How to apply

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These instructions are based on the admission criteria to the Doctoral Programme in Electrical Engineering for year 2022.

Eligibility of applicants

The general eligibility criteria for higher education are defined in the Universities Act (558/2009, section 37) and in the Aalto University Student Admissions Criteria for 2022.

Eligible applicants for studies leading to a licentiate or doctoral degree from the Doctoral Programme in Electrical Engineering will have completed:

- a relevant master’s degree awarded by a university;
- a relevant master’s degree awarded by a university of applied sciences; or
- a relevant study programme abroad which in the awarding country gives eligibility for the corresponding level of higher education.

Policy on the recognition of degrees awarded outside Finland

Applicants holding a degree earned abroad are eligible for doctoral studies provided their degree gives them eligibility for corresponding higher education in the awarding country. As a rule, degrees earned abroad are recognised at Aalto University provided that they have required studies of at least four years, including a thesis similar to the master’s thesis, and that such studies in the view of the school equip the student with the skills and knowledge needed to pursue doctoral studies at the school. The precondition for the recognition of European degrees is that the degree is a university degree combination earned in accordance with the Bologna Process principles (3+2 years).

If the degree or education differs from the description above, but makes the applicant eligible for doctoral studies in the country that awarded the degree or gave the education, the applicant must provide a document confirming his/her eligibility for doctoral studies in the country where the education was given.

Applicants with a master’s degree in a relevant field earned at a Finnish university of applied sciences are reviewed on a case-by-case basis for their aptitude to pursue doctoral studies. If the school deems the applicant with a relevant master’s degree from a university of applied sciences as having the potential to complete the doctoral degree, the applicant will be assigned sufficient supplementary studies to allow him or her to begin the doctoral/licentiate studies. The scope of the supplementary studies may not, however, exceed 60 ECTS credits. If the scope of the supplementary studies exceeds this maximum, the applicant is advised to complete a master’s degree at the university level before applying for a right to pursue the doctoral degree.

When assessing the students’ potential for successful doctoral studies and determining their need for supplementary studies, the school will consider the scope of master’s degrees at the student’s university of applied sciences (in Finland, such degrees are of 60–90 cr, less than the 120-credit scope of master’s degrees at Finnish universities such as Aalto).

Applicants with a prior degree earned abroad and corresponding to a relevant Finnish master’s degree from a university of applied sciences are treated equally to those with master’s degree from a Finnish university of applied sciences.

The academic evaluation of the applicant is performed by the professor (i.e. supervising professor) responsible for the research field to which the applicant is applying to. The Doctoral Programme Committee will also evaluate the applicant.
Evaluation criteria

The academic evaluation of the applicant is performed by the supervising professor in charge of the research field sought by the applicant. The Doctoral Programme Committee also evaluates the applicants.

The evaluation of the applicant takes into account the following:

**The content of the previous degree(s):**

1. Adequate knowledge in the research field applied for, gained through, for example, courses in the major or courses in the advanced studies within the master’s degree
   - When necessary, the School will set prerequisites for admission to the doctoral programme that may be gained, for instance, by taking master-level courses.
2. Sufficient basic knowledge that supports the applicant’s ability to carry out the research work and the writing of the doctoral thesis.

**Academic performance (on the scale 1-5):**

1. The applicant completed the master’s thesis with the minimum grade of 3/5.
2. The applicant completed the master’s degree courses (excluding the master’s thesis), with an average (weighted average) grade of at least 3.0/5.
   - OR The applicant completed the courses of the major of the degree (excluding the master’s thesis), with an weighted average grade of at least 3.0/5, if the master’s degree was earned in accordance with the degree regulations of 1995 or earlier (when the bachelor’s and master’s degrees were not separated)

**Other evaluation criteria:**

1. the quality and international regard of the applicant’s degree and university
2. the applicant’s potential as a researcher; previous research experience, work experience in the research sector, conference papers, journal articles
3. relevance of the research topic: research orientation with respect to the Department’s focus areas so that proficient guidance and the supervising professor’s genuine scientific interest is met
4. research plan: theoretical and practical relevance and novelty of the topic, and feasibility of the plan (quality, realism, methodology )
5. time management and resources for doctoral studies: realistic time and resources available to complete the studies in 4 years
6. the supervising resources of the university in the research field
7. other reasons for admission presented by the applicant

If the grade criteria are not met, but the applicant is otherwise suitable for doctoral studies, the applicant may raise his/her grades or the school set prerequisites for entry. Study attainments completed in other schools may be accepted as prerequisites, on the grounds of the supervising professor’s written statement.

