessment for you
- ☒ paying someone else to do the assessment for you

**Referencing** is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism. Further information about referencing styles can be located at <https://student.unsw.edu.au/referencing>.

For assessments in the School of Chemical Engineering, we recommend the use of referencing software such as [Mendeley](#) or [EndNote](#) for managing references and citations. Unless required otherwise specified (i.e. in the assignment instructions) students in the School of Chemical Engineering should use either the APA 7th edition, or the American Chemical Society (ACS) referencing style as canonical author-date and numbered styles respectively.

**Artificial intelligence tools** such as ChatGPT, CodePilot, and built-in tools within Word are modern tools that are useful in some circumstances. In your degree at UNSW, we're teaching you skills that are needed for your professional life, which will include how to use AI tools responsibly plus lots of things that AI tools cannot do for you. AI tools already are (or will soon be) part of professional practice for all of us. However, if we were only teaching you things that AI could do, your degree would be worthless, and you wouldn't have a job in 5 years.

Whether the use of AI tools in an assessment is appropriate will depend on the goals of that assessment. As ever, you should discuss this with your lecturers – there will certainly be assessments where the use of AI tools is encouraged, as well as others where it would interfere with your learning and place you at a disadvantage later. Our goal is to help you learn how to ethically and professionally use the tools available to you. To learn more about the use of AI, [see](#)

[this discussion we have written](#) where we analyse the strengths and weaknesses of generative AI tools and discuss when it is professionally and ethically appropriate to use them.

While AI may might provide useful tools to help with some assessments, UNSW's policy is quite clear that taking the output of generative AI and submitting it as your own work will never be appropriate, just as paying someone else to complete an assessment for you is serious misconduct.

## Asking Questions

Asking questions is an important part of learning. Learning to ask good questions and building the confidence to do so in front of others is an important professional skill that you need to develop. The best place to ask questions is during the scheduled classes for this course, with the obvious exception being questions that are private in nature such as special consideration or equitable learning plans. Between classes, you might also think of questions – some of those you might save up for the next class (write them down!), and some of them you might ask in a Q&A channel on Teams or a Q&A forum on Moodle. Please understand that staff won't be able to answer questions on Teams/Moodle immediately but will endeavour to do so during their regular working hours (i.e. probably not at midnight!) and when they are next working on this particular course (i.e. it might be a day or two). Please respect that staff are juggling multiple work responsibilities (teaching more than one course, supervising research students, doing experiments, writing grants, ...) and also need to have balance between work and the rest of their life.

## 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.