

Master's Programme in Engineering Physics

Programme info 2025

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**Aalto University
School of Science**

Topics today

- EngPhys student services
- Degree structure
- Personal Study Plan (HOPS)
- Other reminders



EngPhys Student Services

Susanna Ylhävuori, Planning Officer

- Personal study plan (HOPS)
- Credit transfer
- If you don't know who to contact

Sami Sihvo, Coordinator

- Graduation process
- Thesis process



How to contact Student Services?



Emailing studentservices@aalto.fi or directly to a person
firstname.lastname@aalto.fi



Book an (online or on campus)
appointment in MyStudies:

<https://mystudies.aalto.fi/s/>



Student Services are in CS-
Building, Konemiehentie 2

Please note that we work in hybrid-mode, so
always book an appointment!



Our contact information in the
Student guide:

<https://www.aalto.fi/en/programmes/masters-programme-in-engineering-physics/contact>



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Study-related information systems at Aalto

- **Student guide:** <https://www.aalto.fi/en/student-guide>
You can find all the information available about your studies and the university guidelines here.
- **Sisu (Student information system):** <https://sisu.aalto.fi/>
Personal study plan (HOPS), enrolling for courses, completed courses, Transcript of Records and Certificate of Student Status.
- **MyCourses:** <https://mycourses.aalto.fi/>
Tool for everyday course work and communication. It also contains course descriptions.
- **MyStudies:** <https://mystudies.aalto.fi/s/>
Book appointment with Aalto staff (e.g., student services, study psychologists)

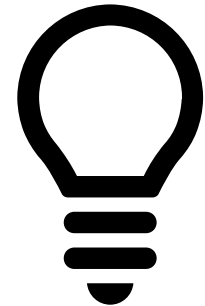
Degree structure and HOPS (Study plan)

Master of Science (Technology) degree (MSc)

- Degree: 120 ECTS credits exactly or as close as possible.
- Courses that exceed 120 credits will not appear on the diploma, but they are visible on your transcript.
- Two years of full-time studies.
- Your study right is valid for four years (decreed by the Universities Act).

Major options

- **Materials Physics and Quantum Technology**
 - Responsible professor: Mika Sillanpää
- **Advanced Energy Technologies**
 - Responsible professor: Andrea Sand



Student guide of your programme > Curriculum

<https://www.aalto.fi/en/programmes/masters-programme-in-engineering-physics/curriculum-2024-2026>

You can visit the Student Guide also via the shortlink student.aalto.fi

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Master's Programme in Engineering Physics

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Curriculum 2024-2026

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Total

120

ECTS

Major*

40-65

ECTS

Master's thesis

30

ECTS

Minor for compact major

20-25

ECTS

Elective studies**

25-30

ECTS

Example of the curriculum:

In the case of a long major (65 ECTS) the student is recommended to take 40 the major courses and 20 ECTS of others during the first year. The special assignment is completed during the summer between the first and second year in the program.

Code	Course name	ECTS	Period/year
PHYS-E0411	Advanced Physics Laboratory	5	III-V/1
PHYS-E0412	Computational Physics	5	III-V/1

Select one course from the selection below

PHYS-E0441	Physics Special Assignment	10	varies/2
PHYS-E0442	Company internship	10	varies

Choose 20-42 ECTS

Choose 20 credits if you take compact major and 20-42 credits if you take long major.

PHYS-E0410	Quantum Mechanics 2	5	I-II/1 or 2
PHYS-E0415	Statistical Mechanics	5	I-II/1 or 2
PHYS-F0434	Advanced Quantum Materials	5	IV-V/1

Here you can see the period of the course and the recommended year of the master's studies (1st or 2nd year)

Compact major

**Major
40 ECTS**

**Elective
studies
25-30 ECTS**

**Minor
20-25 ECTS**

**Thesis
30 ECTS**

Major studies 40 ECTS

Minor 20-25 ECTS

- You can choose a minor from Aalto University, other Finnish universities or universities abroad

Elective studies 25-30 ECTS

- Minor studies
- Individual courses of your interest
- Possible mandatory language studies (+3 ECTS) if you completed your BSc degree outside of Finland

Master's thesis 30 ECTS

- Topic related to the major studies

Long major

**Major
65 ECTS**

**Elective
studies
25 ECTS**

**Thesis
30 ECTS**

Major studies 65 ECTS

Elective studies 25 ECTS

- Minor studies
- Individual courses of your interest
- Possible mandatory language studies (+3 ECTS) if you completed your BSc degree outside of Finland

Master's thesis 30 ECTS

- Topic related to the major studies

Choosing your major

- When you first draft your HOPS in Sisu, you will choose your major.
- Your major will be confirmed to your study right by Student Services.
- It is possible to change your major within the Engineering Physics programme by contacting Planning officer Susanna Ylhävuori.