Application periods

- The Doctoral Programme in Electrical Engineering invites applications continuously (applications will not be processed in July) by the application deadlines decided by the Doctoral Programme Committee and announced on the web page of the programme.
- Each application will be processed in the next possible Doctoral Programme Committee meeting, if all the required application documents have been received by the deadline given. Only applications with all the required materials will be processed. Incomplete applications will be rejected, unless the missing materials are sent by the deadline given.

Please note:

From 1 August 2016 onwards the accepted applicants may accept only one study place leading to a higher education degree in Finland during one academic term (Universities Act 558/2009). Higher education degrees include bachelor’s, master’s, licentiate and doctoral degrees awarded by universities as well as degrees awarded by universities of applied sciences.

The academic terms run from 1 August to 31 December and 1 January to 31 July. The acceptance of a study place is binding and cannot be canceled. Even if the accepted applicant postpones the commencement of studies or gives up her/his right to study, s/he cannot accept another study place leading to a higher education degree-starting the same academic term.

Before submitting the application

- The applicant should contact a professor in charge of the intended research field of their doctoral studies. Applicants are urged to ensure that their expertise and research interests are commensurate with the research group (and those of the supervising professor of their studies) that they apply to.
- In order to prepare for the discussion, it is beneficiary to prepare a CV (along with a list of possible publications) and a preliminary research plan for the intended doctoral studies.
- At this point the applicant’s eligibility and prerequisites for doctoral studies will be checked by the professor. If needed, the professor may set prerequisites for admission to the doctoral programme.
The most talented doctoral students may receive funding from their department, or they may fund their studies through projects or grants. The financing of studies should be discussed with the supervising professor. For employment by research project: see and apply for the open positions at Aalto University. More information on funding.

Research fields and professors

The Doctoral Programme in Electrical Engineering comprises 13 research fields, which are based on the strong research traditions of the departments. The doctoral student chooses a research field when applying to the programme and at the same time the professor supervising the doctoral studies is agreed upon.

Application form and its appendices

Before submitting the application the applicant must contact a professor (supervising professor) in charge of the intended research field to discuss starting doctoral studies.

Application form

Electronic application form (Studyinfo.fi) / Sähköinen jatko-opintohakemus (Opintopolku.fi).

In the application form, please choose Doctoral Programme in Electrical Engineering as a study programme ("Add study programme").

Please read the instructions carefully before filling in the online application form. After reading the instructions and having all the documents ready, register to the online application system, fill in the application, attach all the required documents and send it.

Required appendices (scanned in pdf form):

1. curriculum vitae (CV), including a list of publications and proof of other scientific activity
2. preliminary credit plan, 40ECTS of theoretical studies
3. preliminary research plan and a schedule for its completion
4. preliminary funding plan (please check the guidelines in the preliminary research plan template above)
5. supervision plan
6. Funding plan

Draft a funding plan for yourself. A free format document (pdf) should include the information about

A) secured financing, that is, funding that has already been agreed on and
B) plans for how to get funding after that for the rest of the doctoral studies.

Secured financing

• Where from
• How much
• For what time

Plans of securing funding

• Where from
• How much
• For what time

Full-time doctoral candidates must have secured funding for at least 6 months when applying; mere plans to apply for funding are not sufficient for a full-time status.

7. copy of the holder page of the passport or some other official identification that indicates the citizenship of the applicant

The study plan, research plan, supervision plan and funding plan must be approved and signed by the applicant and the supervising professor. By signing these documents, the professor confirms to be the supervising professor of the applicant.

Applicants with a master’s degree or education earned elsewhere than at Aalto University (or at one of its predecessors) must also provide:

1. master’s degree certificate and official transcript:
   • Certified copies* of the master’s degree certificate, including all the appendices and the Diploma Supplement in European countries
   • Official transcripts of records of all the courses included in the Master’s degree
   • Official translations of these, if the originals are not in Finnish, Swedish or English.
   • Please upload these as scanned copies to the electronic application form in Studyinfo.
   • Please submit also the certified hard copies according to the instructions below. The certified hard copies need to be submitted to the doctoral programme before admission. Please note that certified hard copies will not be returned to the applicant.
Degrees awarded by a higher education institution outside Finland:

Send certified hard copies of the required degree documents including official translations (listed above) to our office (Kitta Peura, Doctoral Programme in Electrical Engineering, P O BOX 15500, 00076 AALTO)

