UNSW Course Outline

GSOE9011 Engineering Postgraduate Coursework Research Skills - 2024

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General Course Information

Course Code : GSOE9011
Year : 2024
Term : Term 2
Teaching Period : T2
Is a multi-term course? : No
Faculty : Faculty of Engineering
Academic Unit : Faculty of Engineering
Delivery Mode : Online
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 skills are critical professional competency for all engineers, computer scientists and

food scientists. They are needed in the development of new products, the selection of appropriate technology, the efficient management of processes, and the discovery of new things about the universe, its inhabitants and their needs. More broadly, research skills are a core graduate capability of those with postgraduate qualifications and set them apart through their advanced lifelong learning skills.

This course is designed to equip you with research skills that can be applied in both academic and industry contexts, for example capstone project courses, and product development. GSOE9011 teaches these skills in an online mode using a combination of asynchronous learning modules, live interviews with guest experts, and project-based learning as you collaborate with a small group of students to develop a research proposal.

You will learn how to effectively search for quality information and then to critically review the literature. The course will introduce you to experimental design, as well as explaining how to write effective research project and grant proposals. In addition, you will learn professional skills related to academic integrity, group dynamics and collaboration, research careers and profiles, and advanced presentation skills.

Course Aims

The overall aim of this course is to prepare postgraduate engineering coursework students for their inquiry-based learning and/or research courses, as well as preparing them to employ research skills in their professional practice. In particular, this course intends to develop students' skills in locating and critically evaluating technical literature, inform them about the methods and processes used in running and supporting research projects, raise their awareness of the professional skills required for collaborative research projects, and equip them through career development learning to pursue academic and professional career goals.

Relationship to Other Courses

This course is similar to GSOE9010 *Engineering Postgraduate Coursework Research Skills* and the courses are designed to be aligned around their learning outcomes, though delivery, learning activities, and assessment tasks vary, aligned with the very different modes of delivery, and individual teaching styles.

GSOE9011 is intended as a replacement for GSOE9010 for students who are not able to attend courses on campus, or who may have other difficulties with an enrolment in GSOE9010 (such as a timetable clash). As a course offered fully online, engagement in compulsory learning activities

is now conducted in asynchronous mode, with the hope this provides maximum flexibility for students in completing at least the learning and teaching activities, and meeting the learning outcomes within the course.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Locate and critically analyse research papers, and develop a review of literature on a specific research topic.
CLO2 : Formulate a research problem, develop hypotheses and aims, evaluate existing work on the problem, and describe methodologies to test these in a research proposal report.
CLO3 : Develop interpersonal skills needed for project management and collaboration in a research team.
CLO4 : Clearly and concisely communicate a research topic to expert and non-expert audiences, in both verbal and written forms.
CLO5 : Identify their strengths and weaknesses in professional competencies and pursue specialised skills and knowledge in line with their study and career goals.
CLO6 : Apply the processes involved in carrying out engineering or scientific research with autonomy, expert judgement, adaptability, and responsibility.

Course Learning Outcomes	Assessment Item
CLO1 : Locate and critically analyse research papers, and develop a review of literature on a specific research topic.	• Video presentation • Research proposal
CLO2 : Formulate a research problem, develop hypotheses and aims, evaluate existing work on the problem, and describe methodologies to test these in a research proposal report.	• Video presentation • Research proposal
CLO3 : Develop interpersonal skills needed for project management and collaboration in a research team.	• Engagement with online learning • Video presentation • Research proposal
CLO4 : Clearly and concisely communicate a research topic to expert and non-expert audiences, in both verbal and written forms.	• Career Development Plan • Engagement with online learning • Video presentation • Research proposal
CLO5 : Identify their strengths and weaknesses in professional competencies and pursue specialised skills and knowledge in line with their study and career goals.	
CLO6 : Apply the processes involved in carrying out engineering or scientific research with autonomy, expert judgement, adaptability, and responsibility.	• Career Development Plan • Engagement with online learning • Video presentation • Research proposal

Learning and Teaching Technologies

Moodle - Learning Management System | Blackboard Collaborate

Learning and Teaching in this course

- see Moodle ressources

Other Professional Outcomes

Relationship between course outcomes, Engineers Australia Stage 1 Competencies Elements and assessments

Each of the CLOs is aligned with at least one of the Engineers Australia Stage 1 Competencies Elements (SOCE) for the Professional Engineer (the specific competency element is indicated by number following each learning outcome). These competencies are also aligned with the UNSW Graduate Attributes.

