EECS
KTH School of Electrical Engineering and Computer Science

Information about Master's thesis projects for double degree students 2025

Note: Please do not hesitate to interrupt with questions at any time during this session - this is an information session for your own benefit, not a regular lecture!

And please sign your names in the chat so that I know who will be applying to the thesis course later!

Contact for further questions

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Master’s thesis courses (30hp)

Course codes for double degree students:

DA250X Degree Project in Computer Science and Engineering
Course code for all CS double degree students

EA250X Degree project in electrical engineering

IA250X Degree project in information technology

Note that exchange students should instead follow:
DA239X
Degree Project in Computer Science and Engineering
And similarly for other directions

What is a master’s degree?

An internationally valid degree with a history going back to the first universities in medieval Europe.

Pope Gregory IX issued a papal bull in 1233 allowing anyone admitted to the mastership at the University of Toulouse to teach at any institution of higher learning (Studium Generale).

Many other emerging universities on Europe obtained similar rights in the 13th century:

University of Bologna (founded in 1088)
University of Oxford (1167)
University of Cambridge (1209)
University of Paris (1215)
University of Arezzo (1215)
University of Salamanca (1218)
University of Padua (1222)
University of Naples Federico II (1224)
University of Toulouse (1229)
University of Northampton (1261-1265)
University of Siena (1240)
University of Valladolid (1241)
University of Salerno (uncertain)
University of Montpellier (1289)
University of Coimbra (1290)
University of Alcalá (1293)

What is a thesis project?

Should be the last part of your Master's program!

An opportunity to integrate and apply your knowledge from courses in a real world research project

An opportunity to show creativity and independent thinking

An opportunity to explore a topic or subject you are interested in more depth

Official course goals
(all master's thesis courses at EECS)

- Show advanced knowledge within the main field of study, including *advanced insight into current research and development work*
- Show methodological knowledge within the main field of study
- Participate in research and development work and thereby *contribute to the knowledge development*
- With a holistic approach, critically, independently and creatively identify, formulate, analyse, assess and deal with complex phenomena and issues, even with limited information,
- *Plan and with adequate methods carry out qualified assignments within given frames*, and evaluate this work,
- Integrate knowledge critically and systematically and identify the need of additional knowledge
- In Swedish or in English, *in speech and writing clearly report* and discuss the conclusions and the knowledge and arguments on which they are based,

Official course goals - 3

- Within the frames of the degree project identify the *role of the scholarship and the engineer in the society*,

- Within the frame of the specific degree project identify which issues that need to be answered in order to observe relevant dimensions of *sustainable development*,

- Within the frame of the degree project assess and show awareness of *ethical aspects* of research and development work, with respect to methods, working methods and results of the degree project.

As a consequence of these last 3 points, your thesis report must contain (sub-)sections on the ethical and societal aspects of your thesis work, and on the sustainability implications of the project (and the general project area). This is an examination requirement and must be given serious consideration!

The thesis process

I. Before the start

II. During the project

III. Finishing the project

I. Before the start

1. Eligibility
2. Finding a project
3. Project proposal
4. Application
5. Examiner and supervisor
6. Registration
7. Start!

1. Eligibility requirements

- 60 credits from advanced level courses,
- including a course in theory of science and research methods - for CS typically DA2210 (preferred) or DA2205
- *and* specialised courses relevant to your thesis project (reviewed by the examiner only)

If in any doubt about eligibility - contact your double degree coordinator

2. Finding a thesis project

a. KTH or another university

b. Industry

Advantages and disadvantages:

University environment - closer connection to research and more challenging fundamental problems, quality and quantity of academic thesis supervision, thesis appropriate project due to faculty involvement.

Industry - getting to know the business environment, working with a real world application, developing contacts in the business world, greater risk of unsuitable project not being accepted or approved.

Uncertain about the suitability of a project? Contact course responsible (MN, or MX, KWS).

2. Finding a thesis project abroad

A master's thesis can be done abroad, either at a company or at a university department or research institute. In either case, you must have an examiner as well as a supervisor at KTH. In that case, be aware of national differences in regulations and traditions, for example:

+ A KTH master's thesis is expected to have a clear research content, rather that being part of a company's regular product development - this may differ slightly from requirements on some industrial internships in France, for example.

