



UNSW Course Outline

CEIC9951 Advanced Research Thesis A - 2024

Published on the 17 Dec 2023

General Course Information

Course Code : CEIC9951

Year : 2024

Term : Summer

Teaching Period : U1

Is a multi-term course? : No

Faculty : Faculty of Engineering

Academic Unit : School of Chemical Engineering

Delivery Mode : Research

Delivery Format : Standard

Delivery Location : Kensington

Campus : Sydney

Study Level : Postgraduate

Units of Credit : 6

Useful Links

[Handbook Class Timetable](#)

Course Details & Outcomes

Course Description

Research is the agent for generating new knowledge about our world, creating the basis for new innovations, and transforming professional practice. Today, research in the School of Chemical Engineering is transforming how we feed the world, treat disease, produce resources, develop

new products and power our economy. In Research Thesis A, you will engage with this research and/or industrial research and development.

This is the first course of the three course Advanced Research Thesis sequence. In these inquiry-based learning courses, you will integrate your discipline knowledge and skills learned through academic study and professional experience at an advanced level. In Advanced Research Thesis A course, you will define the problem to be solved, critically review the relevant literature and industry practice, develop a plan to address your problem and complete any training or preliminary work required. You will be assisted in this process by a supervisor who should be secured before commencing the course.

Throughout Advanced Research Thesis you will apply your specialised cognitive and technical skills to innovatively solve problems and/or generate knowledge in chemical engineering, food science and related disciplines. The project you undertake will address a complex, open-ended problem that allows room for the creative, critical and reflective acquisition, analysis and interpretation of results. At the outset, there will be multiple possible solutions or interpretations, and the problem will be sufficiently complex that you will need to carefully design and manage the project to reach a successful conclusion.

Course Aims

The aim of this course is that students become critically conversant in the academic and professional literature on a particular topic, formulate problems in technical terms, manage an extended project and find solutions by applying engineering and/or scientific methods. Students are also expected to explain how their project fits within the discipline and broader societal context. Finally, students demonstrate their ability to autonomously work in a research and development environment.

Relationship to Other Courses

Advanced Research Thesis is a capstone course which requires you to employ your specialist knowledge and skills developed throughout the rest of your studies. The degree to which you rely on the knowledge from any one course will depend on your project. For example, thesis projects may involve you using your knowledge of chemistry and thermodynamics, your design and process modelling capabilities, or your skills in lifelong learning to develop expertise outside of your regular coursework.

All projects will require you to employ the professional skills you have developed. Good oral and

written communication skills will be expected, not only for your assessments but also for the day-to-day activities like meetings and lab work. Teamwork skills are also essential as you work with your supervisor, other researchers, and technical staff.

Beyond university, Thesis provides you with an opportunity to demonstrate to professional bodies and potential employers that you can research and propose solutions to a significant problem, manage large open-ended projects, and communicate your findings in a professional manner.

Course Learning Outcomes

Course Learning Outcomes
CL01 : Develop a design / process or investigate a hypothesis following industry and/or professional standards for engineering and food science.
CL02 : Critically reflect on and synthesise a complex body of knowledge related to a thesis topic.
CL03 : Research and apply scientific and engineering methods to solve an engineering or food science problem.
CL04 : Analyse evidence objectively using quantitative and qualitative methods to make expert judgements.
CL05 : Effectively communicate to specialist and non-specialist audiences in oral and written forms.

