COMP4951 Research Thesis A - 2024

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General Course Information

Course Code : COMP4951
Year : 2024
Term : Term 1
Teaching Period : T1
Is a multi-term course? : No
Faculty : Faculty of Engineering
Academic Unit : School of Computer Science and Engineering
Delivery Mode : Multimodal
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Undergraduate
Units of Credit : 4

Useful Links

[Handbook](#) [Class Timetable](#)

Course Details & Outcomes

Course Description

The thesis provides an opportunity for you to bring together engineering principles learned over the previous years of study, and apply these principles to innovatively solve problems such as the development of a specific design and/or the investigation of a hypothesis. Thesis projects are

complex, open-ended problems that allow room for your creativity, and the acquisition, analysis, and interpretation of results. Typically, the project you work with will have multiple possible solutions or conclusions and sufficient complexity to require a degree of project planning. The thesis requires you to formulate problems in engineering terms, manage an engineering project and find solutions by applying engineering methods. You will also develop an ability to work in a research and development environment.

Through the thesis, you will put into practice the knowledge and skills that you've learned in your study up to this point. You do this by investigating a research topic, developing a significant software/hardware system, or some combination of these.

Undergraduate theses consist of a single piece of work spread over three courses: Part A, Part B and Part C.

Course Aims

This course aims to give students an opportunity to work on a substantial problem using primarily their own initiative, with guidance from their supervisor. It comes in the last year of the degree and provides a capstone experience.

Relationship to Other Courses

Thesis A is the first part of the Honours Thesis. Students need to have satisfactorily completed Thesis A before they can move onto the next part, which is Thesis B.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Carry out a project following industry and professional engineering standards and methods
CLO2 : Critically reflect on a specialist body of knowledge related to a topic
CLO3 : Apply scientific and engineering methods to solve an engineering problem
CLO4 : Analyse data objectively using quantitative and mathematical methods
CLO5 : Demonstrate oral and written communication in professional and lay domains
CLO6 : Complete complex tasks through effective planning and communication

Course Learning Outcomes	Assessment Item
CLO1 : Carry out a project following industry and professional engineering standards and methods	• Thesis A Written Report • Thesis Seminar Presentation
CLO2 : Critically reflect on a specialist body of knowledge related to a topic	• Thesis A Written Report • Thesis Seminar Presentation
CLO3 : Apply scientific and engineering methods to solve an engineering problem	• Thesis A Written Report
CLO4 : Analyse data objectively using quantitative and mathematical methods	• Thesis Seminar Presentation • Thesis A Written Report
CLO5 : Demonstrate oral and written communication in professional and lay domains	• Thesis Seminar Presentation • Thesis A Written Report
CLO6 : Complete complex tasks through effective planning and communication	• Thesis Seminar Presentation • Thesis A Written Report

Learning and Teaching Technologies

WebCMS3

Learning and Teaching in this course

The thesis is a project based course. You will be supervised by an academic staff who will provide guidance and feedback to your project. You are expected to meet with your supervisor weekly to discuss the progress made in the week before, any obstacles and difficulties that you face in your work, as well as to discuss the work to be performed in the coming week. The next section on "Some Advice on Research" provides further information on the role of the supervisor and give you some advice on what you should do in order to do well in the thesis.

Some Advice on Research

Here is some simple advice that will help you get on well with your supervisor and work effectively:

Meet with your supervisor regularly. Note that your supervisor is not there to tell you what to do, but to advise you. In general, you should take the initiative to organise meetings, and you should drive the work. Manage your time. You are responsible for monitoring your own progress and ensuring that you remain on track to meet deadlines. However, your supervisor should be able to tell you whether you are being too optimistic, or whether you need to do more.

Write-up as you go. Do not under-estimate how much time it will take to write up the work. Writing-up as you go is not only more time-efficient, it also forces you to formulate your ideas more clearly and completely, and this will substantially increase the overall quality of your work. As well, your final mark will depend largely on the quality of the work and the quality of the presentation in the thesis.

Focus on the project. Understanding the context of your work is important in placing and motivating the research. However, having a concrete, narrow focus when you are working towards a goal and understanding thoroughly the deeper issues involved is better than working too broadly or tackling too wide a problem. Your supervisor should help you to keep your work suitably focused.

Many students are too ambitious in Thesis Part A and Part B and find they run out of time with a thesis that is nowhere near finished. Make sure that the project is feasible (do this early in consultation with your supervisor), write-up whenever you can, and keep an eye on the plan.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Thesis A Written Report Assessment Format: Individual	75%	Due Date: 24/04/2024 10:00 PM
Thesis Seminar Presentation Assessment Format: Individual	25%	Due Date: 07/04/2024 10:00 PM

Assessment Details
Thesis A Written Report

Assessment Overview

Students provide a written report, between 20 and 40 pages in length, which includes at least a review of the literature relevant to their topic and a plan for a solving the problem.

A mark out of 100 will be returned by your supervisor and the assessor, along with comments on your progress. Your thesis A mark is the average of your supervisor's mark and assessor's mark. Overall, Thesis A contributes 20% towards your final thesis mark.