Choose a minor (for compact major)

- Scope of minor 20-25 ECTS
- Aalto offers a wide range of minors. You can search minors by theme, level and target group in Student Guide: <https://www.aalto.fi/en/minors#/>
- You can also study a minor at another university in Finland or abroad
- Please note that some minors require an application while others are open for all Aalto students, see [Instructions for applying for ARTS Minors](#)
- By choosing your minor early you have more options for balancing your workload (and to avoid delaying graduation).
- If you have a compact major, it is possible to include an elective minor in addition to the mandatory minor
- If you have a long major, you can include a minor in your elective studies

Studying abroad

- **Student exchange is warmly recommended**
 - Recommended semester 2nd year autumn
 - SCI exchange contact person Mari Dagnall
 - Next application period in January 2026
 - Courses can be included in the SCI3041 International Studies Minor or elective studies, or in some cases in major
 - **Note!** If you plan to go for an exchange, leave room for these studies in your degree
- **Practical training abroad - possibility for a scholarship**
 - <https://www.aalto.fi/en/other-studies/tech-international-internship>



Studies in quantum technology

- Aalto University has an agreement with University of Helsinki, Faculty of Science
- University of Helsinki offers courses in quantum technology that are planned to complement major courses
- Over 30 courses, e.g.
 - Quantum field theory
 - Quantum mechanics
- Courses can be placed in the degree's electives or to major (with the approval of the responsible professors)
- List and instructions in Student Guide > programme page > Planning your studies

PHYS-E0442 Company internship

- 1-10 ECTS available from work experience related to field of study
- Practical training is not mandatory, but recommended
 - Note: you need to complete either PHYS-E0442 Company internship (10 ECTS) or PHYS-E0441 Physics Special Assignment (10 ECTS)
- Students are responsible for acquiring internship or job themselves
- The credits can be given only for the work that is done during the Master's degree
- Credits calculated based on duration of employment period

Master's thesis

- Independently completed thesis work, 30 credits
- Usually completed in 2nd year spring
- You can start planning your thesis at any point of your studies
- Master's thesis topic is agreed with a professor/university lecturer from the subject field of your major.
- More information about the thesis in the Student guide of your programme > Thesis
- SCI thesis process represented in MyCourses:
<https://mycourses.aalto.fi/course/view.php?id=41665#section-0>



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Elective studies

For elective studies, you can...

- select additional courses from the major
- select individual courses from other programmes at Aalto University
- participate in an international student exchange programme
 - Note! If you plan to go for an exchange, leave room for these studies in your electives/minor.
- select a second minor (if it fits into your degree)
- compulsory language studies are included in elective studies
- foreign students are encouraged to take Finnish courses

Elective studies

- It is possible to include 1-10 ECTS (SCI.trai) gained from work experience in the master's degree, see:
 - <https://mycourses.aalto.fi/course/view.php?id=45359>
 - Note! Only work experience gained after 1.8.2025 can be accepted.
 - *However, if you do PHYS-E0442 Company Internship, you cannot include SCI.trai-work experience in your degree.*

Elective studies

- All courses are not open to all Aalto students!
 - Mainly applies to Aalto ARTS courses
- As a student, you are responsible for checking whether there are any prerequisites for taking a course.
- In practice, a maximum limit on the number of participants may limit course access.
- Information on limits to course size and on the order of priority is available on the course description pages.

Elective Studies

“Elective studies must be university level studies that fulfill the degree requirements and, in general, studies that are offered as degree studies at the university in question. Universities also offer courses that are targeted for a larger audience. The suitability of these studies is evaluated taking into consideration the learning outcomes of the degree that the courses are planned to be included in.”

→ If you plan to complete Massive Open Online Courses (MOOCs) or FITech-courses, please contact the planning officer beforehand.