Course Learning Outcomes	Assessment Item
CL01 : Develop a design / process or investigate a hypothesis following industry and/or professional standards for engineering and food science.	<ul style="list-style-type: none"> • Project Supervision • Project Specification • Literature Review • Project Plan • Advanced Research Thesis B • Advanced Research Thesis C
CL02 : Critically reflect on and synthesise a complex body of knowledge related to a thesis topic.	<ul style="list-style-type: none"> • Project Specification • Literature Review • Project Plan • Advanced Research Thesis B • Advanced Research Thesis C
CL03 : Research and apply scientific and engineering methods to solve an engineering or food science problem.	<ul style="list-style-type: none"> • Project Plan • Advanced Research Thesis B • Advanced Research Thesis C
CL04 : Analyse evidence objectively using quantitative and qualitative methods to make expert judgements.	<ul style="list-style-type: none"> • Literature Review • Project Plan • Advanced Research Thesis B • Advanced Research Thesis C
CL05 : Effectively communicate to specialist and non-specialist audiences in oral and written forms.	<ul style="list-style-type: none"> • Literature Review • Project Plan • Advanced Research Thesis B • Advanced Research Thesis C

Learning and Teaching Technologies

Moodle - Learning Management System | Microsoft Teams | Zoom | Studiosity

Learning and Teaching in this course

Workplace Health and Safety

The requirements for risk management and lab access will differ between projects. If you have any questions about risk management policies and procedures, please contact the Faculty's Health, Safety & Environment Team (eng.gen.hse@unsw.edu.au). The management of WHS in your project will differ depending on who the primary host of your work.

- **UNSW Supervised Projects** - If your project being directly supervised by UNSW staff, you should consult with your supervisor about risk management for your project.
 - The [School's General Safety](#) page provides an introduction to the University safety system and School-specific arrangements, as well as safety induction information for the SEB (E8), Hilmer (E10), Tyree (H6) and Chemical Sciences (F10) Buildings. All students should at least complete Module 1 which introduces general safety procedures in the School of Chemical Engineering.
 - All projects will involve some desk or office-based activities (e.g. preparing reports, writing code, running simulations). There are risks associated with these activities that are not necessarily low. You should visit the UNSW Office Safety Toolkit page (<https://safety.unsw.edu.au/office-safety-toolkit>) to learn about safety in an office or desktop practice. The pages on Office Hazards and Risks and Workstation Setup will be particularly useful.
 - If your project involves laboratory or field work, you will need to complete the School of Chemical Engineering approval process. The steps involved are outlined on [this webpage](#). To complete this process, you will have to fulfill various training and documentary requirements. Therefore you should allow several weeks to complete this process.
- **Industry Supervised/Hosted Projects** - If your project is being hosted/supervised by an external organisation (e.g. a company or research organisation), then you need to comply with that organisation's risk management policies and procedures.
 - You still need a UNSW supervisor – please consult with them about how they will be involved with your project – at the very least, they will be responsible for the academic administration of your project. They may wish to meet with you periodically to discuss your progress.
 - For the purposes of workplace health and safety legislation, you are considered a worker of that company and they are responsible for your safety.
 - If you are not being paid by the organisation for your thesis work, you are covered by the University's [personal accident](#) and [public liability](#) insurance policies. A certificate of currency can be supplied.
 - If you are being paid by the organisation to conduct your thesis work, then you should be covered by their insurance policies. Please check with your industry supervisor.

- Finally, you **must** formally ask permission to do your project in industry. Do this by completing and submitting the “Application for distance thesis study” form on Moodle. Seeking formal permission ensures there is no confusion about why you are working onsite with an external organisation.

For more information, please read the guides on moving from Industrial Training to Honours, and for Thesis in Industry on the [Research Thesis Projects page](#).

Project ethics approval

If your research involves collecting data from/about humans or animals (e.g., surveys, focus groups, sensory evaluations, sample collection), then you will likely need ethics approval. The ethical practice of research means that we need to ensure that all research subjects are treated with suitable dignity and that any inconvenience or risk to them is minimised. You should raise this topic with your supervisor early in your project as securing ethics approval can take several months.

