CEIC4951

Research Thesis A

Term Two // 2021

School of Chemical Engineering // UNSW Engineering

Course Overview

Staff Contact Details

Convenors

Name	Email	Availability	Location	Phone
Peter Neal	peter.neal@unsw.edu.au	Mon, 4-5 pm (students will receive an invitation to a Teams meeting)	Room 216, Hilmer Building (E10) – across the bridge from Level 2, SEB (E8)	+61-(0)2-9385-4814

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.

If circumstances outside your control impact on submitting assessments, Special Consideration may be granted, usually in the form of an extension or a supplementary assessment. Applications for Special Consideration must be submitted online.

For course administration matters, please contact the Course Coordinator.

Course Details

Credit Points 4

Summary of the Course

Research Thesis is an inquiry-based learning course that provides an opportunity for students to bring together discipline knowledge and principles learned through academic study. Students apply these principles to innovatively solve problems such as the development of a specific design, process and/or the investigation of a hypothesis.

The project a student undertakes must be a complex, open-ended problem that allows room for creativity, and the acquisition, analysis and interpretation of results. There must be multiple possible solutions or conclusions at the outset and sufficient complexity to require a degree of project planning from the student.

You must identify a supervisor and project prior to enrolling in this course.

This is the first course of the three course thesis structure.

Course Aims

The aim of Research Thesis is for students to become critically conversant in the academic and professional literature on a particular topic, formulate problems in engineering terms, manage an engineering project and find solutions by applying engineering 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.

Course Learning Outcomes

After successfully completing this course, you should be able to:

Learning Outcome	EA Stage 1 Competencies
1. Develop a design or a process or investigate a hypothesis following industry and professional engineering standards.	PE2.2, PE2.3, PE2.4
2. Critically reflect on a specialist body of knowledge related to their thesis topic.	PE1.3
3. Apply scientific and engineering methods to solve an engineering problem.	PE2.1
4. Analyse data objectively using quantitative and mathematical methods.	PE1.2, PE2.1, PE2.2
5. Demonstrate oral and written communication in professional and lay domains.	PE3.2

Professional Recognition of Course

This course is part of UNSW Food Science specialisations approved (2021-2026) by the Institute of Food Technologists Higher Education Review Board (IFT HERB).

Relationship with the rest of your program and the discipline

Research Thesis is a capstone course which requires you to employ 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 a large, open ended project, and communicate your findings in a professional manner.

Teaching Strategies

The main learning activity is self-directed study or project work, at your own speed, under the direction of your supervisor. In Thesis A, this will involve reading, critiquing, planning and writing. Project-independent supporting materials including how-to guides are made available online.

A key learning activity in this course is the regular meetings you have with your supervisor. These meetings are a great time to seek advice on project directions, get help with things you don't understand, brainstorm/debug issues that you're having, and get feedback on your progress. You should arrange regular weekly or fortnightly meetings with your project supervisor or co-supervisor. These meetings may be in person or online.

Research is a collaborative exercise. Projects may also involve group discussions and collaborative work. It is important to engage with and use these activities for learning. However, as thesis is ultimately an individual project, your project deliverables should focus on your ideas and your work.

Additional Course Information

Integrity and Respect

The UNSW Student Code of Conduct (https://student.unsw.edu.au/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.

Time commitment

CEIC4951 is a 4 UOC course and has no final exam, therefore you are expected to spend a minimum of 100 hours (or 10 hours per week) during term to complete the requirements of this course. Most of this

time will be spent in independent study or training.

Competence

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 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.

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.