+ A KTH master's thesis is a public document by law. There can be no confidentiality applied to the final report, and KTH faculty do not sign non-disclosure agreements. See further below.

+ The time frame of a master's thesis project at KTH is not exactly determined. The end of the project is when the examiner considers it sufficient to pass all requirements, which sometimes can take extra time. An industrial project where you sign a contract for a fixed time such as 6 months, and after that no longer have access to data and software you have created, is unsuitable as a thesis project!

3. Project proposal

A written project proposal must be submitted when applying to start your thesis work. For a template see the EECS master's thesis Canvas pages.

This includes the following headlines:

- NAME AND E-MAIL ADDRESS
- PRELIMINARY THESIS TITLE
- BACKGROUND/CONDITIONS
- **RESEARCH QUESTION**
- **CONNECTION TO RESEARCH/DEVELOPMENT**
- **EXAMINATION METHOD**
- **HYPOTHESIS**
- **EVALUATION**
- BACKGROUND OF THE DEGREE PROJECT STUDENT
- SUPERVISOR AT THE COMPANY
- LIMITS/RESOURCES
- ELIGIBILITY AND STUDY PLANNING

Project proposal - cont.

A well-formulated proposal, in particular with regard to:

+ research question
+ connection to previous research (with references)
+ method
+ evaluation,

is more attractive to examiners and supervisors, and more likely to be accepted quickly. Include references to related research that the project builds on! Do not simply copy a project proposal from a company. Around 3 pages is a suitable length.

A thesis project must have a component of research, i.e., generate new knowledge, and cannot only be an industrial development project. Some proposals for thesis projects at companies may not be acceptable at EECS because of insufficient research content.

Projects at EECS must without exception be carried out independently in all phases.

4. Application for the thesis course

Applications are made online at the EECS degree project page for 2025
https://canvas.kth.se/courses/54550

Thesis projects in CS (DA250X) are registered with start at any of the 4 study periods.
Period 1: Submit application before the start of the semester Aug 25.
Period 2: Submit application before the start of P2 Oct 27.

Thesis projects in the courses EA250X and IA250X only have starting dates at the beginning of period 1 and period 3, not all 4 periods (NB - check this with course responsible).

Applications after these dates are accepted, but in that case students should have a prior agreement with examiner and supervisor.

The application consists of:

+ An online application form
+ A project proposal (pdf file)
+ A form to approve DiVA publication of the master's thesis

4. Application for the thesis course

Applications are made online at the EECS degree project page https://canvas.kth.se/courses/54550

Note - there is *no* official starting date at the beginning of summer! The summer period is considered vacation in Sweden, and faculty is most likely not available to supervise the thesis or approve the thesis plan in the beginning.

In some cases, it may be possible to find an examiner and supervisor who are willing to work informally with your project during summer before you are officially registered in period 1. However, there is no guarantee that such an arrangement can be found, or that it will work out in the end.

5. Examiner and supervisor

Two different roles for KTH faculty in connection with a master's thesis:

Examiner: Formally responsible for thesis project. Approves the thesis specification at the beginning. Reads the written thesis and grades the written thesis and oral presentation P/F.

KTH Supervisor: Follows student during the entire thesis process, and provides advice and support, primarily about academic aspects.

For master's theses outside of KTH there is also an:

External supervisor: An external supervisor, e.g., at a company, is expected to provide most of the technical supervision for the thesis project.

Examiner and supervisor cont.

Examiners of a master's thesis course are officially appointed by KTH.
For the different thesis courses there are lists of allowed examiners at
https://www.kth.se/student/kurser/kurs/DA250X
https://www.kth.se/student/kurser/kurs/EA250X
https://www.kth.se/student/kurser/kurs/IA250X

Only these faculty members can serve as examiners! The supervisor can be any EECS faculty or their postdocs and PhD students.

Note - procedures for finding examiner and supervisor vary between programs!

