

# Electrical Engineering

Electrical Engineering is a broad multi-disciplinary doctoral programme providing graduates with the ability to work in a variety of fields ranging from traditional electrical engineering and energy sector to biomedical engineering and robotics and nanotechnology and further to communications engineering. Based on a strong mathematical and natural science basis, the curriculum is flexible, allowing each doctoral candidate to compile her/his own combination of courses and research according to her/his own interests. The programme covers all disciplines of the School of Electrical Engineering and allows multi-disciplinary co-operation across Aalto University.

The Aalto Doctoral Programme in Electrical Engineering was established on 1 January 2011. It comprises 24 fields of research. The Programme is a joint effort of the Departments of Electronics and Nanoengineering (ELE), Signal Processing and Acoustics (SA), Electrical Engineering and Automation (EEA), and Communications and Networking (TLV), as well as the Metsähovi Radio Observatory and Micronova - the Research Centre for Micro- and Nanotechnology.

## The degree

The Doctor of Science (Tech) degree is 40 ECTS credits of theoretical studies and dissertation thesis which means four years of full-time studies. The Licentiate of Science (Tech) degree is 40 ECTS credits of theoretical studies and licentiate thesis which means two years of full-time studies. The extent of the licentiate and doctoral degrees consist of theoretical studies and research work. The emphasis is on research work. [See more detailed description of the degree.](#)

## Research fields in Doctoral Programme in Electrical Engineering

The research field is chosen when applying to the programme. Descriptions of the research field can be found at [Degree structure and coursework page.](#)

- Acoustics and Audio Signal Processing
- Advanced materials and photonics
- Applied Electronics
- Automation, Systems and Control Engineering
- Bioelectronics and Instrumentation
- Communications Engineering
- Electromagnetics and Circuit Theory
- Electromechanics
- Electronics integration and reliability
- Illumination Engineering and Electrical Building Services
- Information Theory
- Measurement Science and Technology
- Micro- and Nanoelectronic Circuit Design
- Micro- and nanosciences
- Network Economics
- Networking Technology
- Power Electronics and Electric Drives
- Power Systems and High Voltage Engineering
- Radio Engineering
- Signal Processing for Communications
- Signal Processing Technology
- Space science and technology
- Speech and Language Technology
- User Interfaces

## News

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### [Adobe-sovellusten asennukset ja lisenssit muuttuvat 15.11.2019 alkaen | Adobe installations and licenses will change starting 15 November](#)

14.11.2019

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### [Kieliopintoja Aallon opiskelijoille muissa korkeakouluissa / Language and communication studies for Aalto students in other universities](#)

12.11.2019

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### [Booking.aalto.fi -palvelussa katko päivityksen vuoksi ma 11.11. klo 10-18 | Booking.aalto.fi unavailable due to service break on Monday, 11.11. between 10 am and 6 pm](#)

04.11.2019

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## **ECAR 2019 Student Study -kyselyn tulokset | Resultaten från ECAR student undersökning | Results of the ECAR Student Study Survey**

30.10.2019

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## **Yrittäjyyskursseja Aallon opiskelijoille | Entreprenörskapkurser för Aalto studerande | Entrepreneurship courses for Aalto students**

24.10.2019

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