CEIC9953

Advanced Research Thesis C

Term Two // 2021

School of Chemical Engineering // UNSW Engineering

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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 6

Summary of the Course

Advanced Research Thesis is a research-based course that provides an opportunity for students to bring together engineering principles learned through academic study and professional experience at an advanced level. 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.

The thesis requires the student 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 expected to understand how their project fits within the discipline and broader societal context. Students also develop their ability to work in a research and development environment.

Apart from in exceptional circumstances, you should continue with the same supervisor and project as you had in CEIC9951 and CEIC9952.

This is the third course of the three course thesis structure. Subject to making sufficient progress in CEIC9951 and with the approval of your supervisor, you may be allowed to enroll in this course at the same time as CEIC9952.

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

Learning Outcome	EA Stage 1 Competencies
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

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 C, you will be concluding your research plan, finalising your results with your supervisor and communicating your findings. 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

CEIC9953 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. 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
Conference paper manuscript and supporting files	60%	9pm Monday, Week 11	1, 2, 3, 4, 5
Presentation and Q&A	5%	9pm Wed, Week 11 (video presentation) and 9am-1pm Fri, Week 11 (Q&A panel)	1, 2, 3, 4, 5
Supervisor's Report C	5%	Not Applicable	1, 2, 3, 4, 5

Assessment Details

Assessment 1: Conference paper manuscript and supporting files

Length: 8,000 words

Details: Students will submit a conference paper manuscript (or technical report for industry projects). The paper should briefly set the project in context and describe the motivation and aims of the topic address. The paper will then explain the methodologies employed, before reporting results and discussing their meaning and significance.

Additional details:

Marking scheme for the Conference Paper Manuscript

Descriptor	Rejected without review	Rejected following review	Revise and resubmit	Accept (major revisions)	Accept (minor revisions)
Mark band	0-7	8-11	11-13	13-15	15-20
Explaining the background and putting the results in context (20%)	Aims not clear – The student hasn't done a good job explaining the research aims to the reader - I'm not really sure what this is about.	Reason for research not clear – I understand the project aims but the student has not made it clear to the reader how it is connected to the background - why is this aim being pursued? What is the hypothesis being tested? What is the broader significance?	Background clear - results not contextualised – The student makes the project background clear to the reader, and the significance of the research aim within a broader context. The student has not been able to take a step back and assess the significance of their results.	Background and aims are clear, context is incomplete – The student makes the project background clear to the reader, and the significance of the research aim within a broader context. The literature review is comprehensive but may be lacking depth of insight. The student has made a reasonable attempt to assess the significance of their results, but it is either not realistic, or does not follow logically from the arguments	Background to research and significance of conclusions reached are clear – The student makes the project background clear to the reader, and the significance of the research aim within a broader context. The student also makes a realistic assessment of the significance of their results in this context. The background section is concise, comprehensive and insightful.

Descriptor	Rejected without review	Rejected following review	Revise and resubmit	Accept (major revisions)	Accept (minor revisions)
Mark band	0-7	8-11	11-13	13-15	15-20
				presented.	
Execution of the research project, quality of analysis, discussion of results (50%)	Clearly deficient. Work at this level is clearly deficient - in not addressing the stated project aims or in containing major problems that the student should reasonably have been aware of but did not address in the thesis.	"Thin" results, lacking intellectual engagement. The student has completed a body of work and presented some results but not succeeded in interpreting meaning from them (=intellectual input is largely absent from the discussion, which is essentially equivalent to observation of the results). Performance at this level may also indicate a lack of engagement with the project, sometimes evidenced as a "thin" or "one-dimensional" investigation characterised by attempted padding.	Several components to the research work, not coherently linked. The student probably has a number of components to their research, such as literature, experiments, designs, simulations etc. They have interpreted meaning from the results but have overall not succeeded in linking the components of their research together as a coherent scientific story. There's no clear "big picture".	Solid, coherent work, linking all the research components together into a consistent story. At this level the student has assembled the pieces of their research project (which could include literature, different sets of experiments or measurements, simulations or analyses) into a coherent scientific story. Overall, you are left with a clear and convincing picture of what the research question was and what the answer is (along with its caveats). A student is generally not going to be able to achieve this if there are conceptual or methodological problems with their work, or if	Solid, coherent and consistent story PLUS something unexpected. Student would have to have achieved as at the previous level but additionally has achieved something unexpected, thoughtful and original, such as a novel perspective or theory. This requires deep thinking of the student.

