COMP4093

Software Engineering Research Thesis B

Session 2, Special circumstance 2020

Department of Computing

Contents

Notice

As part of Phase 3 of our return to campus plan, most units will now run tutorials, seminars and ot her small group learning activities on campus for the second half-year, while keeping an online ver sion available for those students unable to return or those who choose to continue their studies onli ne.

To check the availability of face-to-face and onlin e activities for your unit, please go to timetable vi ewer. To check detailed information on unit asses sments visit your unit's iLearn space or consult yo ur unit convenor.

General Information

Unit convenor and teaching staff
Convenor and Lecturer
Michael Johnson
michael.johnson@mq.edu.au
Contact via michael.johnson@mq.edu.au
After each lecture

Credit points
10

Prerequisites
20cp at 4000 level

Corequisites
COMP4092 or COMP410

Co-badged status

Unit description
In this unit students will conduct the second half of their individual research thesis on a topic in Software Engineering major under the direction of an academic supervisor. Students will implement the previously developed project plan conducting the experimental and theoretical work to obtain results and analysis presented in the form of a final research thesis.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: Undertake a complex engineering specific research project involving the development of new knowledge, using appropriate technical and /or laboratory skills, data management and synthesis, critical analysis and interpretation of results; culminating in an effective written dissertation and oral presentation to a variety of audiences in research fora.

ULO2: Demonstrate technical writing and presentation skills at a standard that would be acceptable in a professional engineering workplace.

ULO3: Identify, formulate and solve complex open-ended software engineering problems in an ethical manner.

ULO4: Apply research principles, research methods, and technical standards to identify and provide solutions to complex problems in software engineering.

General Assessment Information

Note that each student is expected to complete satisfactorily all four components of the assessment. This is a highly integrated unit and attempts to merely accumulate marks in a component without utilising material from the others would be destined to fail.

This unit, like the workplace you will soon be in, requires active involvement and, like the workplace, you will be being judged throughout the semester.

There will be regular feedback during the semester, so students should have an idea of how they are progressing (and if you don't have a clear idea, be sure to ask!).

But it's really important to realise that this unit, the culminating project (part 2) in software engineering, is not like many of the units you have studied before. You need to attend all classes and be actively involved. You need to work independently, and commit the required time and discipline. You need to plan and manage carefully your own individual tasks. And you need to take all this seriously and complete it in a business like and conscientious manner.

It goes without saying, but I'll say it anyway, that there are no recorded lectures or web-based Powerpoint presentations for you to use if you miss things. The unit has lectures, but the unit is **about you** and your participation is essential.

Late Submissions

As with all software engineering, timely submission is essential. Late submissions **will not be accepted**. If you are seriously affected by unavoidable and unforeseeable circumstances, you should email the unit convenor as early as possible, and certainly before the due date of the piece of work. In any case, be sure to submit by the due date whatever work you have available for submission. (If after application for for Special Consideration as a result of unavoidable disruption to studies the university deems you to be eligible to complete further work on the assessment item you may be given an opportunity to add to your submission or you may be given a substitute task.)

Written submissions

Software engineering frequently requires written reports, and such reports need to be, as far as possible, of professional quality. Students need to strive to present work which is written clearly, with good grammar, correct word usage, correct punctuation and correct spelling. All written work must be properly referenced and conform to standard stylistic conventions.

A thesis is an especially significant formal document that represents both academic research, and in this case a substantial individual software engineering project. It takes a very

significant amount of time and multiple drafts to properly prepare such a document.

Assessment Tasks

Name	Weighting	Hurdle	Due
Thesis	70%	Yes	Week 13
Presentation	20%	No	Week 14 or 15 at a time to be determined
Meeting with Supervisors	0%	Yes	Weekly or fortnightly in consultation with your supervisor
Management and Engagement	10%	No	Daily record of your achievements

Thesis

Assessment Type [1]: Thesis
Indicative Time on Task [2]: 50 hours
Due: **Week 13**
Weighting: **70%**
This is a hurdle assessment task (see assessment policy for more information on hurdle assessment tasks)

Students are required to prepare a thesis report about their projects, including the literature review, technical execution of the project, discussion and understanding of results, and conclusions and added value of work.

