ELCT4093
Electrical Engineering Research Thesis B
Session 1, Special circumstances 2021
School of Engineering

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Notice
As part of Phase 3 of our return to campus plan, most units will now run tutorials, seminars and other small group activities on campus, and most will keep an online version available to those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face activities for your unit, please go to timetable viewer. To check detailed information on unit assessments visit your unit’s iLearn space or consult your unit convenor.
General Information

Unit convenor and teaching staff
Unit Convenor
Hazer Inaltekin
hazer.inaltekin@mq.edu.au
Contact via 9850 2280
44 WTR, Room 133
Wednesday 4pm-5pm

Rachel Kyung
rachel.kyung@mq.edu.au

Credit points
10

Prerequisites
20cp at 4000 level

Corequisites
ELCT4092 or ELEC498

Co-badged status

Unit description
In this unit students will conduct the second half of their individual research thesis on a topic in Electrical 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://students.mq.edu.au/important-dates

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

ULO1: Undertake a complex engineering-specific research project.
ULO2: Develop new knowledge, using appropriate technical and/or laboratory skills, data management and synthesis, critical analysis and interpretation of results.
ULO3: Communicate research results through an effective written dissertation and oral
presentation to a variety of audiences in research fora.

**ULO5:** Identify, formulate and solve complex open-ended Electrical Engineering problems in an ethical manner.

**ULO4:** Produce technical writing and presentations at a standard that would be acceptable in a professional engineering workplace.

**ULO6:** Apply research principles, research methods, and technical standards to identify and provide solutions to complex problems in Electrical Engineering.

**General Assessment Information**

**Grading and passing requirement for unit**

In order to pass this unit a student must obtain a mark of 50 or more for the unit (i.e. obtain a passing grade P/ CR/ D/ HD).

For further details about grading, please refer below in the policies and procedures section.

**Hurdle Requirements**

The thesis is a hurdle requirement. A grade of 50% or more on the thesis is a condition of passing this unit. If you are given a second opportunity to submit your thesis as a result of failing to meet the minimum mark required, your submission will be due during the supplementary examination period and will be notified of the exact day and time by the unit convenor. The second attempt at a hurdle assessment is graded as pass fail. The maximum grade for a second attempt is the hurdle threshold grade.

Regular meetings with thesis supervisor is a hurdle requirement. See details in assessment task description.

**Late submissions and Re-submissions**

Late submissions will attract a penalty of 10% marks per day. Extenuating circumstances will be considered upon lodgement of a special consideration application.

Resubmissions of work are not allowed after due date.

**Assessment Tasks**

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management and Engagement</td>
<td>10%</td>
<td>No</td>
<td>All Session</td>
</tr>
<tr>
<td>Thesis</td>
<td>70%</td>
<td>Yes</td>
<td>Week 13</td>
</tr>
<tr>
<td>Presentation</td>
<td>20%</td>
<td>No</td>
<td>Week 14-16</td>
</tr>
<tr>
<td>Meeting with Supervisors</td>
<td>0%</td>
<td>Yes</td>
<td>Week 13</td>
</tr>
</tbody>
</table>

https://unitguides.mq.edu.au/unit_offerings/139713/unit_guide/print
Management and Engagement

Assessment Type 1: Participatory task
Indicative Time on Task 2: 10 hours
Due: All Session
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.
- Develop new knowledge, using appropriate technical and/or laboratory skills, data management and synthesis, critical analysis and interpretation of results.
- Communicate research results through an effective written dissertation and oral presentation to a variety of audiences in research fora.
- Identify, formulate and solve complex open-ended Electrical Engineering problems in an ethical manner.
- Produce technical writing and presentations at a standard that would be acceptable in a professional engineering workplace.
- Apply research principles, research methods, and technical standards to identify and provide solutions to complex problems in Electrical Engineering.

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.
- Develop new knowledge, using appropriate technical and/or laboratory skills, data management and synthesis, critical analysis and interpretation of results.
- Communicate research results through an effective written dissertation and oral presentation to a variety of audiences in research fora.
- Identify, formulate and solve complex open-ended Electrical Engineering problems in an ethical manner.
- Produce technical writing and presentations at a standard that would be acceptable in a professional engineering workplace.
- Apply research principles, research methods, and technical standards to identify and provide solutions to complex problems in Electrical Engineering.

Presentation

Assessment Type: Presentation
Indicative Time on Task: 10 hours
Due: Week 14-16
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.
- Develop new knowledge, using appropriate technical and/or laboratory skills, data management and synthesis, critical analysis and interpretation of results.
- Communicate research results through an effective written dissertation and oral presentation to a variety of audiences in research fora.
- Identify, formulate and solve complex open-ended Electrical Engineering problems in an ethical manner.
- Produce technical writing and presentations at a standard that would be acceptable in a professional engineering workplace.
- Apply research principles, research methods, and technical standards to identify and provide solutions to complex problems in Electrical Engineering.
Meeting with Supervisors

Assessment Type 1: Participatory task
Indicative Time on Task 2: 5 hours
Due: Week 13
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. Meetings can 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.
• Develop new knowledge, using appropriate technical and/or laboratory skills, data management and synthesis, critical analysis and interpretation of results.
• Communicate research results through an effective written dissertation and oral presentation to a variety of audiences in research fora.
• Identify, formulate and solve complex open-ended Electrical Engineering problems in an ethical manner.
• Produce technical writing and presentations at a standard that would be acceptable in a professional engineering workplace.
• Apply research principles, research methods, and technical standards to identify and provide solutions to complex problems in Electrical Engineering.

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 Learning Skills Unit for academic skills support.

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

Unit Delivery

This is a project-based unit and has no scheduled lectures or tutorial sessions. Special lectures may be organised and related announcements will be made via iLearn.

Logbook

This unit requires a logbook. The students should maintain an individual logbook which should contain a dated log of day-to-day activities undertaken in relation to the project.

Technology Used and Required

The students are required to discuss with their supervisor about the software/hardware resources required for analysis, simulation, testing and experiments related to their project. In addition, word processing software (MS Word, Latex etc.) will be required to produce the preliminary thesis and MS PowerPoint or equivalent software will be required for presentation slides.

Unit Webpage: Access from the online iLearn System at http://ilearn.mq.edu.au

Required and Recommended Texts/Materials

There is not set textbook for this unit. The students are required to discuss with their supervisor regarding required/recommended reading materials, as suited to individual project needs.

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 (http://
Student Support
Macquarie University provides a range of support services for students. For details, visit [http://students.mq.edu.au/support/](http://students.mq.edu.au/support/).

Learning Skills
Learning Skills ([mq.edu.au/learningskills](http://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 Enquiry Service
For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

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

Equity 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.

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