



# EP2700 Principles of Wireless Sensor Networks 7.5 credits

Principer för trådlösa sensornätverk

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

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

## Establishment

The official course syllabus is valid from the autumn semester 2021 in accordance with Head of School decision: J-2021-0878. Decision date: 15/04/2021

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

Second cycle

## Main field of study

Electrical Engineering

## Specific prerequisites

Completed course EL1000 or the equivalent as well as English B or the equivalent

## Language of instruction

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

## Intended learning outcomes

The aim with this course is to give a basic understanding of wireless sensor networks (WSN)

On completion of the course the student should

- Know the central tools in communication, automatic control, optimization, and signal processing that are needed to handle WSN
- Know of the design of practical WSN
- Develop a research project within WSN

## Course contents

Course focus is on distributed algorithms and protocols for WSN. The course starts with an introduction to applications, hardware, and network architecture. Thereafter, iterative methods for distributed calculations are treated and it is shown how its methods can be applied to design of important aspect in the protocol stack and applications of communication. The course also contains programming of sensors that are useful for implementing experimental research projects.

## Examination

- INL1 - Assignment, 1.0 credits, grading scale: P, F
- INL2 - Assignment, 1.0 credits, grading scale: P, F
- INL3 - Assignment, 1.0 credits, grading scale: P, F
- TEN1 - Examination, 4.5 credits, grading scale: A, B, C, D, E, FX, 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.

## 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.