

Master's Thesis info at CHEM

26 November 2025

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Presemo



<https://presemo.aalto.fi/chemthesis25>



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Completing your Master's Thesis

All information is in the Thesis section of the Student Guide:

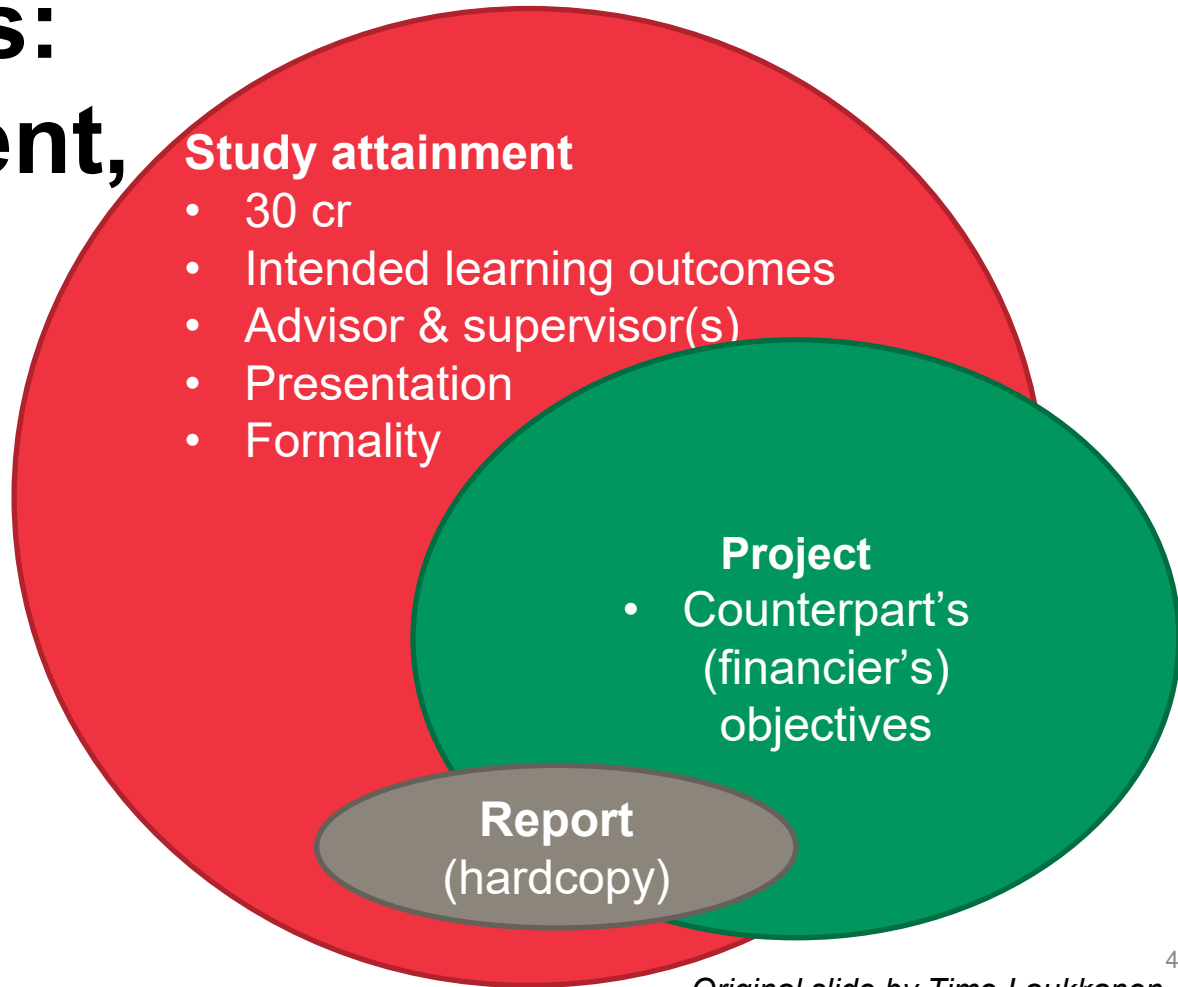
- Biotechnology
 - Bioproducts Engineering
 - CME
 - CMS
- [Master's thesis guidelines \(EN\)](#) (last update
 - [Master's thesis guidelines \(FI\)](#) (last updated