In CS (DA250X) you are allowed to ask suitable faculty members to be your examineror supervisor *before* the application. However, in CS, this is not necessary and most examiner and supervisor assignments are done in a central process at the start of the semester. Do not ask faculty members *after* your application - this creates parallell processes and possibel conflicts!

In EE (EA250X) on the other hand, students are expected to first find an examiner for their proposal, and the examiner then typically appoints the supervisor.

Examiners for DA250X

see https://www.kth.se/student/kurser/kurs/DA250X. Note that the list may change somewhat in the fall. For EA250X and IA250X see the corresponding course descriptions listed earlier.

Patric Jensfelt

Viggo Kann

Olov Engwall

Johan Håstad

Sten Ternström

Danica Kragic Jensfelt

Erik Fransén

Marco Chiesa

John Folkesson

Cristian Bogdan

Anders Hedman

Hedvig Kjellström

Sonja Buchegger

Mihhail Matskin

Mads Dam

Mathias Ekstedt

Jonas Beskow

Viktoria Fodor

Joakim Gustafsson

György Dán

Mårten Björkman

Pawel Herman

Carlo Fischione

Douglas Wikström

Pontus Johnson

Haibo Li

Mats Nordahl

Iolanda Leite

Alexandre Proutriere

Panagiotis Papadimitratos

Stefano Markidis

Roberto Guanciale

Arvind Kumar

Tino Weinkauf

Cyrille Artho

Elena Troubitsyna

Martin Monperrus

Aristides Gionis

Olof Bälter

Bo Peng

Olov Andersson

Jana Tumova

Ahmed Hemani

What happens after the application is submitted?

A student can be admitted to the thesis course when:

+ it has been checked that the student is eligible for the thesis project

+ the student has been assigned an examiner and supervisor

At the beginning of each study period a process is carried out to find examiners and supervisors for every applicant. Examiners and supervisors can themselves choose which students they would like to work with. If you have made an agreement with a faculty member, you will in most cases be assigned this person as examiner (*if* on the list with examination rights in the course) or supervisor.

NB - the time this takes can vary significantly between students. In particular, a poor proposal can result in long delays, or in the project not being accepted at all.

A notification is sent out when you have been admitted. You then also get full access to the course Canvas page.

II. During the project

1. Individual plan
2. Prestudy
3. Meet regularly with your KTH supervisor!
4. Submit first thesis draft to supervisor
5. Attend two thesis presentations

1. Individual plan (required)

A longer project plan (5-6 pages) describing for example:

- research question
- connections to other published research
- methods to be used
- evaluation
- time plan
- reference list

Submitted to examiner for approval after supervisor has reviewed it at the beginning of the project.

2. Prestudy (required)

A longer written document to show that you are familiar with and can describe:

- previous research relating to your project
- research methods you will use in your project

The prestudy should be a draft of the Background and Methods chapters of your final report!

In most cases, approved by your supervisor only.

After a completed prestudy it is possible to report PRO1 (7,5 hp) - only at student request.

3. Meet regularly with your KTH supervisor

Supervision at EECS can be individual or in the form of group supervision. The format and schedule of supervision is determined by the supervisor, and should be considered mandatory.

The supervisor should be informed of and must approve any changes to your project plan.

The supervisor follows your work and reviews drafts of your thesis until it is ready to send to the examiner.

Note that master's theses are graded both on the thesis process (e.g., ability to follow the project plan) and the end result.

4. First thesis draft

Reviewing a typical master's thesis of 50-60 pages takes time. It is also common with a number of iterations with the supervisor before it is sent to the examiner.

Plan to submit your first thesis draft at least one month before the intended presentation date!

Pay particular attention to language issues and academic writing issues even before you submit your first draft! Many master's theses (in particular from international students, unfortunately) are substantially delayed due to writing of insufficient quality. Every sentence and every item in the reference list must be checked carefully!

5. Attend two presentations (mandatory)

Active attendance at two other thesis presentations
is mandatory, to be prepared for your own presentation.
So please do this well ahead of your presentation!

Active attendance means that you ask non-trivial questions
after the presentation.

Approval by the examiner of the presenting student.