Assessment

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

- Thesis A
    - Secure a Supervisor (Hurdle) – Friday, Week 1
    - Project Specification (SY/FL) – Friday, Week 3
    - Draft Literature Review (SY/FL) – Monday, Week 7
    - Literature Review (10%) – Monday, Week 9
    - Project Plan (5%) – Monday, Week 11
- Thesis B
    - Progress Report (5%) – Monday, Week 11 (Thesis B only), or Friday, Week 3 (Thesis B & C together)
    - Seminar (5%) – Arranged with your supervisor.
    - Supervisor's Report B (5%) – No submission required
- Thesis C
    - Final Report and supporting files (60%) – Monday, Week 11
    - Presentation and Q&A (5%) – Wednesday & Friday, Week 11
    - Supervisor's Report C (5%) – No submission required

If you satisfactorily complete the requirements of Thesis A, you will receive an EC grade (enrollment continuing). If you fail to satisfy the course requirements, you will receive an FL and must repeat this course. The same process applies in Thesis B.

If you receive an LE grade, it means that marks are missing 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 (either EC or FL) 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 detail on the UNSW grading system and assessment.

Assessment Tasks

Assessment task	Weight	Due Date	Student Learning Outcomes Assessed
Secure a supervisor	N/A	5pm Friday, Week 1	1
Project Specification	N/A	5pm Friday, Week 3	1, 2
Draft Literature Review (Smarthinking feedback)	N/A	9pm Monday, Week 7	5
Literature Review	10%	9pm Monday, Week 9	1, 2, 4, 5
Project Plan	5%	9pm Monday, Week 11	1, 2, 3, 4, 5

Assessment Details

Assessment 1: Secure a supervisor

Details:

You cannot complete a research project without formal supervision.

There are a number of places to start your search for a supervisor. The first way is the Research topics and supervision database (enrollment code co3shyh). In this database, supervisors have outlined the various thesis topics they offer. You can search for topics that interest you or filter by supervisor. Alternatively, you could start on the Research Areas section of the School of Chemical Engineering website.

Once you have identified a potential supervisor, you are encouraged to meet them, and discuss their approach to thesis and their expectations of students (it can save a lot of pain in the long run).

Finally, complete the Thesis Supervision Expression of Interest form. Once the supervisor has reviewed your application, you will receive an email with the outcome.

Once you have a supervisor, arrange a project kick-off meeting with them and also arrange regular weekly or fortnightly meetings.

Submission notes: This task will be submitted using a Microsoft Form accessable via the link on Moodle .

Assessment 2: Project Specification

Details:

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.

The specification will be marked by the student's supervisor and should be resubmitted until a grade of Satisfactory is achieved.

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 accessable via the link on Moodle.

Assessment 3: Draft Literature Review (Smarthinking feedback)

Length: Up to 4,500 words

Details:

Students submit a draft of their Literature Review (max. 4,500 words) to the Smarthinking service for feedback. It takes up to 24 hours to receive written feedback from Smarthinking, so you should submit it at least 36h before the overall due date.

Students must submit a copy of their draft, together with the feedback from Smarthinking in Moodle by the due date.

Submission notes: This task will be submitted via the dedicated assignment activity on Moodle.

Assessment 4: Literature Review

Length: 6,000 words

Details:

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.

The review will be marked by the student's supervisor with comments returned to the student.

Additional details:

Marking scheme for the Literature Review

Descriptors	Deficient	Adequate	Good	Excellent	Outstanding
Mark bands	0-9	10-13	13-15	15-17	17-20
Critically reviewing the literature (75%)	May be characterised by several features, including: (1) inappropriate reliance on non-academic/technical literature, (2) not reviewing core literature for their topic, &/or (3) not reviewing any recent work.	Enough literature reviewed to inform the proposed research, although it is too shallow and/or narrow for the final thesis – further review will be required. The review is mainly description of what has been done and/or summarises current knowledge.	Covers most significant areas of relevant literature. There is some evaluation of the arguments and evidence presented in the literature. There is some attempt at integrating knowledge from a variety of works into a cohesive understanding.	Covers all significant areas related to the project. There is evaluation of the evidence and arguments presented in the literature throughout the review. The student integrates knowledge from a variety of works into an interconnected view of their topic.	Demonstrates a cohesive understanding of the topic area as well as creatively incorporating knowledge from diverse parts of the literature. The review is marked by a deep critical reflection and integration of the arguments and evidence presented in the literature.