- When research at UNSW involves **people**, then it come under the oversight of [UNSW Human Research Ethics & Clinical Trials Governance](#). You will must get approval through them if your project involves any of the following (more than one may apply):
 - a survey - even if done online and/or anonymously,
 - an interview, focus group or other qualitative methods,
 - data mining personal information or academic records,
 - behavioural observation (e.g. people using something, classroom tasks, on-line activities),
 - recording or photography of people - even if in public spaces,
 - experiments on human reactions (or other abilities),
 - human performance (e.g. running, falling, playing music
 - testing a device (on people)
 - tasting or smelling (e.g., foods), and
 - drug trials, collection of body tissue and other medical activities.
- When research at UNSW involves **animals**, then it comes under the oversight of [UNSW Animal Care and Ethics Committees](#). All research (funded or unfunded) and teaching that uses animals must receive prior written approval from them before commencing.

Project confidentiality and intellectual property

Thesis project sometimes have information restrictions imposed upon them, typically a confidentiality agreement for industrially linked projects. If you are unsure whether this applies in your case, consult your supervisor.

If your project is subject to this kind of restriction you will need to ensure that any files you submit to Moodle are encrypted prior to upload and that the parties who have signed the relevant agreement are given copies of the password. Please seek advice from your supervisor in relation to hardcopy hand-in.

Further, students and academic supervisors may be asked to enter into a confidentiality or non-disclosure agreement. Students are entitled to seek independent legal advice before signing such an agreement. University staff should seek advice from the Research Contracts Office &/or UNSW Legal.

Distance study (remote or industry projects)

Subject to visa or enrolment conditions, it may be possible to complete your entire project by distance (or remote study) mode. The most common form this takes is conducting a project with a company (e.g., an industrial training or scholarship sponsor) or research organisation (e.g., ANSTO, CSIRO).

If you receive approval to take thesis in this manner, you will still be required to complete all the requirements of your UNSW thesis course. This may involve only working with your UNSW supervisor, or by co-supervision between a UNSW supervisor and an external supervisor (in industry or academia). Your first task should be discuss the particulars of your project with your supervisor well ahead of commencing your project. Students applying for distance thesis will need to provide satisfactory details of

- The supervision available at the external location, including any external supervisor's contact details and documentation of their willingness to supervise you.
- Why is working away from the University a necessary part of your research (i.e., the nature of your project and work you will be performing).
- Having adequate access to resources for conducting research (including literature and software), and
- The frequency and means of communication with your supervisor(s), including how often you will meet them live (e.g., weekly by Teams or fortnightly in person).

You should also observe the requirements for WHS and IP management discussed above.

Finally, you must complete the "Application for distance thesis study" form available on Moodle. Finally, upload your application using the Upload form via the link on Moodle. You will receive notification in your email if your application is approved or rejected. The notification on Moodle may not change immediately, as it is a manual process.

Note:

- It is probably best to apply for permission for distance study for all your remaining thesis courses. If you do that, your permission status will be rolled over into future courses and you won't have to apply again next term.
- In extraordinary circumstances, students may be permitted to take a remote project for reasons other than working with research or industry organisations. The same conditions apply to these projects as the more common form of external projects.

Additional Course Information

Integrity and Respect

The [UNSW Student Code of Conduct](#) among other things, expects all students to demonstrate integrity in all their academic work, and to treat all staff, students and visitors to the University with courtesy, tolerance and respect.

In line with the comments at the end of this outline (see "Academic Honesty and Plagiarism"), generative AI systems (e.g. ChatGPT) are tools that all graduates should learn how to use responsibly and ethically. It can be a helpful partner for brainstorming, quickly helping you develop some starting points. It can be a patient (and usually reliable) tutor, explaining complex theory in simple terms. Like Wikipedia, it can be a helpful starting point, but it's not where you should finish.

Regardless of how apparently knowledgeable or verbose the system may be, it can't do the work for you. You will need to personally explain your work and your ideas throughout your thesis course in both formal and informal contexts. Thus, you need to know what you're doing and so you must not use a bot to write large portions your work. This is akin to [relying too much on the words of others](#) and is a form of plagiarism.