Please note that the required degree documents including official translations need to be submitted according to the country-specific document requirements, if the Master’s degree is completed in: Australia, Bangladesh, Cameroon, Canada, China, Eritrea, Ethiopia, Ghana, India, Indonesia, Iran, Ireland, Kenya, Malaysia, Nepal, New Zealand, Nigeria, Pakistan, South Africa, Sudan, the United Kingdom or the United States. Read the requirements on Country-specific requirements, and send the documents to the doctoral programme by mail (Kitta Peura, Doctoral Programme in Electrical Engineering, P O BOX 15500, 00076 AALTO) or by e-mail (doctoral-sci-elec@aalto.fi), if the documents need to be submitted electronically. Please DO NOT send the documents to the Admission Services as instructed in the country specific requirements webpage. If your Master’s degree is completed in a country that is not in the list of the country-specific requirements, you can use the notary service or you can come to show the original degree documents (Master’s degree certificate and transcript of records) to the Doctoral Programme Office.

Degrees awarded by a higher education institution in Finland:

If you have completed a degree in Finland after 1 January 2003 and you have a Finnish personal identification code, Aalto University will verify your degree electronically using a national database.

If your degree was completed before 1 January 2003, or you do not have a Finnish personal identification code, send certified hard copies of the required degree documents (listed above) to our office (Kitta Peura, Doctoral Programme in Electrical Engineering, P O BOX 15500, 00076 AALTO).

Copies of degree certificates and a transcript of records must be certified by the awarding university or by a notary public. The copies must be taken from the original, official documents. A multiple-page certified copy must be certified on the front side of every page. Each page must have the certifying official’s original signature, printed name, ink stamp and date. Copies of officially certified copies are not accepted, the certifying official’s ink stamps and signatures must be original. A note declaring official copy status (such as a “True copy” stamp) is insufficient.

The translation is official if it has been done by the higher education institution that awarded the degree or by a certified translator (authorised translator). The translations must have the certified translator’s original ink stamp and signature.

The official translations must be either original or certified paper copies of the original documents. Unofficial copies of the translations are insufficient. The official translations must be accompanied by certified paper copies of the original documents in the original language. Translations by themselves are insufficient.

2. the abstract of the master’s thesis in English
3. proof of proficiency in Finnish, Swedish or English. A successful applicant must have an excellent command of Finnish, Swedish, or English. Please see Required language proficiency
4. A document confirming eligibility for doctoral studies, if needed (please see Eligibility of applicants) with an official translation, if the original document is not in Finnish, Swedish or English.

Required language proficiency

Successful applicants will have excellent skills in Finnish, Swedish, or English.

Proficiency in a national language of Finland is demonstrated according to Demonstrating proficiency in a national language of Finland, of the Aalto University Student Admissions Criteria for 2022. English proficiency is demonstrated by language test.

The recognized English language tests and their minimum scores required for admission to doctoral studies are (Aalto University Admissions Criteria 2022):

- IELTS
  - Academic: 6.5 and for writing 5.5
  - Indicator (Academic) online test: 6.5 and for writing 5.5
- TOEFL:
  - IBT (Internet-based Test): 92 and for the writing section 22 or
  - IBT® Special Home Edition: 92 and for the writing section 22
  - PDT (Paper-delivered Test): reading 22, listening 22 ja writing 24
  - C1 Advanced (prev. Cambridge Certificate in Advanced English (CAE)): A,B or C
  - C2 Proficiency (prev. Cambridge Certificate of Proficiency in English (CPE)): A,B,C or Level C1
  - Pearson Test of English Academic (PTE A): 62 and for writing 54

No other English proficiency tests are accepted. If an applicant has taken several language tests, the best official score that is still valid and received by Aalto University by the deadline will be considered in the admissions. You cannot combine scores from different test dates (e.g. TOEFL MyBest scores is not accepted).

Submitting the language test

- A copy of the official IELTS score report (PDF-copy) is uploaded in the application system. The test result will be verified by Aalto University from the test
• The TOEFL score report need to be sent directly to Aalto University from the test provider. Please ask the test provider to use the reporting code of Aalto University, which is 7364. A score report submitted by the applicant is not accepted. Score reports submitted with the reporting code of Aalto University will be verified from the electronic certification service, where the scores can be seen in approximately 1-2 weeks after the request to send the score report to Aalto University has been
• PTE scores are submitted through the electronic result service. The applicant need to sign in to his/her own PTE-account and send the test result through the electronic certification service to Aalto University. The test provider will inform by e-mail, when the test score has been submitted to the
• A copy of the C1 Advanced or C2 Proficiency language test score report (PDF-copy) is uploaded in the application system. The ID-number (e.g. ABC123456) and the reference number (e.g. 173YU0034522) need to be mentioned on the application form. The applicant also need to sign in to the language test system and share the scores with Aalto University. The scores will be verified

Validity of the language test

The language test result has to be valid at least on the day of the Doctoral Programme Committee meeting where the applicant's application is processed.