Read at least these:

More information on Master's thesis evaluation:

- [Master's thesis evaluation guidelines \(EN\)](#)
- [Master's thesis evaluation guidelines \(FI\)](#)

Master's thesis: study attainment, project, and report



About master's thesis work (30 cr)

Compulsory part of studies – opportunity for specialization

- **The master's thesis is written on a topic related to the advanced studies of the degree programme**

General learning outcomes

- **Ability to apply the principles of science in solving research problems**
 - Building on existing knowledge
 - Using scientifically relevant methodology
 - Logical argumentation based on facts
- **Improved skills for exact technical and scientific communication, in writing and orally**
- **To get experience in conducting an independent technical or scientific research project**

Main steps towards master's thesis

Search for and agree on a topic in collaboration with a supervisor (professor/lecturer)

- Start searching several months before the planned starting time of the thesis work
- aalto.fi -> CHEM school -> Departments -> Research, Collaboration
- Aaltodoc CHEM theses or by keyword
- CHEM Master's Thesis Hub in MyCourses (old, no longer updated)

Kick-off meeting with Supervisor and Advisor(s)

Apply for topic approval in MyStudies

Carry out the work and write the thesis

Provide an oral presentation on the thesis

Apply for approval of the thesis from DPC

- Check the application deadlines/meeting times from the Student Guide



General guidelines for thesis work

Quality is more important than quantity!

Typical workload division

- Studying literature and writing the review: 30%
- Planning and executing the experiments and analyzing the results: 50%
- Finalizing the writing: 20%

Maximum length 70-80 pages with appendices

- Appendices should be used for experimental details that are not necessary for understanding the main results/discussion

Typical number of literature references is ≥ 50

Discuss with your Supervisor for personal guidelines!

Structure of master's thesis 1/2

Introduction

- Background for the research question: motivation, focus, objectives, hypotheses

Literature review

- Should support solving the research question: understanding the system, learning from others and their research methodologies
- Should be critical and analytical

Experimental

- Exact description of the experimental methods applied (to be repeated by anyone else)

Structure of master's thesis 2/2

Results and discussion

- Exact and concise presentation
- Focus on the main results (not individual observations)
- Error analysis and reliability of the results
- Connections to earlier literature

Conclusions

- Relative to the research question
- Claims on novelty
- Suggestions for further research



Alternative master's thesis positions

In Finland or abroad?

- Professors have broad international research networks and most universities accept visiting master's thesis students

In a company or other non-academic organization

- Direct connections or through professors
- The most important (50%) way to become employed after graduation
- Information for employers

In university

- Projects funded by companies – often followed keenly by the companies (opportunity to get familiar with the company representatives)
- Academically funded projects
- Personal, non-funded project

Funding of master's thesis positions

Direct salary

- In companies; agreement between the company and the student
- Externally funded full-cost projects in university; fixed salary level

Personal grants

- Funding from Aalto University's and other research foundations
- In some cases, directly from university or other organization

No compensation

- Freedom in selection of the topic

Foundation for Aalto University Science and Technology

- Supports research and teaching in technical disciplines at Aalto University: CHEM, ELEC, ENG, SCI, ARTS/Architecture
- Addresses grants to M.Sc. and Ph.D. theses continuously, based on donations from companies
- Additionally, research grants from the Foundation's own funds once a year



**Aalto-yliopiston
tekniikan tukisäätiö**

More information:

- <https://www.aalto.fi/en/foundation-for-aalto-university-science-and-technology> (in English)
- <https://www.aalto.fi/fi/aalto-yliopiston-tekniikan-tukisaatio> (in Finnish)

Practical matters in thesis process

Application for master's thesis supervisor, topic and advisors

Electronic application system in MyStudies

Prerequisites

- Completed Bachelor's degree or equivalent
- Suitable stage of master's studies for starting the thesis
- Personal study plan (HOPS) made

Information required (must be agreed beforehand with the supervisor)

- Supervisor^a (name)
- Advisor(s)^b (name, title, contact information)
- Topic of the thesis language (English, Finnish or Swedish)
- Degree programme and major

^aThe supervisor must be a professor/lecturer in Aalto University, see full instructions from the student guide

^bThe advisor(s) must have master's or higher academic degree.