If you make use of text or other generative tools in the conduct of your thesis project, then you must

1. Ensure your supervisor is aware that you are using these tools for thesis work.
2. Formally and specifically acknowledge how you used it in your thesis submissions in
 - Your Acknowledgements section (in the same way as you would acknowledge the contribution of others to your project) and/or
 - The appropriate part of your work (e.g. Method or Results).
3. Cite the tool (like any other reference source) if you use ideas or text it generated (e.g., OpenAI. (2023). ChatGPT. OpenAI. <https://beta.openai.com/docs/models/gpt-3>).

4. Include the full response of the AI in an appendix and discuss that response in the body of the document.

Further, as research course students, you are also expected to comply with the [UNSW Research Code of Conduct](#), particularly the Principles of the Responsible Conduct of Research and Responsibilities of UNSW Researchers outlined in the code, as well as the University's [Human Research Ethics](#) and/or [Animal Research Ethics](#) Procedures. For more information visit the [UNSW Research Integrity Policies and Procedures page](#).

Time commitment

CEIC9951 is a 6 UOC course and has no final exam, therefore you are expected to spend a minimum of 150 hours (or 15 hours per week during term) to complete the requirements of this course.

Competence

Advanced Research Thesis is a capstone course and you are expected to be competent in all the material covered in the previous courses. Little time is available to remediate deficiencies in your knowledge.

Over the course of the term, you will be developing new competencies. The standards we expect, are explained by the marking rubrics provided. Your supervisor will apply these marking guides fairly and provide you with feedback so you can continue to improve over the three thesis courses.

Participation

You are expected to contact your project supervisor early and maintain contact regularly to carry out a suitable project. This would typically involve face-to-face meetings, but also includes email and other electronic means. Allow at least an hour per week for these activities.

You are expected to be proactive in identifying and completing any project dependent preparations including workplace health and safety requirements, and any training or access requirements. You should also be proactive in seeking feedback on your progress from your supervisor. The degree to which you take initiative and engage with your project work will be assessed in each thesis course.

You are encouraged to use the "Course Forum" channel on Teams to discuss challenges faced through this course, ask questions about course content, discuss solutions to tutorial and practice questions. It is expected that students will help each other, and the coordinator will contribute as required. You may also seek live help during the weekly office hours sessions.

Further, as senior students you are expected to be able to work effectively on your own. This includes seeking our help with your project from your supervisor, lab manager or other people involved in the supervision of your project or the course.

Attendance and punctuality

We expect students to be punctual and attend at all scheduled meetings with the coordinator, your supervisor, or their team. If you are unable to attend a pre-arranged meeting, observe normal professional courtesies and inform the parties involved ASAP.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Project Supervision Assessment Format: Individual	0%	Due Date: 02/01/2024 09:00 PM
Project Specification Assessment Format: Individual	0%	Due Date: 05/01/2024 09:00 PM
Draft Literature Review Assessment Format: Individual	0%	Due Date: 22/01/2024 09:00 PM
Literature Review Assessment Format: Individual	10%	Due Date: 29/01/2024 09:00 PM
Project Plan Assessment Format: Individual	5%	Due Date: 05/02/2024 09:00 PM
Advanced Research Thesis B Assessment Format: Individual	15%	Due Date: Not Applicable
Advanced Research Thesis C Assessment Format: Individual	70%	Due Date: Not Applicable

Assessment Details

Project Supervision

Assessment Overview

You **must** have a supervisor from the School of Chemical Engineering to take this course, regardless of whether the project is hosted at UNSW or with an external party. Once a student has secured a supervisor they will receive a Satisfactory grade.

Course Learning Outcomes

- CL01 : Develop a design / process or investigate a hypothesis following industry and/or professional standards for engineering and food science.

Submission notes

Submit an Expression of Interest via the link on the course Moodle page.

Assignment submission Turnitin type

Not Applicable

Hurdle rules

Students cannot complete this course without a supervisor.