Descriptors	Deficient	Adequate	Good	Excellent	Outstanding
Mark bands	0-9	10-13	13-15	15-17	17-20
Contextualising and defining the problem to be solved (15%)	The student has done a poor job of explaining the context and background to the reader. A problem statement or research question is absent, not open-ended or is simply a general statement of the research topic.	The student demonstrates an adequate technical understanding of the importance of the topic. They set the project within a narrow, research context. At least one gap in the literature is identified. An open-ended problem statement (or research question) is provided but it is not clear how it is related to the gap analysis.	The student demonstrates a solid understanding of some relevant factors driving their project. They establish the significance of their topic within a discipline or industrial/societal context. Several gaps in the literature are identified. An open-ended problem statement (or research question) that clearly addresses at least one gap identified in the literature review.	The student demonstrates a good understanding of the relevant factors driving their project. They establish the significance of their topic within both the discipline and broader industrial-societal context. A discussion of several gaps in the literature leads to a focused, open-ended problem statement (or research question) that clearly addresses one or more of the gaps identified in the literature review.	The student demonstrates a nuanced understanding of the factors influencing the project. The significance of the topic is established within both the discipline and broader industrial-societal context, showing novel insight into how the topic affects a variety of stakeholders. A detailed gap analysis leads to an open-ended, focused, and novel problem statement (or research question) that clearly addresses multiple gaps identified in the literature review.
Communication (10%)	The document is poorly structured, does not cohere or shows a lack of understanding of the purpose of its sections.	Document is not at a professional level but does make use of headings and sub-headings to indicate document structure.	The document makes some use headings and other stylistic conventions to indicate document structure.	The document makes good use headings, sub-headings and other stylistic conventions to indicate document structure.	The document follows a clear and logical structure indicated using headings and other conventions. The report is

Descriptors	Deficient	Adequate	Good	Excellent	Outstanding
Mark bands	0-9	10-13	13-15	15-17	17-20
	Much effort is required to read and understand the report: writing is poor, many mistakes with spelling and grammar, and possibly inappropriate langue style (e.g. too informal) Presentation is poor to the extent that it impedes reading of the document. Examples include inconsistent formatting, and unlabelled figures or tables. References are either not cited or cited inconsistently.	The report is may be difficult to read: writing is just OK, broad idea comes across; spelling and grammar have some flaws, not quite appropriate language style. Although figures and tables are labelled, the formatting is unclear and/or inconsistent to the extent that the reader can lose track of the context when reading. References in text match reference list (and vice versa) and are mostly cited correctly.	The report is reasonably easy to read: there may be some issues with spelling, grammar or style but doesn't affect comprehension. Figures and diagrams are generally fine, although there may be some issues with the presentation of data - poor choice of axes, overcrowding, etc. References in text match reference list (and vice versa) and are cited properly.	The report is easy to read: writing is clear enough, with good spelling and grammar, and reasonable choice of language style. Graphical elements (figures, tables, etc.) are labelled, largely formatted consistently and cited correctly. References in text match reference list (and vice versa) and are cited properly.	very easy to read: well-written, with good spelling and grammar, and appropriate language style. Text spacing aids readability. All aspects of formatting are consistent throughout the document. Graphical and tabular presentation of data is appropriate, clear, consistent and economical. References in text match reference list (and vice versa) and are cited properly.

Submission notes:

You must receive a grade of satisfactory for the Smarthinking task before you will be able to submit your Literature Review.

The final version of the Literature Review must be submitted to BOTH Turnitin (‘Originality Check’) and the Workshop (‘Literature Review’) activities on Moodle.

Assessment 5: Project Plan

Length: 2,500

Details:

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*.

The plan will be marked by the student's supervisor with comments returned to the student.

* 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.