Mandatory language studies

BSc from Finland: no language studies needed

BSc from outside of Finland: language studies required

**Language of your previous studies:
Other than Finnish / Swedish**

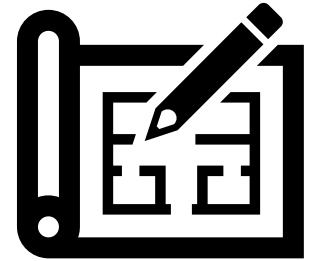
- ➔ 3 ECTS of language studies (including both oral (o) and written (w) proficiency)
OR alternatively complete an elementary course in Finnish or in Swedish (3 ECTS).

**Language of your previous studies:
Finnish / Swedish**

- ➔ 3 ECTS of language studies (including both oral (o) and written (w) proficiency)
- ➔ 2 ECTS Swedish/Finnish as second national language (toinen kotimainen kieli)

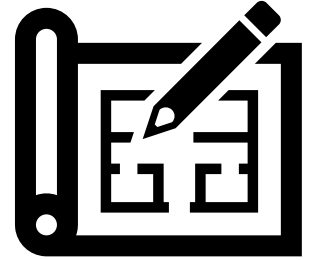
+ your thesis abstract needs to have a language check

HOPS



- **H**enkilökohtainen **OP**into**S**uunnitelma
= Personal Study Plan
- Your degree = courses in your HOPS
- **The first HOPS does not need to be the final one**
- Some parts of HOPS require approval, and those parts are followed by “Approval required”
 - If you are not yet completely sure about your course choices, you can apply for approval in Sisu later also
 - Don’t apply for approval in Sisu, if you haven’t done all the selections for that part
- Remember to keep your HOPS up-to-date!

HOPS



Your study plan does not have to be completely complete yet. The most important thing is that you have selected the courses you want to complete in period I! 😊



HOPS

- **First familiarize yourself with the curriculum in Student Guide:**
 - <https://www.aalto.fi/en/programmes/masters-programme-in-engineering-physics/curriculum-2024-2026>
- **Check also “Planning your studies” –page:**
 - <https://www.aalto.fi/en/programmes/masters-programme-in-engineering-physics/planning-your-studies>
- **Sisu-HOPS –instructions:**
 - <https://www.aalto.fi/en/applications-instructions-and-guidelines/sisu-instructions-front-page>



If you need help...

- with HOPS or degree structure in general, contact the programme's planning officer.
- with the content of your major, contact the professor in charge of your major.
- If you are not sure who to contact, contact the programme's planning officer or studentservices@aalto.fi.
- **Note!** The message feature in Sisu is not in use. It is best to contact us by email.

Other reminders



- Follow your Aalto e-mail!
- Read the student newsletter SCUUPPI
- Contact other Aalto services if needed, for example Starting Point of Wellbeing
 - <https://www.aalto.fi/en/support-for-studying/contact-information-for-learning-services>

Wellbeing and accessibility



The Starting Point of Wellbeing offers students advice and guidance on services related to wellbeing:
<https://www.aalto.fi/en/study-at-aalto/starting-point-of-wellbeing>



Accessibility in studying: <https://www.aalto.fi/en/aalto-university/accessible-aalto>

Individual study arrangements

- Do you have challenges in learning due to a learning difficulty or health reasons? As an Aalto student you have a right to individual study arrangements.
- Individual study arrangements may be granted due, e. g.:
 - dyslexia
 - ADHD
 - physical illness
 - mental health condition
 - sensory impairment
- Individual study arrangements may take different form, e.g.:
 - extra time in examinations
 - adjusted schedules
 - use of computers or other tools or
- If learning difficulties or accessibility concerns have caused study challenges for you in the past, book a meeting in MyStudies for Päivi Koivunen, the contact person in SCI related to accessibility matters and individual study arrangements.
- Discussing your needs for support will help you get off to a smooth start with your studies.

SCI Student & Alumni Networking Event

27.11.2025



- For first-year International Master's Students at School of Science
- Meet and mingle with alumni graduated from SCI, create networks, learn new things and find interesting career paths in Finland
- Time: Thursday 27th November, at 16:30 - 18:30
- Place: CS Building (Konemiehentie 2)
- Registration opens in September



See more 

Any questions?



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