Project Specification

Assessment Overview

Students submit a brief statement of the research question to be investigated by their project. This statement may be based on a project brief supplied by the supervisor but should involve the student contextualising and developing their own initial view of the issues at hand. Some other project-specific information is also collected at this time - students should discuss the answers to these questions with their supervisor. The specification will be reviewed by the student's supervisor and must be resubmitted until a grade of Satisfactory is achieved.

Course Learning Outcomes

- CL01 : Develop a design / process or investigate a hypothesis following industry and/or professional standards for engineering and food science.
- CL02 : Critically reflect on and synthesise a complex body of knowledge related to a thesis topic.

Submission notes

You must have completed all the Research Skills lessons before you will be able to access the Project Specification form. This task will be submitted using a Microsoft Form accessible via the link on Moodle.

Assignment submission Turnitin type

Not Applicable

Draft Literature Review

Assessment Overview

Students share a draft of their Literature Review for formative feedback. Once students have received feedback, they submit a reflection on the feedback along with a copy of their draft and the feedback they received.

Assessment Length

Up to 4,500 words

Submission notes

This task will be submitted via the dedicated Assignment activity on Moodle.

Assignment submission Turnitin type

This is not a Turnitin assignment

Literature Review

Assessment Overview

After setting the project in context, students conduct a critical review of the pertinent literature, thereby identifying gaps in knowledge &/or capability in the field. This analysis and evaluation leads to the formulation of a problem statement for their project.

Students are expected to talk with their supervisor the expected structure and content of their review, as well as sharing at least one draft with them well before the due date. The review will be marked by the student's supervisor using a standard rubric with comments returned to the student.

Course Learning Outcomes

- CL01 : Develop a design / process or investigate a hypothesis following industry and/or professional standards for engineering and food science.
- CL02 : Critically reflect on and synthesise a complex body of knowledge related to a thesis topic.
- CL04 : Analyse evidence objectively using quantitative and qualitative methods to make expert judgements.
- CL05 : Effectively communicate to specialist and non-specialist audiences in oral and written forms.

Assessment Length

6,000 words

Submission notes

This task will be submitted on Moodle via the dedicated Workshop tool.

Assignment submission Turnitin type

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

Project Plan

Assessment Overview

The plan should commence with the aims and scope that define how the problem statement developed in the Literature Review task will be solved or addressed. Students then explain the design and structure of the project, including the methodology, analysis, and data management to be used. The plan also includes a timeline with clear milestones along with some consideration of project risks. Students will also be assessed on their initiative, engagement, and the maturity of their project preparations. Project dependent preparations may include training on specific equipment, software, or methodologies; preliminary results or designs; the ordering of components, parts or reagents; risk management and access approvals; or ethics approvals.

Students are expected to talk with their supervisor the expected structure and content of their plan, as well as sharing at least one draft with them well before the due date. The plan will be marked by the student's supervisor using a standard rubric with comments returned to the student.

Course Learning Outcomes

- CL01 : Develop a design / process or investigate a hypothesis following industry and/or professional standards for engineering and food science.
- CL02 : Critically reflect on and synthesise a complex body of knowledge related to a thesis topic.
- CL03 : Research and apply scientific and engineering methods to solve an engineering or food science problem.
- CL04 : Analyse evidence objectively using quantitative and qualitative methods to make expert judgements.
- CL05 : Effectively communicate to specialist and non-specialist audiences in oral and written forms.

Assessment Length

2,500 words

Submission notes

This task will be submitted on Moodle via the dedicated Workshop tool.

Assignment submission Turnitin type

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

Advanced Research Thesis B

Assessment Overview

This course is part of a multi-term course group. Your final mark is a combination of your marks in all three Advanced Research Thesis courses. This item represents the contribution of Research Thesis B to your final mark. The current course outline for Advanced Research Thesis B provides an indicative outline of assessments, however assessments may change from term to term.

