

# Translational Engineering

## Basic information

**Biämne på svenska:** Translationell teknik

**Minor in Finnish:** Translationaalinen tekniikka

**Code:** ELEC3026

**Responsible professors:** Mervi Paulasto-Kröckel and Simo Särkkä

**Extent:** 20 credits

**Language:** English

**Prerequisites:** No preliminary requirements – open for all Aalto students – but please note that all courses in this minor are at Master's level and students should ensure that they have the necessary knowledge and skills before choosing this minor.

## Content and structure of the minor

Translational engineering is a multidisciplinary topic dealing with themes from various fields, such as biomedical engineering, health care and wellbeing, microsystems technology and smart living environment. Drawing from a strong mathematical and natural sciences basis, the minor offers in depth knowledge about different application areas related to the above mentioned fields. The minor also emphasizes the process of transferring results from fundamental studies into innovations and finally into functional products. The studies consist of a well-balanced mixture of theoretical and applied knowledge and prepare the student for his/hers career equally well in industry or in academia.

Learning outcomes

- Upon completion of the Minor, the student will be able to:
- Understand the design and fabrication principles of electronic devices
- Rationalize the use of different materials in health care, microsystems and lighting technologies based on their fundamental properties
- Understand the basic processes related to product development
- Apply current knowledge to create new solutions for complex systems

Code	Name	Credits	Teaching period
<b>Compulsory courses</b>			
<a href="#">ELEC-E8712</a>	Design for Reliability	5	I-II
<a href="#">ELEC-E8730</a>	Design of Electronic Equipment	5	I-II
<a href="#">ELEC-D8710</a>	Principles of materials science	5	III - IV
<a href="#">ELEC-E8740</a>	Basics of Sensor Fusion	5	I-II
<a href="#">ELEC-E8742</a>	Translational Engineering Forum	5	
<a href="#">ELEC-E8713</a>	Materials and Microsystems Integration	5	I-II
<a href="#">ELEC-E8714</a>	Sustainable Electronics	5	I-II

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<a href="#">ELEC-E8124</a>	Intelligent Buildings	5	II
<a href="#">ELEC-E8734</a>	Biomedical Instrumentation	5	II
<a href="#">ELEC-E5710</a>	Sensors and Measurement Methods	5	I V - V

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