Additional details:

Marking scheme for the Project Plan

Descriptors	Deficient	Adequate	Good	Excellent	Outstanding
Mark bands	0-9	10-13	13-15	15-17	17-20
Aims (10%)	Project aims are unclear or inappropriate. Any hypotheses proposed unlikely to be answered by the proposed methodology.	Project aims stated are clear but general. Any hypotheses proposed are related to the proposed methodology.	Project aims stated are clear and focused. Any hypotheses proposed are specific and related to the proposed methodology.	Project aims stated are clear, focused, and achievable within the scope of the thesis project. Any hypotheses proposed are specific and are clearly addressed by the proposed methodology.	Project aims stated are clear, focused, and achievable, defining an innovative scope for the thesis project. Any hypotheses proposed are specific and clearly testable by the proposed methodology.
Planning (30%)	The research plan is not present, does not have sufficient detail to demonstrate what the project would deliver, or	There is enough of a plan to believe that the research project is feasible, however it lacks detail and	The research plan includes some detail in terms of methodology, work to be completed and outcomes delivered.	The research plan outlines a set of the milestones and project components. The plan is clearly informed by the	The research plan explains a logical, discrete set milestones & project components (design, methodology, analysis and

Descriptors	Deficient	Adequate	Good	Excellent	Outstanding
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	defines a project that does not meet the expectations of a thesis project. The timeline is not present or does not demonstrate how the student would successfully complete a thesis project. Little attempt has been made to describe how the project would be managed.	justification from the literature. The proposed timeline is not detailed &/or consists of generic activities with little explanation of what they are intended to achieve. Little consideration is given to what will be required to make the project happen.	There is limited justification from the literature. The timeline is realistic, but mainly follows a linear approach. Enough detail to believe the research project is feasible. The plan includes some provision for project variations and contingencies. The plan shows some understanding of the resources, training &/or permitting required.	literature. The timeline is realistic and may exhibit a multistrand approach. Enough detail to believe the research project is feasible, with some provision for project variations and contingencies. Some key resources, training &/or permitting required have been identified and documented as appendices.	data management). A rigorous, liter ature-informed case is made for methods to be employed. The timeline is realistic and robust, with good consideration of project management; risk mitigation strategies proposed. All key resources, training and permitting identified and documented as appendices.
Maturity (30%)	Very little preparatory work has been completed, perhaps completed laboratory inductions, or observed some introductory demonstrations only. Student will need to do significant catching up before the start of Thesis B.	Some preparatory work completed on research project, but it does not look like one session's worth of effort. Student will need to do some catching up before or at the start of Thesis B.	Preparatory work mostly complete and project appears to be at a stage where it can be completed over two terms.	All project preparations have been completed and the student will be able to begin executing their research plan as soon as they commence Thesis B. Some initial results may have been generated.	Preliminary work all completed and well into the research component of the project. Real progress made with results already being generated.

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Initiative and engagement (20%)	Irregular, sporadic engagement in the project. The student needed a lot of pushing from supervisor to make things happen	Regular engagement but only just adequate. The student showed some evidence of driving the project but considerable need for improvement.	Consistent engagement. Clear evidence of student driving the project (e.g. prepared questi ons/agendas for meetings, proactive approach to developing the review/plan).	High level of sustained engagement throughout the whole term. Student initiated many own ideas during the process.	Superior evidence of engagement. The student is intellectually and practically driving the project, going beyond what is generally expected of a coursework student.
Communication (10%)	The document is poorly structured, does not cohere or shows a lack of understanding of the purpose of its sections. Much effort is required to read and understand the report: writing is poor, many mistakes with spelling and grammar, and possibly inappropriate langue style (e.g. too informal) Presentation is poor to the extent that it impedes reading of the document. Examples include inconsistent	Document is not at a professional level but does make use of headings and sub-headings to indicate document structure. The report is may be difficult to read: writing is just OK, broad idea comes across; spelling and grammar have some flaws, not quite appropriate language style. Although figures and tables are labelled, the formatting is unclear and/or inconsistent to the extent that the reader can lose track of	The document makes some use headings and other stylistic conventions to indicate document structure. The report is reasonably easy to read: there may be some issues with spelling, grammar or style but does not affect comprehension . Figures and diagrams are generally fine, although there may be some issues with the presentation of data - poor choice of axes, overcrowding, etc.	The document makes good use headings, sub-headings, and other stylistic conventions to indicate document structure. The report is easy to read: writing is clear enough, with good spelling and grammar, and reasonable choice of language style. Graphical elements (figures, tables, etc.) are labelled, largely formatted consistently, and cited correctly. References in text match reference list	The document follows a clear and logical structure indicated using headings and other conventions. The report is very easy to read: well-written, with good spelling and grammar, and appropriate language style. Text spacing aids readability. All aspects of formatting are consistent throughout the document. Graphical and tabular presentation of data is appropriate, clear, consistent, and economical.