Course Learning Outcomes

- CLO1 : Carry out a project following industry and professional engineering standards and methods
- CLO2 : Critically reflect on a specialist body of knowledge related to a topic
- CLO3 : Apply scientific and engineering methods to solve an engineering problem
- CLO4 : Analyse data objectively using quantitative and mathematical methods
- CLO5 : Demonstrate oral and written communication in professional and lay domains
- CLO6 : Complete complex tasks through effective planning and communication

Thesis Seminar Presentation

Assessment Overview

Make a 30-minute presentation about your Thesis A topic and the plan for Thesis B and C.

A mark out of 100 will be returned by your supervisor and the assessor, along with comments on your progress. Your thesis A mark is the average of your supervisor's mark and assessor's mark. Overall, Thesis A contributes 20% towards your final thesis mark.

Course Learning Outcomes

- CLO1 : Carry out a project following industry and professional engineering standards and methods
- CLO2 : Critically reflect on a specialist body of knowledge related to a topic
- CLO4 : Analyse data objectively using quantitative and mathematical methods
- CLO5 : Demonstrate oral and written communication in professional and lay domains
- CLO6 : Complete complex tasks through effective planning and communication

General Assessment Information

Sample presentation slides and sample thesis reports can be found on the WebCMS3 sites for Thesis A.

The overall mark for the Thesis is computed using your Thesis A (20%), Thesis B (5%) and Thesis C (70%) marks, as well as a participation mark (5%) awarded by your supervisor, where the percentages inside the parenthese indicate the weightng. Further information on participation mark is below. Assuming that the marks ThesisAMark, ThesisBMark, ThesisCMark and ParticipationMark are out of 100, then the overall mark for your Thesis is computed using the formula:

FinalMark = 0.2*ThesisAMark + 0.05*ThesisBMark + 0.7*ThesisCMark + 0.05*ParticipationMark

Information on participation mark:

- Participation is a component of Thesis C but assessed by the supervisor only.
- The supervisor gives the participation marks based on student participation (contact frequency with the supervisor, efforts made, etc) during the entire thesis process.

A mark out of 100 will be returned by your supervisor. Participation will contribute 5% towards your final thesis mark.

Use of large language model and generative AI

Students should also be aware of the rules on the use of large language models (e.g., ChatGPT) and generative AI . The rules, together with their rationale, are divided into 3 sections, depending on whether the purpose of the usage is for scientific research, literature review, or report and presentation writing.

- If the core scientific research of your thesis project involves the study of large language models or generative AI, then you are allowed to use these technologies. For example, if your research is to study the quality of the text generated by large language models, then you are allowed to use them. In this case, you are also allowed to include text generated by these large language models in your presentation and report, and you must properly attribute the source of the text in your presentation and report.
- You are not allowed to use these AI methods to help you with your literature review. The primary reason is that a skill that we would like you to acquire in the thesis is the ability to critically reflect and analyse the existing literature to reveal the state-of-the-art of your thesis topic. The use of these technologies removes the opportunity for you to develop such skill.
- You are not allowed to use these technologies to help you to write your presentation or report. The primary reason is that the text in your presentation and report must be your own.

<u>Grading Basis</u>

Standard

<u>Requirements to pass course</u>

A mark out of 100 will be returned by your supervisor and the assessor. Your thesis A mark is the average of your supervisor's mark and assessor's mark. It will contribute 20% towards your final thesis mark. In your UNSW academic transcript, Thesis A is graded as Enrolment Continuing/ Discontinuing. Your Thesis A mark must be 50 or more for you to receive an Enrolment Continuing (EC) grade in Thesis A.

Course Schedule

Attendance Requirements

This is a thesis course. You are expected to meet with your supervisor regularly (often weekly) to discuss work progress.

General Schedule Information

The Thesis Coordinator will present "An introduction to Thesis" talk in Week 0. Details will be emailed to students before Week 0.

Course Resources

Recommended Resources

WebCMS3 site contains resources for students, e.g., sample presentation slides and reports.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Chun Tung Chou					No	Yes
Administrator	Jing Hsu					Yes	No

Other Useful Information

Academic Information

I. Special consideration and supplementary assessment

If you have experienced an illness or misadventure beyond your control that will interfere with your assessment performance, you are eligible to apply for Special Consideration prior to, or

within 3 working days of, submitting an assessment or sitting an exam.

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

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

II. Administrative matters and links

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

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

III. Equity and diversity

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

IV. Professional Outcomes and Program Design

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

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

University timetable and the Course Outline/Moodle/LMS, the description in the Course Outline/ Moodle/LMS applies.

Academic Honesty and Plagiarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism at UNSW is defined as using the words or ideas of others and passing them off as your own.*

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

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

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

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

Submission of Assessment Tasks

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

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

through a day. This is for all assessments where a penalty applies.

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

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

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

Faculty-specific Information

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

Engineering Industrial Training – Industrial training questions

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

UNSW Exchange – student exchange enquiries (for inbound students)

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

Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

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

School Contact Information

CSE Help! - on the Ground Floor of K17

- For assistance with coursework assessments.

The Nucleus Student Hub - https://nucleus.unsw.edu.au/en/contact-us

- Course enrolment queries.

Grievance Officer - grievance-officer@cse.unsw.edu.au

- If the course convenor gives an inadequate response to a query or when the course convenor does not respond to a query about assessment.

Student Reps - stureps@cse.unsw.edu.au

- If some aspect of a course needs urgent improvement. (e.g. Nobody responding to forum queries, cannot understand the lecturer)