Course Learning Outcome	LO Statement	EA Stage 1 Competency Element (SOCE)
CLO 1	Formulate a research problem in engineering	1.4
CLO 2	Conduct effective literature searches	3.4, 1.3
CLO 3	Design a solution to the research problem	2.3
CLO 4	Design experiments to test the effectiveness of the solution	2.1
CLO 5	Consider collection and analysis of experimental results and the formulation of valid conclusions	2.2
CLO 6	Communicate research findings effectively, in oral and written modes	3.2
CLO 7	Work effectively in a research team	3.6
CLO 8	Develop a research profile	3.5
CLO 9	Practice research ethically	3.1

Additional Course Information

Expectation of students

UNSW expect everyone – staff and students – to treat each other with respect.

This course consists, nominally, of at least 2 hours of 'contact' per week consisting of a 1-hour live Q&A with a subject matter expert and, nominally, 1 hour of your time engaging in online forums. That stated, as a fully online and graduate course, it is known that some students will, for professional and/or other reasons, not be able to 'attend' the live Q&A. It is expected that, in such cases, students will make up this time, and learnings, by reviewing the recordings that are made and/or give more time to the asynchronous/flexible elements of the course. Attendance at, but particularly participation in either or both of these activities will be recorded, and participation in Moodle Forums is expected and assessed. **You are expected to take an additional 10–12 hours of non-class contact hours** to work through the learning materials, engage with team members and complete assessments, including the discursive elements such as the forums. However, note here, as well as through detailing of assessment tasks, that you do have significant flexibility around the amount and timing of your contact in the course, and completion of many task, aligned with the flexibility afforded by a fully online course and the virtual environment.

UNSW expects students to be regular and punctual in attendance at all classes including online tutorials and Q&A sessions. **Students who attend less than 80% of their possible classes may be refused final assessment.** These 'rules' pertain to the more traditional face-to-face mode of course engagement. It is expected that, very broadly, you engage well with the course, in the spirit of these requirements. However, as this is a postgraduate distance mode course and at least some students may be working full-time, or travelling to remote locations, students may post questions, thoughts, responses, items, new resources or other elements in the dedicated Q&A or follow-up Moodle Forums for each topic, if unable to attend the live/synchronous sessions. Given the asynchronous and highly flexible nature of most of the course elements (see the detailed assessment tasks for further details), for learning, teaching and assessment, you should have little if any trouble being able to contribute to the course, and work with the staff and your peers. **Thus, failure to engage regularly with elements of the course, such as forums, can be taken as the equivalent of non-attendance and can result in refusal of final assessment and completion of the course.**

Although exceptions may be made for special circumstances, we do expect that, having committed yourself to study, completion of course elements will be a priority for you. In the case of illness or of absence for some other unavoidable cause, students may be excused by the Registrar for non-attendance at classes for a period of not more than one month or, on the recommendation of the Dean, for a longer period. The following link gives further guidance for attendance at or absence from classes:

https://my.unsw.edu.au/student/atoz/AttendanceAbsence.html

If you find you are unable to participate in the course effectively you should notify the coordinator as early as possible. If you feel you will not be able to contribute or may be required to be absent for a protracted period, you should consider withdrawal from the course, not only for your own sake, but that of others, especially your project group members. The latter is particularly important, as late withdrawal has caused significant inconvenience for some students, when left with few or no group members and thus significant work to complete on short notice. Again, please be as respectful as possible of the needs of others.

UNSW has rules for computer use, for example, for email and online discussion forums. You will have to agree to them when you first access the UNSW network. You can read the relevant policies and procedures here:

https://www.it.unsw.edu.au/students/policies/

As this course is fully online, it makes extensive use of the UNSW learning management system, Moodle, and ancillary applications, **it is crucial that you familiarise yourself** with Moodle and those other applications. Further, it is critical that you **check regularly, at least once each day, for any Announcements in Moodle**; even if discussions of course logistics or other matters have taken place in live chats, and/or forums, or even via email, **Announcements are used to convey final outcomes and thus critical information to the cohort.**

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Engagement with online learning Assessment Format: Individual	20%	
Video presentation Assessment Format: Individual	10%	
Research proposal Assessment Format: Group	50%	
Career Development Plan Assessment Format: Individual	20%	

Assessment Details

Engagement with online learning

Assessment Overview

As an online course, it is important for you to consistently engage with the learning materials and participate in class discussions. In this task, you will be assessed on your performance in online quizzes and your participation in online discussions about the course topics.