Descriptors	Deficient	Adequate	Good	Excellent	Outstanding
Mark bands	0-9	10-13	13-15	15-17	17-20
	formatting, and unlabelled figures or tables. References are either not cited or cited inconsistently.	the context when reading. References in text match reference list (and vice versa) and are mostly cited correctly.	References in text match reference list (and vice versa) and are cited properly.	(and vice versa) and are cited properly.	References in text match reference list (and vice versa) and are cited properly.

Submission notes:

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

You must receive a grade of satisfactory for the Project Specification task before you will be able to submit your Project Plan.

Attendance Requirements

Students are expected to attend all scheduled meetings with supervisors, and if applicable, co-supervisors and research groups. Students in 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.

Course Schedule

View class timetable

Timetable

Date	Type	Content
O Week: 25 May - 28 May	Seminar	Thesis is a research-based course and does not have any regularly scheduled classes. There is an optional "Getting Started with Thesis" session at 2pm on the Friday of O-Week. You can ask questions ahead of this session via Slido (#StartThesis21T2). This session will be recorded and made available afterwards on the course Moodle page.

Resources

Prescribed Resources

The Moodle page for this course is very important. As well as being a venue for announcements, submission, and feedback, there are links to resources, advice, and guidance.

You also have access to 3 hours of Smarthinking tutor time. Please see the 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.

Study space for project courses

Students enrolled in selected project- and 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 "Welcome to Thesis" session.
- Introducing lessons on research skills, e.g. working with academic literature, writing critical reviews and researching safely.
- Providing more assistance in written communication via the Smarthinking service.
- Introducing a formative assessment in Week 3, so that you get sense of how you're going.
- Creating online 'office hours'

Laboratory Workshop Information

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).

UNSW Supervised Projects

If your project being directly supervised by UNSW staff, you should consult with your supervisor about risk management for your project.

1. 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.
2. If your project involves laboratory or field work, you will need to complete the School of Chemical Engineering lab access 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.

1. 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.
2. 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.
3. 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 request a copy of the School's Industry Thesis Guide.

Project ethics approval

Does your thesis involve other people doing something for you? If so, it may require ethics approval.

The basic principle is that if you want people to provide you with something, even if just 5 min of their time to answer questions, then you should (i) treat them with suitable dignity and (ii) ensure any possibility that they may be badly affected is absolutely minimised.

When research at UNSW involves people, then it come under the oversight of the UNSW Ethics

Committee which must give approval before it proceeds.

You will need to get approval, if your project involves any of the following (more than one may apply):

- a survey, even if done on-line
- an interview, focus group, or other such “qualitative” method
- data mining when individual identities might be revealed
- behavioural observation, e.g. people using something, choices people make, 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, of course, drug trials, body tissues and other medical activities.

Also, projects involving animals will need ethics approval. If your project does require approval, in the first instance, discuss this with your Supervisor.

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

It is possible to complete your entire project by distance.

You should discuss the particular arrangements for your project with your supervisor. This should include the nature of your project (e.g. types research/design, access to data), how you will meet and how often (at least fortnightly and preferably by video call), accessing to literature and software (e.g. via the UNSW Library, myAccess &/or UNSW VPN/China Access Network).

Then you must complete the “Application for distance thesis study” form available on Moodle. Since you probably won't have a supervisor at your off-campus location, please a reason like "unable to visit campus because of travel restrictions" in the distance supervision field. Next get your supervisor to sign the application. 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.