Descriptor	Rejected without review	Rejected following review	Revise and resubmit	Accept (major revisions)	Accept (minor revisions)
Mark band	0-7	8-11	11-13	13-15	15-20
				their review of literature is inadequate.	
Conclusions and value added (20%)	No value. There are obvious and substantial problems with what was presented – the work as it stands has no value because it doesn't "hold water".	No interesting results. The work doesn't really add any significant value. The standard and volume of the work is not suitable for publication without extensive revision and expansion. The student does not appear to appreciate that the work is not at all challenging and yields entirely expected results.	Minimal wider value without significant extra work. The presented work adds some value through the improvement of "local knowledge" (e.g. improved techniques, additional data) but needs significant work before it could be considered for submission. The student worked well but did not push themselves harder to make any new discoveries or interpretations. Therefore, conclusions are limited, and the discussion of future work is predictable.	Will have wider impact with some further work. This manuscript is a strong draft but will require some expansion and revision before submission could be considered. Further work required may include additional experiments, analysis or discussion. The student has included good, thoughtful discussion of limitations and provided insight into future work on this project or new avenues of research which could be followed.	Will have wider impact. This is valuable work. This manuscript is of a high standard and is close to being ready for submission. Once revised, the work would have a high chance of being accepted for publication with only minor corrections. If not used as the basis for a peer-reviewed publication, it could be edited into another form of professional dissemination appropriate to the field (e.g. patent application, trade publication, workshop, etc.).
Document Presentation (10%)	The document is poorly structured, does not cohere or	Document is not at a professional level but does make use of	The document makes some use headings and other stylistic	The document makes good use headings, sub-headings and other	The document follows a clear and logical structure indicated using

Descriptor	Rejected without review	Rejected following review	Revise and resubmit	Accept (major revisions)	Accept (minor revisions)
Mark band	0-7	8-11	11-13	13-15	15-20
	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 formatting, and unlabelled figures or tables. References are either not cited or cited inconsistently.	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 context when reading. References in text match reference list (and vice versa) and are mostly cited correctly.	conventions to indicate document structure. The report is reasonably easy to read: there may be some issues with spelling, grammar or style but it doesn't affect comprehension. Figures and diagrams are generally fine, although there may be some issues with the graphical presentation of data - poor choice of axes, overcrowding, poor use of chart space, etc. References in text match reference list (and vice versa) and are cited properly.	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 (and vice versa) and are cited properly.	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. Discerning placement of graphical elements (figures, tables, etc.), whether in the body of the work or in the appendices. References in text match reference list (and vice versa) and are cited properly.

Submission notes:

The Conference Paper Manuscript should be submitted as a Word file or a PDF through Moodle. Students are assumed to have discussed with their supervisor the expected structure and content of their manuscript well before the due date. Conference Paper Manuscripts should be prepared according to the style guide provided on Moodle. Technical reports should follow industry style expectations.

You must also upload an archive file (e.g. zip file) containing relevant project material (consult your supervisor on this). These Supporting Files include draft theses/papers, results files, program code, spreadsheets, etc., it may also include a digital notebook (if you used an electronic notebook).

The maximum upload size is 200 MB, so you may need to split the files across up to three zip files. Alternatively, you may share the files from your UNSW OneDrive and paste the link in the text entry section of the submission form.

Assessment 2: Presentation and Q&A

Details: Students will submit a short online presentation (5mins) of their research and its results for a generalist audience (by Wednesday, 9pm). Then on Friday morning, students will address questions from a panel of academics.