For each topic, you will work through the learning materials and then complete a short quiz. You are also expected to make at least one reasonable contribution to class discussions (either in the forum or live sessions) for each learning module during window flagged in the course schedule. Through completing the quizzes and participating in the discussions you will receive feedback on your understanding of each topic.

Course Learning Outcomes

- CLO3 : Develop interpersonal skills needed for project management and collaboration in a research team.
- CLO4 : Clearly and concisely communicate a research topic to expert and non-expert audiences, in both verbal and written forms.
- CLO6 : Apply the processes involved in carrying out engineering or scientific research with autonomy, expert judgement, adaptability, and responsibility.

Detailed Assessment Description

A01: Forum contributions (10 Marks)

Due Date: Weekly (see schedule) Weeks 1–10

Students are expected to make at least one *reasonable* contribution to the communication channels for each Course Topic; this is through the Moodle forum for that Topic, either for (prior to) the Q&A session, after the Q&A session, or through questions or comments during the Q&A session itself. For assessment, these contributions must be made during the four-week window flagged above in the schedule. Forums will remain open until the end of Term, if anyone wishes to make further contributions.

A02: Quizzes (10 Marks)

Due Date: Weekly (see schedule) Weeks 1–10

Students will complete a quiz for each topic; the quiz contains randomly selected multiple-choice

questions related to the learning materials. The quizzes are designed to encourage you to stay up to date with the course. The relevant quiz will remain open for two weeks after completion of the course topic (a four-week window), to allow you flexibility in completion. You are permitted unlimited attempts, but you must score 100% on each quiz, to complete that quiz and earn full marks for it.

Video presentation

Assessment Overview

One of the important ways that we communicate our research is presenting orally – either face-to-face, in a seminar, conference session, poster session or, increasingly, in short video format. In this task you will each submit a 3-minute video presentation (an 'elevator' pitch), based on your team's research proposal. The presentation should be aimed at a non-expert audience.

Course Learning Outcomes

- CLO1 : Locate and critically analyse research papers, and develop a review of literature on a specific research topic.
- CLO2 : Formulate a research problem, develop hypotheses and aims, evaluate existing work on the problem, and describe methodologies to test these in a research proposal report.
- CLO3 : Develop interpersonal skills needed for project management and collaboration in a research team.
- CLO4 : Clearly and concisely communicate a research topic to expert and non-expert audiences, in both verbal and written forms.
- CLO6 : Apply the processes involved in carrying out engineering or scientific research with autonomy, expert judgement, adaptability, and responsibility.

Detailed Assessment Description

A05: Research pitch video (10 Marks)

Due Date: Week 11-12 (tbd)

Each student will submit a 3-minute video presentation (an 'elevator' pitch), based on their team's research proposal.
Further detail of this assessment task is provided in a separate document in Moodle.

Assignment submission Turnitin type

This is not a Turnitin assignment

Research proposal

Assessment Overview

The Research Proposal is the main assessment task in this course. You will work in a small team to prepare a research proposal to investigate a research question related to one of the Engineering Research Challenges provided online. You will then conduct a brief literature review, before planning a project to address your research question. Through this task you will integrate and apply most of the content and skills developed in this course, along with drawing on the collective experience, interest, knowledge, perspectives, skills, and attitudes of the team members. The final deliverable – the research proposal – is scaffolded through a series of milestones that allow the incorporation of formative feedback. Peer feedback will be used to moderate the marks for team components of this assessment.

Course Learning Outcomes

- CLO1 : Locate and critically analyse research papers, and develop a review of literature on a specific research topic.
- CLO2 : Formulate a research problem, develop hypotheses and aims, evaluate existing work on the problem, and describe methodologies to test these in a research proposal report.
- CLO3 : Develop interpersonal skills needed for project management and collaboration in a research team.
- CLO4 : Clearly and concisely communicate a research topic to expert and non-expert audiences, in both verbal and written forms.
- CLO6 : Apply the processes involved in carrying out engineering or scientific research with autonomy, expert judgement, adaptability, and responsibility.