On successful completion you will be able to:

- Undertake a complex engineering specific research project involving the development of new knowledge, using appropriate technical and /or laboratory skills, data management and synthesis, critical analysis and interpretation of results; culminating in an effective written dissertation and oral presentation to a variety of audiences in research fora.
- Demonstrate technical writing and presentation skills at a standard that would be acceptable in a professional engineering workplace.
- Identify, formulate and solve complex open-ended software engineering problems in an ethical manner.
- Apply research principles, research methods, and technical standards to identify and provide solutions to complex problems in software engineering.

Presentation

Assessment Type [1]: Presentation

Indicative Time on Task [2]: 10 hours
Due: **Week 14 or 15 at a time to be determined**
Weighting: **20%**

Students are required to deliver a comprehensive oral presentation about their project outcomes at the end of the unit.

On successful completion you will be able to:

- Undertake a complex engineering specific research project involving the development of new knowledge, using appropriate technical and /or laboratory skills, data management and synthesis, critical analysis and interpretation of results; culminating in an effective written dissertation and oral presentation to a variety of audiences in research fora.
- Demonstrate technical writing and presentation skills at a standard that would be acceptable in a professional engineering workplace.
- Identify, formulate and solve complex open-ended software engineering problems in an ethical manner.
- Apply research principles, research methods, and technical standards to identify and provide solutions to complex problems in software engineering.

Meeting with Supervisors

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 5 hours
Due: **Weekly or fortnightly in consultation with your supervisor**
Weighting: **0%**
This is a hurdle assessment task (see assessment policy for more information on hurdle assessment tasks)

Students are required to meet with their supervisors on a weekly basis, once the project commences. Such weekly meetings should aim to seek feedback and steer the project, and would normally last at least 15-30 minutes or more. In order to pass this unit, a student must attend at least 6 out of 12 weekly meetings from Week 1 to Week 12. In case a face-to-face meeting is not possible, a meeting must be conducted using telephone or video-conference. Meetings should be logged using the consultation meeting log sheet provided on iLearn.

On successful completion you will be able to:

- Undertake a complex engineering specific research project involving the development of new knowledge, using appropriate technical and /or laboratory skills, data management and synthesis, critical analysis and interpretation of results; culminating in an effective written dissertation and oral presentation to a variety of audiences in research fora.
- Demonstrate technical writing and presentation skills at a standard that would be

acceptable in a professional engineering workplace.
- Identify, formulate and solve complex open-ended software engineering problems in an ethical manner.
- Apply research principles, research methods, and technical standards to identify and provide solutions to complex problems in software engineering.

Management and Engagement

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 10 hours
Due: **Daily record of your achievements**
Weighting: **10%**

Students are required to actively engage with the project-related activities, and to demonstrate a professional demeanour towards project management and record-keeping. Students are also required to maintain a logbook for this unit, where dated records of day-to-day activities associated with the project are maintained.

On successful completion you will be able to:

- Undertake a complex engineering specific research project involving the development of new knowledge, using appropriate technical and /or laboratory skills, data management and synthesis, critical analysis and interpretation of results; culminating in an effective written dissertation and oral presentation to a variety of audiences in research fora.
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[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

There is only one lecture per week in this unit as the bulk of the work is on preparation for your

thesis.

The lecture is compulsory, and is currently scheduled for Thursdays at 11am. It is important that you attend as the special nature of project finalisation and final thesis writing requires special skills, study and guidance.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy *(**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

Students seeking more policy resources can visit the Student Policy Gateway (https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/study/getting-started/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- Getting help with your assignment
- Workshops
- StudyWise
- Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Changes from Previous Offering

The thesis is now a hurdle requirement and the lectures are compulsory. These changes are in response to difficulties that some students had in finalising their thesis work in a timely and satisfactory manner in previous years. More about this will be explained in the first lecture.

ENGG4093

From now until 2022 (inclusive), most students enrolling in COMP4093 will enrol concurrently in ENGG4093. This is so that students can complete "double sized" project units (20 credit points) as required in the programs that students originally entered. This will be further explained in the first lecture.