Course Learning Outcomes

- CL01 : Develop a design / process or investigate a hypothesis following industry and/or professional standards for engineering and food science.
- CL02 : Critically reflect on and synthesise a complex body of knowledge related to a thesis topic.
- CL03 : Research and apply scientific and engineering methods to solve an engineering or food science problem.
- CL04 : Analyse evidence objectively using quantitative and qualitative methods to make expert judgements.
- CL05 : Effectively communicate to specialist and non-specialist audiences in oral and written forms.

Detailed Assessment Description

This course is part of a multi-term course group. Your final mark is a combination of your marks in all three Advanced Research Thesis courses. This item represents the contribution of Advanced Research Thesis B to your final mark. The current course outline for Advanced Research Thesis B provides an indicative outline of assessments, however assessments may change from term to term.

Assignment submission Turnitin type

Not Applicable

Advanced Research Thesis C

Assessment Overview

This course is part of a multi-term course group. Your final mark is a combination of your marks in all three Research Thesis courses. This item represents the contribution of Advanced Research Thesis C to your final mark. The current course outline for Advanced Research Thesis C provides an indicative outline of assessments, however assessments may change from term to term.

Course Learning Outcomes

- CL01 : Develop a design / process or investigate a hypothesis following industry and/or professional standards for engineering and food science.
- CL02 : Critically reflect on and synthesise a complex body of knowledge related to a thesis topic.
- CL03 : Research and apply scientific and engineering methods to solve an engineering or food science problem.
- CL04 : Analyse evidence objectively using quantitative and qualitative methods to make expert judgements.
- CL05 : Effectively communicate to specialist and non-specialist audiences in oral and written forms.

Detailed Assessment Description

This course is part of a multi-term course group. Your final mark is a combination of your marks in all three Advanced Research Thesis courses. This item represents the contribution of Advanced Research Thesis C to your final mark. The current course outline for Advanced Research Thesis C provides an indicative outline of assessments, however assessments may change from term to term.

Assignment submission Turnitin type

Not Applicable

General Assessment Information

Your final grade for Advanced Research Thesis A, B & C will be the weighted average of all assessments across all three courses.

If you satisfactorily complete the requirements of Thesis A, you will receive an EC grade (enrollment continuing) and will be allowed to continue to Thesis B. In the same way, satisfactory completion of Thesis B (EC grade) will enable progression to Advanced Research Thesis C. Students who make excellent progress in Thesis A, may be allowed to enrol in Thesis B and C at the same time (accelerated study mode).

If you do not complete any assessment tasks (beyond securing a supervisor), you will receive an AF grade and must repeat this course. If you complete one or more assessment items and still fail to satisfy the course requirements, you will receive an FL and must repeat this course. Students that fail a thesis course (AF or FL) may be asked by their supervisor (or the course coordinator) to change projects and/or find another supervisor, this may require the student to begin again at Thesis A.

If you receive an LE grade, it means that marks have not been submitted for one or more of your

assessments. You can check which marks are missing in the Moodle gradebook. When all the missing marks are received, we will forward your grade to Student Services for processing.

Upon completion of Thesis C, your marks from all three courses will be aggregated into a single thesis mark and retrospectively applied to all three courses (replacing the EC grades).

The Student Gateway provides more details on the UNSW [grading system](#) and [assessment](#).

