



# EP270V Internet of Things 3.0

## credits

Sakernas internet

This is a translation of the Swedish, legally binding, course syllabus.

### Establishment

The official course syllabus is valid from spring semester 2024 according to the decision of Director of First and Second Cycle Education: J-2024-0223. Date of decision: 2024-02-05

### Grading scale

P, F

### Education cycle

Second cycle

### Main field of study

Electrical Engineering

### Specific prerequisites

- In total 180 higher education credits of which at least 90 higher education credits in electrical engineering, engineering physics or technical mathematics.
- Knowledge in one variable calculus, at least 6 higher education credits.
- Knowledge in computer communication, at least 6 higher education credits.
- Knowledge in probability theory, at least 3 higher education credits.
- Knowledge in signals and systems, at least 6 higher education credits, equivalent course EQ1110/EQ1120.

- Knowledge in English equivalent to English B/English 6.

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

After passing the course, the student should be able to:

- give an account of the central wireless network protocols for system design for internet of things (IoT)
- theoretically characterise performance for wireless communications protocols

in order to

- understand and explain which design options there are for a specific wireless communication system
- be able to give arguments for which type of performance should be prioritised for designing wireless IoT systems and machine-learning methods.

## Course contents

The course focuses on wireless networks for internet of things (IoT). Introduction to applications of wireless IoT. Methods for wireless communications protocols with an emphasis on analytical performance analysis. Analysis of the interplay between wireless network protocols and applications based on theoretical methods.

## Examination

- INL1 - Hand-in assignment, 1.0 credits, grading scale: P, F
- PRO2 - Project assignment, 2.0 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

## Ethical approach

- All members of a group are responsible for the group's work.

- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.