• IELTS (ielts.org)
• TOEFL (ets.org)
• PTE Academic (pearsonpte.com)
• C1 Advanced (cambridgeesol.org)
• C2 Proficiency (cambridgeesol.org)

An English language test is not required in doctoral admissions of applicants who (Aalto University Admissions Criteria 2022):

1. earned a degree taught in Finnish, Swedish or English in a higher education institution in Finland.
2. earned a degree in an English-medium programme at a higher education institution in an EU/EEA country. The language of the degree must be stated unambiguously in the degree certificate or its appendix, or in the transcript of records or other official document issued by the awarding higher education institution.
3. earned an English-medium higher education degree in Australia, Canada, New Zealand, South Africa, Switzerland, the United Kingdom or the United States while residing in that country.
4. received his or her primary and secondary education in English in an EU/EEA country, Australia, Canada, New Zealand, South Africa, Switzerland, the United Kingdom or the United States.
5. has completed the Aalto Executive Education MBA, EMBA or DBA degree.

In 1-4, a minimum of one half of the degree must be completed in a country and higher education institution that meets the requirements for exempting the applicant from taking an English test.

Only the above-mentioned groups are exempted from the language test requirement: for all other applicants the official English language test result is an obligatory application document and applications without the adequate test result will not be accepted.

Granting the right to pursue doctoral studies

The Doctoral Programme Committee of the School of Electrical Engineering will make a proposal on the applicant to the Dean based on the recommendation of the supervising professor. The Dean then approves or rejects the applicant. The applicant is informed of the decision electronically.

A successful applicant will be admitted to the doctoral programme and granted the right to pursue the Doctor of Science (Technology) degree. All doctoral students of the doctoral programme also have the right to pursue the Licentiate of Science (Technology) degree. All doctoral candidates are defined as either full-time or part-time students.

The right to pursue a degree will be valid only after the Dean has granted the right and the applicant has accepted the offer of admission. The offered admission has to be accepted by the given deadline (2 weeks) and the start of the right to pursue a degree cannot be postponed.

Full-time and part-time studies

All doctoral students are defined as either full-time or part-time students. Doctoral students may not change their study mode by themselves, but it can be changed by application if necessary.

Full-time doctoral students plan their studies with the view to allowing the doctorate to be earned within four years of the right to pursue a doctoral degree being granted. Those applying for a full-time right to pursue a doctoral degree must have funding secured for at least 6 months (e.g. from the employer, or through project funding or a grant). Students employed outside Aalto University must append in their application a certificate issued by the employer proving their possibility to pursue full-time studies (i.e. a minimum of 80% of working hours may be used towards doctoral studies).

Applicants who do not meet the above criteria for full-time doctoral studies will be admitted for part-time doctoral studies. This category includes, for instance, doctoral candidates with the main occupation outside the School of Electrical Engineering. The studies are planned in such a way that the doctoral degree will be completed in maximum eight years.

Language of degree of a doctoral student

In their application to doctoral studies, the applicants define the language in which they will pursue their degree (language of degree). The possible languages of degree are Finnish, Swedish or English. Candidates who wish to write their doctoral thesis in Finnish or Swedish will have that language as the language of degree. Those who write their doctoral thesis in English, may choose English as their language of degree. The language of degree is
approved by the Doctoral Programme Committee. On reasonable grounds, for instance, if the language of the doctoral thesis changes, the student may change his or her language of degree.

Finnish or Swedish as a language of degree
A doctoral student whose language of degree is Finnish or Swedish will get the degree certificate in Finnish or Swedish along with a translation in English. If the doctoral student writes his/her thesis in Finnish or Swedish, the language of the degree will always be Finnish or Swedish despite the earlier choice of language.

English as a language of degree
If the doctoral or licentiate thesis is written in English, the doctoral student can choose English as the language of degree. If the doctoral student's language of degree is English, he/she will get the degree certificate in English and in Finnish or Swedish. The language of degree will be mentioned in the diploma supplement, and in the degree certificate that two degree certificates have been given.

Data privacy notice for applicants
Data privacy notice for applicants