Approval of master's thesis supervisor, topic and advisors

- 1. Fill in the basic information about your thesis in MyStudies (mystudies.aalto.fi) and submit it.**
- 2. Your supervisor approves the topic, language of the thesis and the advisor(s) under the following conditions:**
 - The prerequisites are fulfilled, and the topic meets the criteria for a master's thesis
 - The supervisor does not normally act as an advisor
 - The thesis must have one or two advisors
 - The topic must be informative and should not contain abbreviations

Approval of master's thesis

Apply for approval of the thesis from CHEM Degree Programme Committee (DPC) in MyStudies

- Check the application deadlines and meetings from the Study administration schedule in Student Guide, under Graduation
- Always agree on the evaluation schedule in advance with your Supervisor

Electronic application system

- an electronic, final copy (pdf/A-format) of the thesis must be submitted

Evaluation criteria for master's theses

Definition of the research scope and goals

- Clarity, consistency, focus

Command of the topic

- Knowledge of relevant literature, depth of treatise

Methods

- Selection and use of methods, error/reliability analysis of data

Results and contribution

- Achieving the goals, novelty of the results, relevance and quality of conclusions

Presentation, language, and structure

- Clarity, coherence, conciseness, language, graphic design

Thesis process

- Own contribution, keeping in schedule

Evaluation process of master's theses

The thesis supervisor provides a numerical evaluation and a written statement to DPC and proposes a grade

- If the supervisor proposes grade 1 or 5, an independent statement from another professor is required

DPC decides on the grade based on the evaluation(s)

- DPC can decide on a higher or lower grade in the case of an ambivalent statement and after an additional review of the thesis

The student has a right to make an appeal on the grade

- The appeals are handled by a university level body; an additional investigation by DPC is asked, usually including a more detailed statement from the supervisor

Grade distribution for master's theses

Statistics from previous few years

- Grade **5** (excellent): 10-15%
- Grade **4** (very good): 55-65%
- Grade **3** (good): 20-25%
- Grade **2**: 5%
- Grade **1**: 0%

Theses with grade **5** compete on few thesis awards in each year

Grade **4** is one of the requirements to get the right to study for doctor's degree at Aalto CHEM

Few appeals yearly – typically no changes in grades

Publicity of master's thesis

Master's thesis is a public document

Master's thesis will be available in the Learning Centre and also saved in the Aaltodoc database (<https://aaltodoc.aalto.fi/>)

Latest instructions at <https://www.aalto.fi/en/applications-instructions-and-guidelines/theses-as-public-documents>



Tuition fee liable students – additional semester

Aalto tuition fee liable students have a right to apply for the additional semester scholarship in case their thesis will extend over the 4th semester

How to apply? More information will be sent individually by email in February.

Graduation and degree certificate

Apply for graduation in the electronic system (Sisu)

- Check the application deadlines and graduation dates from the Student Guide
- Graduation ceremonies are held four times per year (by invitation only)
- Graduation Party typically one week before the Midsummer week for students graduating between 1 May–30 April

Language of your master's thesis

- Please note that if you write your thesis in Finnish or in Swedish, the language of your degree will be Finnish or Swedish. In this case, you will receive the degree certificate in Finnish or Swedish, and its translation in English.
- If you do your Master's thesis in English, the language of the degree will be English. In this case, you will receive both a degree certificate in Finnish or Swedish, and a degree certificate in English.

Master's theses in Aalto CHEM



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Thesis done tote bags from Aalto Shop:

<https://shop.aalto.fi/p/676-thesis-done-kangaskassi/>

Photo: Anni Kääriä