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 generally not required; 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 due respect. Presenting results clearly gives the marker the best chance of understanding your method; even if the numerical results are incorrect.

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.

Late penalties

Unless otherwise specified, submissions received after the due date and time will be penalised at a rate of 10% per day or part thereof (including weekends). For some activities including Moodle quizzes and Team Evaluation surveys, extensions and late submissions are not possible.

Special consideration

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 submitting an assessment or sitting an exam.

UNSW has a Fit to Sit / Submit rule, which means that if you attempt 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.

Please note that students will **not** be required to provide **any** documentary evidence to support absences from any classes missed **because of COVID-19 public health measures such as isolation**. UNSW will **not** be insisting on medical certificates from anyone deemed to be a positive case, or when they have recovered. Such certificates are difficult to obtain and put an unnecessary strain on students and medical staff.

Applications for special consideration **will** be required for assessment and participation absences – but no documentary evidence **for COVID 19 illness or isolation** will be required.

Academic Honesty and Plagiarism

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.

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.

Academic Information

To help you plan your degree, assistance is available from academic advisors in The Nucleus and also in the School of Chemical Engineering.

Additional support for students

- Current Student Gateway
- Engineering Current Student Resources
- Student Support and Success
- Academic Skills
- Student Wellbeing, Health and Safety
- Equitable Learning Services
- IT Service Centre

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.

On-campus class attendance

Physical distancing recommendations must be followed for all face-to-face classes. To ensure this, only students enrolled in those classes will be allowed in the room. Class rosters will be attached to corresponding rooms and circulated among lab demonstrators and tutors. No over-enrolment is allowed in face-to-face class. Students enrolled in online classes can swap their enrolment from online to a **limited** number of on-campus classes by Sunday, Week 1.

In certain classroom and laboratory situations where physical distancing cannot be maintained or the staff running the session believe that it will not be maintained, face masks will be designated by the course coordinator as **mandatory PPE** for students and staff. Students are required to bring and use their own face mask. Mask can be purchased from IGA Supermarket (Map B8, Lower Campus), campus pharmacy (Map F14, Middle Campus), the post office (Map F22, Upper Campus) and a vending machine in the foyer of the Biological Sciences Building (Map E26, Upper Campus).

Your health and the health of those in your class is critically important. You must stay at home if you are sick or have been advised to self-isolate by NSW health or government authorities. Current alerts and a list of hotspots can be found here. Do not come to campus if you have any of the following symptoms: fever (37.5 °C or higher), cough, sore throat, shortness of breath (difficulty breathing), runny nose, loss of taste, or loss of smell. If you need to have a COVID-19 test, you must not come to campus and remain in self-isolation until you receive the results of your test.

You will not be penalised for missing a face-to-face activity due to illness or a requirement to self-

isolate. We will work with you to ensure continuity of learning during your isolation and have plans in place for you to catch up on any content or learning activities you may miss. Where this might not be possible, an application for fee remission may be discussed. Further information is available on any course Moodle or Teams site.
For more information, please refer to the FAQs: https://www.covid-19.unsw.edu.au/safe-return-campus-faqs

Image Credit

Dr Peter Wich

CRICOS

CRICOS Provider Code: 00098G

Acknowledgement of Country

We acknowledge the Bedegal people who are the traditional custodians of the lands on which UNSW Kensington campus is located.

Appendix: Engineers Australia (EA) Professional Engineer Competency Standard

Program Intended Learning Outcomes	
Knowledge and skill base	
PE1.1 Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline	
PE1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline	✓
PE1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline	✓
PE1.4 Discernment of knowledge development and research directions within the engineering discipline	
PE1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline	
PE1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline	
Engineering application ability	
PE2.1 Application of established engineering methods to complex engineering problem solving	✓
PE2.2 Fluent application of engineering techniques, tools and resources	✓
PE2.3 Application of systematic engineering synthesis and design processes	✓
PE2.4 Application of systematic approaches to the conduct and management of engineering projects	✓
Professional and personal attributes	
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	