Detailed Assessment Description

A04: Research proposal (60 Marks)

Due Date: (a) Week 4, (b) Week 8, (c) Week 9, (d) Week 10-11 (tbd), (e) Week 10-11 (tbd)

The Research Proposal is the main assessment task in the course. To complete this assignment, you will be assigned to a *team* of 4 to 6 students, no more or less, at least to begin with. Each team will submit three deliverables:

1. Research Question: Teams submit their draft research question and the Engineering Research Challenge their topic best matches. (formative/summative) **(5 marks)**
2. Draft Research Proposal: encompassing the literature review and certain other sections. (formative/summative) **(20 marks)**
3. [Peer review of draft proposal] **(5 marks)**
4. Final Research Proposal: covering all sections including the methodology and schedule. **(25**

marks)
5. [Peer review of team members] **(5 marks)**

Submission of (b) will include peer review of the draft research proposal submission (c), and submission of (d) will include an anonymous teamwork evaluation (e).

Peer review is an important part of research and general professional practice, as well as an active learning process. Students will individually evaluate the (b) draft research proposals of their peers, just as happens with real research projects. You will also evaluate the performance of your team members in completing the Final Research Proposal task. Marks will be awarded to you for provision of fair and constructively critical reviews. Penalties may be imposed for poor performance in teamwork, based on peer evaluation.

Further detail of this assessment task and its components is provided in a separate document in Moodle.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Career Development Plan

Assessment Overview

To advance in your career as an engineer, food scientist or computer scientist, whether in academia or industry, it is important to have goals and plan for how to achieve them. In this task, you will identify career goals, reflect on your current levels of competency in technical, professional, and lifelong learning skills, and plan out your remaining courses at UNSW and relevant extracurricular activities to achieve your goals. The final submission is be a short reflective portfolio including a study plan and a CV.

Course Learning Outcomes

- CLO4 : Clearly and concisely communicate a research topic to expert and non-expert audiences, in both verbal and written forms.
- CLO6 : Apply the processes involved in carrying out engineering or scientific research with autonomy, expert judgement, adaptability, and responsibility.

Detailed Assessment Description

A03: CV Development (10 Marks)

Due Date: Week 6

Each student will prepare and submit a CV. Further detail of this assessment task is provided in a separate document in Moodle.

Assignment submission Turnitin type

This is not a Turnitin assignment

General Assessment Information

Note that the table above lists some detail of each assessment task, and the week that assessment tasks are due. Further details of exactly when and how to submit tasks will appear in more detailed descriptions of each task, available in Moodle, and typically announced in Moodle closer to each submission event. However**, please note that, unless otherwise stated, tasks are submitted at 2355/1155pm on the Friday of the listed week.**

Assessment criteria and standards

Further detail of assessment tasks, including marking criteria, will be provided as separate documents on Moodle.

Submission of Assessment Tasks

All assessment tasks will be submitted via Moodle unless otherwise specified. If you are unable to submit the work via Moodle, you should email the work to the course coordinator as soon as possible. The time the email is received will be considered the submission time. If the final project proposal is too big to email, you can share it via your UNSW OneDrive or similar file-sharing service (e.g. Dropbox). It is your responsibility to ensure that tasks are submitted on time.

Some assessments will require you to complete the work online and will require input from you and other students (e.g. peer review). This means that the deadlines for submissions are critical, as delays lead to problems with management of online systems, creating frustration for staff, as well as students who have made on-time submissions. It is complex and difficult for staff (typically, the course coordinator) to intervene in the online systems 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.

Unless you have a verifiable reason, acceptable under UNSW policy, late submissions can attract a mark penalty of 20% per day, or part thereof.

When you submit work through Moodle for assessment you are assumed to be assenting to the standard plagiarism declaration. A copy of the plagiarism declaration is available from the Moodle page for the course. You should not include a plagiarism declaration with your submissions as it will lead to false positives in the plagiarism detection system, if that is used.

Any written work submitted without clear indication of the course, the assignment, the author names(s) and student numbers may not be marked.

Feedback on assessment

You will receive feedback on all assessments prior to the final report. In some cases (e.g. quizzes) this will be a grade alone (though quizzes do show the correct answer), while for other tasks you will receive comments and suggestions for improvement in addition to the grade (e.g. the draft research proposal).