III. Finishing the project - before the oral presentation

1. Thesis manuscript approved by supervisor is sent to the examiner
2. At the same time the self-evaluation document (now a survey in Canvas) ¨ is filled out.
3. The examiner approves oral presentation (maybe)
4. Schedule oral presentation - coordinate with examiner, supervisor, opponent. Often online in zoom.
5. Opponent is assigned by course coordinator (at least for D250X).
6. Serve as opponent at another presentation (mandatory).
7. Oral presentation.

Note - there are no specific deadlines for thesis projects, this is a matter of individual agreement with your examiner and supervisor. However, KTH has a 1 year limit on master's thesis projects, after which the project may be failed.

Oral presentation

Typical length 60 min:

- 20-25 min presentation by thesis student
- Questions from opponent
- Questions from examiner and audience

Currently almost all presentations are held online in Zoom.
The presentation and opposition are graded P/F by the examiner of the presenting student.

Note - in CS, your opponent is assigned by the course coordinator when signing up to register the presentation using a form in Canvas. *Not* by students or examiner themselves! This only applies to DA250X, other courses have different rules.

Your examiner decides individually when presentations may be scheduled.

Oral presentation - opposition

You are required to serve as opponent at the thesis presentation of another student.

Opponents comment on the thesis in a written opposition protocol, and prepare questions to the respondent.
The role of an opponent in the presentation is to ask questions to deepen the discussion.

In computer science (DA231X and DA250X), opponents are assigned by course coordinator from an opposition queue, based on knowledge of the topic and urgency. Students that have finished all coursework have priority. NB - this differs from other programs. When you are approaching the end of your thesis work you can sign up for the opposition queue in Canvas.

3. Finishing the project - after the oral presentation

1. Revise the manuscript based on comments from opponent.
2. Examiner grades the thesis project (P/F)
3. Send the final manuscript to course coordinator for review (the thesis must fulfill KTH requirements on language, mandatory official cover - see template in Canvas, etc)
4. The thesis is reported to Ladok, publication in DiVA
5. And you are done!

Examination and grading

Formally, three substages in examination:

PRO1 7.5 hp: Prestudy approved
PRO2 15 hp: Written report approved for presentation
PRO3 7.5hp: Final report approved

These are typically all reported at the end of the project, but can be reported earlier at the student's request.

Degree projects are graded P/F only.

Confidentiality

1. A master’s thesis submitted to KTH is by Swedish law a public document. It must by law be made available to anyone who requests a copy. Publishing the actual thesis online in DiVA is not an absolute requirement though.

2. A company cannot insist on confidentiality on any part of a submitted master’s thesis. A project that risks coming into conflict with this is unsuitable as a master's thesis!

3. You can sign a personal NDA (non-disclosure agreement) with the company. KTH does not sign NDAs.

4. Intellectual property rights to project result belongs to the student, unless agreed otherwise with the company (which is standard procedure). An example - Volvo Driver Alert.

Degree project agreement

In Sweden, a formal degree project agreement between student, host organization, and KTH is almost never used, since the obligations of KTH are in any case regulated by law for all registered students.

For projects carried out abroad, e.g., in France, this is more common. There is a KTH template for this at:

:https://intra.kth.se/polopoly_fs/1.935727.1572334261!/Agreement%20for%20Internship%20KTH.docx

Normally, this template must be followed without change, in particular with respect to confidentiality clauses.

Some other formalities

Your examiner has the complete formal responsibility for the project from the side of KTH, and should be consulted if any difficulty or major change in the project occurs.

As mentioned above, KTH has a limit of 1 year from the start on master's thesis projects, after which the project can be failed. In there is an acceptable cause (such as illness), an extension can be allowed. This is essentially decided by your examiner. A minor extensions for a project that is almost finished is generally not a problem.

Note that the examiner and supervisor have a certain number of hours allocated by KTH for each student. For the examiner, this number is rather small, and the task of the examiner is grading, not extensive feedback on the text.

More information

1. The 2025 EECS degree project Canvas page (main source)
https://canvas.kth.se/courses/54550

Contact for further questions

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Master's theses in computer science

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