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 1 January - 7 January	Homework	<p>Prior to the official start of Summer Term (preferably in early December) you should complete the following tasks:</p> <ol style="list-style-type: none"> 1. Finalise your Project Supervision - If you have not already done so, secure a supervisor by following the process outlined on Moodle. You should have completed this process by 5pm on Friday, otherwise you should consider starting Thesis A in a later term (when you have secured a supervisor). 2. Read the Course Outline. 3. Attend the Getting Started with Thesis meeting - Look out for an invitation to this important meeting held on Wednesday, 29 Nov. This session will cover <ul style="list-style-type: none"> • How to survive, if not thrive in, your thesis project from current/previous students, • Some of the support services available to thesis students, and • The assessment and expectations of students and supervisors. You can ask questions anonymously ahead of time or during the meeting using the Anonymous Questions tab in the Course Forum on Teams. If you are unable to attend, you should watch the recording available from the course Moodle page. 4. Arrange a Project Kick-Off Meeting - If you have not already done so, arrange a meeting with your supervisor(s) this week. Make sure to discuss your project topic, initial project work, who you will be working with and how you will communicate with them. You should also ask if your project work will be subject to any confidentiality and/or intellectual property arrangements. Identify what WHS training you need to complete. Finally, arrange your regular weekly or fortnightly meetings with your supervisor(s). Start work on the reading and other tasks you have discussed with your supervisor. After you have completed some reading, draft a 50-100 word problem statement that outlines the research question who will be investigating in your project and get feedback from your supervisor(s). 5. Apply for Distance Thesis Study (if required) - Students conducting their project with an external organisation and/or away from the UNSW Sydney campus, must get approval for distance thesis study from the Thesis Coordinator. Complete the Application for Distance Thesis Study form (available on Moodle) using the information gained from your Kick-Off Meeting, and then send it to your supervisor(s) for their (electronic) signature. Once they've signed it, submit your application using the link on Moodle. You will be notified by email once it is approved. 6. Complete the Research Skills Lessons on Moodle - These lessons will give you a good orientation to the processes you will use in Thesis A and beyond. Working through the tasks outline at the end of the lessons will help you progress your project before term officially commences (you also won't be able to submit your Project Specification until they are all complete).
	Assessment	Project Supervision - If you have not already done so, secure a supervisor by following the process outlined on Moodle. You should have completed this process by 5pm on Monday, 2 January.
	Assessment	Submit your revised project specification by 5pm on Friday, 5 January.
Week 2 : 8 January - 14 January	Project	<p>Attend any supervisor or research group meetings they have arranged with you, and continue with the project work recommended by your supervisor(s). If you haven't already done so, start writing your Literature Review. You might find it helpful to (1) revise the lesson on Writing Critical Reviews, and (2) construct a mind map or an annotated table of contents of topics related to your thesis project.</p> <p>Register for any WHS training courses you will need to complete before commencing your project work in Thesis B.</p>
Week 3 : 15 January - 21 January	Project	<p>Attend any supervisor or research group meetings they have arranged with you, and continue with the project work recommended by your supervisor(s). You should be well into the writing of your Literature Review. Share your current draft with your supervisor ahead of your meeting and incorporate their feedback, before sending your Draft Literature Review to Studiosity on Friday or Saturday.</p>
Week 4 : 22 January - 28 January	Assessment	<p>Draft Literature Review</p> <p>Submit the feedback you received from Smarthinking along with a current draft of your Literature Review by 9pm on Monday, 22 January.</p>
	Project	<p>Attend any supervisor or research group meetings they have arranged with you, and continue with the project work recommended by your supervisor(s). Continue revising and expanding your Literature Review based on feedback from Studiosity and your supervisor(s). Remember your final version must be ready for submission on Monday, Week 5. You may continue to use Studiosity for additional feedback. Perform an originality check on your Literature Review using Turnitin.</p> <p>If you haven't already done so, discuss how to plan out your project with your</p>

		supervisor(s) and their expectations for the Project Plan task.
Week 5 : 29 January - 4 February	Assessment	Literature Review Submit your Literature Review by 9pm on Monday, 29 January.
	Project	Attend any supervisor or research group meetings they have arranged with you, and continue with the project work recommended by your supervisor(s). Continue revising and expanding your Project Plan based on feedback from your supervisor(s). You may use Smarthinking for additional feedback.
	Assessment	Project Plan Submit your Project Plan by 9pm on Monday, 5 February.