Grading Basis

Standard

Requirements to pass course

Participation (All formal learning activities and assessment tasks)

In traditional courses, students are expected to attend at least 80% of all class activities. In this fully online course, you are expected to contribute to or complete at least 80% of the learning activities and assessment tasks. If, for example, you are unable to join a live Q&A session, you should post one or more questions in the forum for that Course Topic, under the Q&A discussion topic. Please ensure you contact the Course Coordinator as early as possible, if you feel you are having or will have trouble achieving the necessary level of engagement in the course. If you do not meet that level, you may be given a non-complete grade for the course. Note that this is not counted as an assessment task *per se*; rather, it provides a rationale for completion of the tasks relating to engagement with the learning materials and activities.

You are also expected to provide feedback on the progression of your team, from Weeks 4 to 11, using MS Forms in Moodle for automated feedback to team members.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 0 : 20 May - 26 May	Topic	Course Launch + Background Info
Week 1 : 27 May - 2 June	Topic	Topic 1 – Literature Search Topic 2 – Group Dynamics
Week 2 : 3 June - 9 June	Topic	Topic 3 – Writing Literature Reviews Topic 4 - Writing Proposals and Grants
Week 3 : 10 June - 16 June	Topic	Topic 5 - Academic Integrity Topic 6 - Experimental Design and Analysis
Week 4 : 17 June - 23 June	Topic	Topic 6a – Experimental Design follow-up: Dissection of a research study/paper
Week 5 : 24 June - 30 June	Topic	Topic 7 - Research Profile
Week 8 : 15 July - 21 July	Topic	Topic 8 - Presenting by Video
Week 10 : 29 July - 4 August	Topic	Term Finale

Attendance Requirements

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

General Schedule Information

As this is a fully-online course, there is no formal consultation time or office consultation time as might be the case with a traditional, face-to-face course. There is an online course forum in Moodle, for discussion of general course-related matters. There will also be a live chat session for general matters (aside from formal topic chat sessions), to be held in the evenings (please see Blackboard Collaborate scheduling in Moodle). Specific/individual course or personal issues will be dealt with via email in the first instance. **Once the course is underway, important course information will be conveyed via Announcements in Moodle; you should look for posts on at least a once-daily basis.**

Course schedule and structure

The course content is arranged around eight core topics or modules with Topics 1-8 running in a non-linear mode, over about half the weeks of the Term. The sequencing is designed to provide students with timely delivery of the most relevant prerequisite knowledge to support learning and, most critically, the completion of the assessment tasks. There is, nominally, one hour of formal contact time per week, through the live Q&A session associated with each formal Topic. Where possible (recognising this is not possible for some students), students are encouraged strongly to participate in the live sessions, as both an important means of engagement with staff and with each other, as well as a courtesy to those guests giving their valuable time to contribute

to the course. That stated, the live sessions are recorded, primarily to serve those who cannot possibly 'attend', rather than an alternative to attendance for all. There will also be an additional, optional hour each week, for more general discussion about the course and socialisation. These 'social' sessions will be held throughout the course, even in weeks without formal Topics. These sessions enable connection for those students who are working, or remote, to help to create a better learning community. The remaining time commitment to the course involves your engagement with learning materials, and contributions to online activities, before and after the Q&A sessions (just below). Note that, for some weeks, you will be dealing more intensively with two Topics per week. This is a change to the course, to enable coverage of foundational content as early as possible, and within UNSW's 3-Term structure, so that assessment tasks can be engaged with most effectively, in a timely fashion. At the same time, the completion of Topics, especially with respect to various assessment tasks, has been left somewhat flexible.

Online Sessions: Live Question and Answer (Q&A) sessions, will be held online in Blackboard Collaborate, almost always on Fridays, nominally 1-2 pm (1300-1400) Sydney time. The timing is nominal, as the time may need to vary, to accommodate the needs of the guest speakers. Further, in some weeks, two topic sessions will be held, and the times may vary, though the **likely** time for the additional session will be 10-11 am (1000-1100) Sydney time. This is to give you, the students, a break between sessions and, again, to accommodate the needs of the guest speakers. The timing of the Q&A sessions will be finalised and announced by early in the week they are to be held. Based on previous, recent iterations of the course, the evening social sessions mentioned above will run, typically, 7-8pm (1900-2000) on Tuesdays. Note again that these timings are local in Sydney; if you are located in another time zone, please ensure you are aware of your local time of engagement, so you can attend, as much as possible.