Additional details:

Marking scheme for the Presentation and Q&A

Descriptor	Negligible	Deficient	Competent	Good	Outstanding
Mark band	0-2	3-4	5-6	7-8	9-10
Context (20%)	The student cannot explain why the research was done &/or what it was intended to achieve.	The student attempts to explain (or simply states) why the work was done, but you don't think they really understand. The aims are unclear.	The student can explain in narrow terms why the work was done and what it has intended to achieve.	The student can explain in detail why the work was done, what it was intended to achieve, as well as indicating its broader significance.	The student can explain the broader context that the work fits into – why it was done, what it was intended to achieve and as well as justifying its broader significance.
Content (20%)	This is completely unsatisfactory work. It is substantially incomplete &/or	This is marginal work. The methods, results and conclusions are not clear. There	This is satisfactory work. The methods, results and conclusions are	This is good work. The methods, results, conclusions are stated clearly.	This is excellent to outstanding work. The methods, results,

Descriptor	Negligible	Deficient	Competent	Good	Outstanding
Mark band	0-2	3-4	5-6	7-8	9-10
	incoherent – it fails to address the stated aims.	are obvious and substantial problems with what was presented and cast the conclusions into doubt.	clear but only after probing. While it contains some errors, but they are unlikely to undermine the main conclusions.	Though it may contain a few errors they are unlikely to undermine their eventual findings.	conclusions are explained clearly. It appears to have been completed without errors.
Q&A (20%)	The student is effectively unable to answer questions about the project.	The student attempts to answer questions about the project but clearly doesn't really understand substantial parts of the work properly.	The student can answer some questions about the project and does not understand others. They make some use of evidence in their answers.	The student understands all the questions and can answer most of them. They make good use evidence to support their answers.	The student listens carefully and answers questions easily and directly - they make excellent use of evidence to support their responses.
Commuication (40%)	The presentation is incoherent or incomplete. The visual aids diminish understanding. There are multiple deficiencies with the visual aids. The student is unable to communicate their ideas or in comprehensible.	The presentation is structured in a confusing manner &/or does not keep to time. The visual aids are not adequate. The student is hard to understand and struggles to communicate their ideas.	The presentation is structured logically, keeps close to time. Visual aids are adequate. The student is comprehensible and can communicate their ideas to the audience.	The presentation is structured logically, keeps to time and generally flows well. Visual aids support understanding. The student communicates their ideas to the audience clearly.	The presentation is structured logically, keeps to time and flows smoothly. Visual aids enhance understanding. The student communicates their ideas to the audience in a clear and engaging manner.

Submission notes: The Presentation will be submitted online as a video by Wednesday 9pm. Your markers will review your presentation and then join you live online on Friday morning for a Q&A panel

session.

Assessment 3: Supervisor's Report C

Details: The supervisor provides a written comment and grade assessing the student's participation during the final part of the project.

Additional details:

Marking scheme for the Supervisor's Report C

Descriptor	Negligible	Deficient	Adequate	Good	Excellent	Outstanding
Mark	0	3	5	7	8	10
Initiative and engagement (33%)	No engagement shown.	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 questions/agendas for meetings, proactive approach to developing research proposal).	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.
Sustained activity (33%)	No or minimal activity across all areas of the project.	No or minimal activity across most areas of the project. It is unlikely a satisfactory thesis project will be completed without a significant change in attitude.	The student is doing enough to progress the project but needs to increase the work harder to ensure they satisfactorily complete their thesis project.	The student is consistently applying themselves and working at a level that will see their project progress to a satisfactory conclusion.	High level of sustained effort throughout the whole term. The student is working at a level that will ensure smooth progress of their thesis project.	Superior evidence of effort. The student is working at a level where there is now opportunity for extending the scope or depth of the project.
Diligence and competence	No care or competence demonstrate	The student appears to be careless	The student's work is	The student's work is good	The student's work is	The student is very persistent

Descriptor	Negligible	Deficient	Adequate	Good	Excellent	Outstanding
Mark	0	3	5	7	8	10
in performing the task (33%)	d.	or technically incompetent in doing the work	satisfactory – you are fairly sure results from project are useable and trustworthy	– you are confident with student's results	professionally performed and meticulously recorded.	and unrelenting in performing the task, demonstrate superior level of knowledge and applied thinking to solving an engineering problem

Submission notes: No submission is required.

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 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 form. Finally, upload the 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	