Interested in studies in Quantum Science and Technology? Students from Aalto University and University of Helsinki, across many different Master's programs, can freely combine from a wide list of courses to include in their studies.

This document gives step-by-step instructions for taking courses from the neighbouring University. A new, easier system for credit transfer will be implemented in the future. In the meantime, use these instrutions and ask for help.

For a handy list of all available quantum-related courses at Aalto University and the University of Helsinki, navigate to instituteq.fi/education or search for study guides on your home institution's web page.

If you find outdated information, please email: tapio.rasa@helsinki.fi

Aalto University students taking courses at University of Helsinki

1. Use the Helsinki University Sisu pages to find course descriptions and schedules. Find courses you are interested in. (Times for periods I-IV are given here.)
2. Apply for courses using the electronic form found at: https://elomake.helsinki.fi/lomakkeet/114254/lomake.html (note that application should be done as soon as possible, but any granted study right is valid for a year.)
3. Add the courses to your Aalto Sisu study plan provisionally as a study draft – this makes it easier to get the credits (see step 5).
4. Complete the courses.
5. Using the Aalto.fi Sisu, apply for credit transfer. See the instructions on "Applying for inclusion or a custom course credit through a study draft". You'll need to attach an official transcript of records, which you can download from the University of Helsinki Sisu system (in case of issues, ask: studentinfo@helsinki.fi or see this link).

If a link in these instructions has expired, please inform us at tapio.rasa@helsinki.fi, and/or use the Aalto.fi search (first, try this link).

University of Helsinki students taking courses at Aalto University

1. Use the Aalto University Sisu pages to find course descriptions and schedules. Find courses you are interested in. (Times for periods I-V are given here.)
2. Apply for courses using the electronic form found at: https://openregistration.aalto.fi/index.php?ff/en/JOO_2022. Don't mind the "2022", the form is still in use.

   Under "Justification for the right to study you are applying for", write "QuantEd Agreement on cooperation on quantum technology". For School/Faculty, use the information in the table below. For "Field of study", you can also enter the same text. For "Kotiyliopiston puolto" (endorsement from home institution), you can enter this PDF: link. For Suoritusote (study records), you can enter the same PDF. For technical reasons, these attachments are mandatory, but the study right will always be granted.
3. Complete the courses.
4. Apply for credit transfer (substitution) – see Sisu instructions or just follow the steps below.

Substitution of credits (for University of Helsinki Students)

1. See the table below to find the University of Helsinki course code that matches the course you want to substitute. For example, if you took PHYS-C0254 Quantum circuits at Aalto, the UH code is FYS2093.

2. If the course code is available for your studies (e.g., optional studies), proceed to substitute it by entering the code to the "Add to the plan" function in Sisu.

   If the course code is not available, use the "Add a study draft" function to add the course to your study plan. For "Description of knowledge pursued", you can simply write "substitutes [UH course code]"; in the previous example, write "substitutes FYS2093".

   You should now be able to find the course in the Structure of the studies tab. Open the course page, click Substitutions > View the application > Add information on studies > Completed studies > Add.

3. As an attachment, download a certificate from Aalto Sisu. (Instructions)

Recommended: make a separate credit transfer application for each course. Only add multiple courses in one application if you are sure that you will place them in one place in your study plan - for example, in “other optional studies”.

Course at Aalto	UH course code	Course name	cr.
PHYS-C0210	FYS2091	Kvanttimekaniikka	5
PHYS-C0240	FYS2092	Materiaalifysiikka	5
PHYS-C0254	FYS2093	Quantum circuits	5
PHYS-C0258	FYS2094	Quantum Labs	5
ELEC-C9420	FYS2096	Introduction to Quantum Tecnology	5
ELEC-C9430	FYS2097	Electromagnetism	5
PHYS-E0414	TCM370	Advanced quantum mechanics	5
PHYS-E0551	TCM371	Low Temperature Physics	5
PHYS-E0420	TCM372	Quantum Many-body Physics	5
PHYS-E0421	TCM373	Solid State Physics	5
PHYS-E0436	TCM374	Modern Optics	5
PHYS-E0437	TCM375	Laser Physics	5

Course at Aalto	UH course code	Course name	cr.
PHYS-E0525	TCM376	Microscopy of Nanomaterials	5
PHYS-E0549	TCM377	Machine Learning for Materials Science	5
PHYS-E0412	TCM378	Computational Physics	5
ELEC-E3230	TCM379	Nanotechnology	5
ELEC-E4130	TCM380	Electromagnetic Fields	5
ELEC-E3140	TCM381	Semiconductor Physics	5
ELEC-E3220	TCM382	Semiconductor Devices	5
ELEC-E3240	TCM383	Photonics	5
ELEC-E4810	TCM384	Metamaterials and Nanophotonics	5

For course ELEC-C9440, email tapio.rasa@helsinki.fi (or another person mentioned at instituteq.fi/education) *to include the course in your studies.*