All Blackboard Collaborate sessions will be recorded, so you can follow up/review, or utilise them, if unable to attend, but I strongly encourage you to attend and participate if able, at the least as a courtesy to our guests. The times will be flagged through Announcements (see below) and shown as scheduled sessions in the Blackboard Collaborate dashboard.

Moodle: Moodle Forums will be used for formal (and assessable) interactions, held weekly, for two purposes. The first is to allow you to post questions ahead of the Q&A sessions, to make those live sessions as rich as possible. The ability to post questions is especially important for those students unable to attend a live Q&A session (and to provide questions for use during the Q&A sessions). The second is to allow you, after the Q&A sessions, to explore further each of the topics, including responses from staff and students to questions not covered in the live Q&A

session.

Many online courses run in a way that means students can do all learning activities at their own pace, in their own time; this course is, generally, no different, as you do have good windows of time available to work through learning materials and activities, to complete quizzes and contribute to forums. However, this course also requires students to meet online in various sized groups for discussions. This is an important part of learning about the collaborative nature of engineering research. Students are expected, particularly at the graduate level, to negotiate and navigate logistics to complete tasks associated with the course. Staff will work with students to provide, as much as practicable, support mechanisms for student-student interaction, but students will also need to find ways, perhaps creatively, to engage with each other around teaching-learning activities and especially completion of assessment tasks (**and especially those tasks to be completed as a team**).

For each course topic, students should follow the following sequence:

1. Work through the learning materials (video, readings, activities, and so forth).
2. Post questions to the Q&A discussion under the Moodle Forum for that course topic. These are used to drive at least the opening of each live Q&A session. You may also bring questions to the live sessions (as below).
3. Participate in the live Q&A session in **Blackboard Collaborate**, either by joining in the live discussion or posting a question in the associated forum. During the live session, you will be able to use a text/chat tool to post questions or comments.
4. Complete the Topic quiz for each of Topics 1-8 (it may be wise to try the quiz before the Q&A session). Note that, as described in the details for this assessment task, you have significant flexibility in completing these quizzes, though each quiz will close off three weeks after the relevant Q&A session (four weeks from the launch of the relevant topic (see below for dates).
5. Participate in the discussion in the Moodle Forum for that course topic. While it is anticipated that formal/assessable contributions for a given topic will be made during the weeks immediately before or after the Q&A session, contributions can be made formally (for assessment) for up to three weeks after the relevant Q&A session (so, a total four-week window), and all Forums will remain open throughout the semester, as it is also anticipated that students might contribute at any time (driven by reflection on any given topic, any other topic/s, or other experiences, such as working with your team).

Schedule: A detailed tentative schedule for the topics we will cover this Term can be found in Moodle. It may be modified to accommodate the needs of the class and the availability of subject matter experts. **Note again that the weeks for the formal topics are when the formal activities are conducted, and topic-related tasks are expected to be completed, though**

activities/tasks such as forums and quizzes will also remain open beyond the nominated weeks (also see Assessment, below).

Course Resources

Prescribed Resources

Online resources

Videos, lecture slides, and suggested readings, plus links to other online resources will be provided on the course Moodle page (http://moodle.telt.unsw.edu.au/). These will be progressively released as the Term progresses. As this is a graduate course, it is hoped that, as your progress with your studies through the course and/or based on your previous formal or informal education, and professional experience, that you will enrich the course itself, and the learning of students (and even staff) within it.

Recommended text

There is no textbook for this course.

Other resources

To be able to engage with the course you will need to download and install the Blackboard collaborate tool to your computer; you will receive instructions on this when you attempt to use the Collaborate tool for the first time (you will see the link in Moodle). It is also highly recommended that you have available for your use 1) a decent set of headphones / microphone, and 2) a webcam for your computer so you can better get to know your colleagues.

Course Evaluation and Development

We welcome feedback on the course. In particular, we would really like your feedback on what worked well or not so well with the distance mode aspects of the course.

One opportunity which the University provides for students to give feedback on their courses and teachers is myExperience. The myExperience survey is run online towards the end of Term and uses both multiple choice and written responses. You will receive an email about this from the University towards the end of Term. Given low response rates in recent times, it would be appreciated if you can complete this survey once it becomes available.