Attendance Requirements

Students are expected to attend all scheduled meetings with supervisors, and if applicable, co-supervisors and research groups. Students in Advanced Research Thesis A should also be setting aside significant time each week to complete their deliverables and project-dependent preparations. This preparation may include training on specific equipment, software, or methodologies; preliminary results or designs; the ordering of components, parts or reagents; risk management and access approvals; or ethics approvals.

General Schedule Information

Advanced Research Thesis is a research-based course and does not have any regularly scheduled classes (lectures, workshops, labs, etc.). The course schedule provided is suggested framework for what we recommend that you do each week.

There is an important "Getting Started with Thesis" session on the Friday of O-Week. You can ask questions ahead of this session via the Anonymous Questions tab in the Course Forum. If you are unable to attend, you should watch the recording available from the course Moodle page.

There is also a weekly Thesis Office Hours session at 2-3pm on Mondays with the Course Coordinator. This is an optional online consultation time with no fixed agenda. Join if you want help with anything about this course and its assessments - questions may also be posted anonymously via the Anonymous Questions tab. Project specific questions should be directed to your supervisor.

Course Resources

Prescribed Resources

The Moodle page for this course is very important. As well as being a venue for the assessment information, submission and feedback, there are links to resources, advice, and guidance. While, the [Research Thesis Projects page](#) (enrollment code co3shyh) provides information about

finding a thesis supervisor, answers to FAQs and advice on enrolment options.

Microsoft Teams will be used as the main discussion platform. You can ask questions there at any time, or during the weekly office hours session.

You also have access to Studiosity. Please see the course Moodle page for instructions on how to use this service.

Recommended Resources

Your supervisor will advise you of books, journal articles and websites where you may find information as a starting point for your research project. After that, it is your responsibility to search out and evaluate information. Students are strongly encouraged to make use of a [reference management system](#) like EndNote, Mendeley or BibTeX. The Student Gateway also provides guidance on the particular forms of written communication found in thesis courses:

- [Literature Reviews](#)
- [Research Proposals](#)
- [Honours Theses](#)

Study space for project courses

Students enrolled in selected project-based or laboratory-based courses (e.g. thesis) are granted access to Room 102 on Level 1 of the Science and Engineering Building (Map Ref. E8). Access to this space is subject to the following conditions:

- Students must follow any directions from teaching and technical staff.
- This space is provided for private study and/or small group project meetings related to courses taught by the School of Chemical Engineering.
- Some classes have booked this space and students should vacate the space during these classes.
- Students using the space are expected to leave the space in the same or better condition than they found it. Keeping this in mind, limited consumption of food and drink is permitted.

Failure to observe any of these conditions may result in your access being revoked.

Course Evaluation and Development

We want your feedback on this course whether positive or negative. You can provide verbal or written feedback directly to the course coordinator, through our course's discussion forum or through the University's myExperience survey.

Feedback we received from previous offerings of this class have resulted in us

- Introducing a "Getting Started with Thesis" session to orient students to the expectations and requirements of Research Thesis, and provide advice on how to enjoy and thrive in Thesis.
- Introducing lessons on research skills (e.g. working with academic literature, writing critical reviews and researching safely) to help students develop key capabilities.
- Providing more assistance in written communication via the Smarthinking service.
- Introducing a formative assessment in Week 3 of Thesis B and C, so that you get sense of how you're going.
- Creating online "Office Hours" sessions so that students can guaranteed live support each week.
- Preparing guides and revising marking rubrics for most assessments so that students better understand what is expected of them.
- Moving video hosting from the Box to Flip to enable more seamless access to videos for external project collaborators.
- Switching the due dates of Presentation and Final Report in Thesis C to give students opportunity to incorporate feedback into the final submission.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Kang Liang					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 / Submit rule, which means that if you sit an exam or submit a piece of assessment, 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 policies. 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.

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

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.