



T-900-MEIS

MSC THESIS

60 ECTS

Year of study:	Second year MSc.
Semester:	Fall / Spring.
Level of course:	6. Second cycle, advanced.
Type of course:	Core.
Prerequisites:	One year of study at MSc level.
Schedule:	MSc students shall work on a thesis of 30 ECTS credits during their final semester, or a thesis of 60 ECTS credits during their last two semesters. The student can, subject to the supervisor's approval, make a study plan to organize the work on the MSc thesis over a longer period of time.
Course supervisor:	Eyjólfur Ingi Ásgeirsson, Director of Graduate Studies in the Department of Engineering and Juliet Newson, Director of the Iceland School of Energy.
Lecturer:	A Department of Engineering faculty member shall in all cases act as supervisor for each Master's thesis. If applicable, an external specialist in the subject area of the thesis may act as co-supervisor/advisor.

Learning outcome:

Knowledge:

By the end of the course the student should have:

- A deep understanding of the Thesis topic, and the direction of future investigation.
- A broad knowledge of how to apply academic knowledge and understanding to a wide range of questions of importance to society.

Skills:

By the end of the course the student can:

- Frame a research question.
- Design the investigation.
- Perform research.
- Report research results.

Competence:

By the end of the course the student is competent to:

- Independently manage, organize and successfully complete a compressive project in the field of engineering.
- Assess complex engineering problems, identify key factors in a given situation, apply standard engineering and scientific principles to develop, design and implement an appropriate engineering solution.
- Interpret and apply existing theories, models, methods and results, both qualitatively and quantitatively, within the field of engineering.
- Apply research methodology, including the fundamentals of technical writing and presentation, information finding and literature search.

All course descriptions may be subject to change. Revised information on the course schedule, reading material, teaching and learning activities, and assessment methods will be introduced in the learning management system Canvas at the beginning of the semester.



Content: The aim of the course is that the student, under supervision, completes a comprehensive independent project in the relevant field of engineering.

All students conducting MSc studies at the Reykjavík University Department of Engineering shall submit a Master's thesis designed to earn at least 30 ECTS credits. A student may, subject to the approval of the supervising faculty member and the program director, be allowed to submit a Master's thesis designed to earn 60 ECTS credits instead of a thesis earning 30 ECTS credits. This thesis shall fulfil the following requirements:

- Its subject shall have bearing on the relevant fields of study and/or address research questions in those fields. The thesis shall be the student's own intellectual exploration, making a notable and independent contribution to the field or fields concerned.
- The thesis shall involve a test of a hypothesis made by the student in response to a research question forming its foundation.
- Original and derived sources shall be used to support or refute the student's hypothetical reply to his or her research question.
- The scope and standard of the thesis shall be such that it could obviously lead to a publishable, peer-reviewed paper.

The official completion of the MSc thesis is signified by the student submitting the final electronic version of the thesis, by uploading to Skemman, (see www.skemman.is). See also RU's rules for submission of theses and final projects (*Reglur um skil á lokaverkefnum við Háskólann í Reykjavík*, www.ru.is/bokasafn/skemman).

The deadline schedule for the purpose of graduation is as follows (where t is the graduation date and the numbers refer to the number of days prior to graduation):

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| • Final draft of thesis delivered to supervisor ^{a)} | t-50 ^{b)} |
| • Supervisors comments delivered to student | t-40 ^{c)d)} |
| • Thesis delivered to supervisor(s), examiner and program director | t-20 ^{c)} |
| • Examiner confirms that thesis may be put up for defence | t-17 ^{c)} |
| • Defence | t-14 ^{c)} |
| • Grade posted to the Registrar by Dept. of Engineering office | t-11 ^{c)} |
| • Graduation | t ^{c)} |

a) Paper and/or electronic form, as requested by the supervisor(s) and/or examiner.

b) Date can be modified by mutual agreement of the supervisor, student and examiner.

c) **Firm deadlines.**

d) Or within 10 days after the supervisor has received the final.

For further information and guidelines see: **RULES FOR MSc PROGRAMMES AT REYKJAVIK UNIVERSITY'S DEPARTMENT OF ENGINEERING, as revised May 29th 2019**

https://www.ru.is/media/tvd/skjol/Rules-for-MSc-programmes-at-RU-Dept.-of-Engineering_2019_as_accepted_29_05_2019.pdf

For further information and guidelines see: **RULES ON THE FORM OF A MASTER'S THESIS, SUBMISSION, DEFENSE AND GRADING, adopted by the Department Council May 29th 2019**

https://www.ru.is/media/tvd/skjol/Vidbotarreglur_um_meistaraverkefni_2019_as_accepted_29_05_2019.pdf

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Reading material: As advised by thesis supervisors.

Teaching and learning activities: The student independently carries out a comprehensive project in the relevant engineering field. The description of the work, including results and critical evaluation of the outcome, shall be gathered in a thesis and defended orally. In addition the student shall create a poster containing the abstract of the results.

Assessment methods: The supervisor(s) shall evaluate the thesis together with an examiner appointed by the Director of Graduate Studies. They shall also submit the student to an oral examination on the thesis in an open forum. A grade shall be awarded for the thesis. The minimum grade for achieving a pass is 6.0. Equal weight shall be placed on four criteria:

- Significance and originality
- Scientific and technological challenge and results
- Methodological quality
- Presentation

The number of ECTS credits awarded for the Master's project shall be taken into account. Thus, significantly more demands in terms of originality, quantity and scientific quality of the work should be placed on the student for a 60 ECTS thesis than a 30 ECTS thesis.

Language of instruction: English/Icelandic.

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