We also welcome direct written and verbal feedback from students. Ideally, if feedback can be

provided as we progress, we can try to make improvements as we move through the course, rather than feedback being given only at the end.

In the past, this feedback has been used to improve the organisation of workshop groups and the assessment tasks. It has, for example, also resulted in changes to the order in which topics are studied. I have outlined below some of the changes made to recent iterations of the course, so you know that your feedback is valued, and where practicable, is implemented as much as possible.

Recent changes, based on student and teaching team feedback

Based on feedback from students and observations since S1 2018, discussions with teaching staff (including the previous coordinator), and consideration of the implementation of the UNSW 3+ calendar in 2019, changes to the course haev been implemented. The descriptions of changes here are largely historical, but they have been retained to highlight to you that various forms of feedback are considered and, where appropriate and practicable, implemented.

- Use of Moodle Forums. In previous iterations of GSOE9011, formal, assessable interactions were conducted using synchronous 'chat rooms' (thought Blackboard Collaborate Ultra). As a compulsory and assessable activity, this presented problems. Students had to be in that virtual classroom at a particular time, and given personal and professional commitments, this proved problematic for some. Similarly, some students experienced technological problems with bandwidth, computer setup and so forth. So, in Semester 2, 2018, Moodle Forums were used, an asynchronous mode, for the Q&A question posting, and the post Q&A discussion, so there is ample and flexible opportunity for students to engage. Blackboard Collaborate, the synchronous technology is still used for the Q&A sessions; these are considered compulsory, but only assessable in a broad sense, of deciding grade boundaries. They are recorded, to provide further resource material, especially for those unable to attend/engage. They are also considered one of the activities for socialisation among the class cohort. As described elsewhere, if circumstances prevent participation in the live Q&A sessions, participation can be made in other ways, maintaining as much flexibility as possible through this fully online course.
- Non-linear, concentrated delivery of core topics. In past iterations of the course, topics have been delivered on a weekly basis. In observing the course in S1, 2018, we noted that some students were waiting for delivery of some topics before commencing or fully engaging with assessment tasks, especially the major task (the research proposal). We felt that we would take advantage of the online environment with respect to flexibility in delivery, with no need to have a strictly weekly presence in a physical classroom. This saw the introduction, in S2, 2018, of a concentrated effort for both staff and students in some of the early weeks, but a much lighter load with respect to content as the semester progressed, leaving students more time to complete assessment tasks, and with all of the major content delivered. At the same time, assessable items such as forums and quizzes remained open for longer, so there was

less pressure to complete those in the early weeks and greater flexibility of pace for individual students was thereby introduced. This has helped with delivery of the course under UNSW 3+, with a 10-week term from 2019.
- Based on feedback from S2, 2018, we reduced the assessment in the course. We had previously included compulsory peer review of the final assessment tasks (final version of the Research Proposal, and the Video Pitch), but this created too much workload during the exam period, and also delayed collation and release of marks and grades. I have made these peer review activities optional, so that you have the opportunity to provide feedback on those items. If you wish to view any of the final submissions, you will be able to, and then provide feedback if you wish.
- Finally, based on feedback during the course, and discussion with some students during live chat, we added in a sub-topic in which we review the research design from one of my early, short research papers. This proved very beneficial to understanding of experimental design, variables, and processes.
- Based on issues with poor performance by some team members in recent times, we have no implemented a formal, weekly team member evaluation, which can serve as either a prompt for teams to better manage themselves or, at worst, a signal for me to intervene, trying to mitigate significant issues at the end if term during final team evaluation.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Peter Wich		Hilmer 321		contact via email	No	Yes

Other Useful Information

Academic Information

I. Special consideration and supplementary assessment

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

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

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

II. Administrative matters and links

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

- Attendance
- UNSW Email Address
- Special Consideration
- Exams
- Approved Calculators
- Academic Honesty and Plagiarism
- Equitable Learning Services

III. Equity and diversity

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

IV. Professional Outcomes and Program Design

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

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

Academic Honesty and Plagarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism at*

UNSW is defined as using the words or ideas of others and passing them off as your own.

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

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

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

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

Submission of Assessment Tasks

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

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

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

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

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

Faculty-specific Information

Engineering Student Support Services – The Nucleus - enrolment, progression checks, clash requests, course issues or program-related queries

Engineering Industrial Training – Industrial training questions

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

UNSW Exchange – student exchange enquiries (for inbound students)

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

Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

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