



# EL2220 The Sustainable Systems and Control Engineer 3.0 credits

Den hållbara ingenjören i systemteknik

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

On 04/21/2020, the Head of the EECS School has decided to establish this official course syllabus to apply from autumn term 2020, registration number J-2020-0452.

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Electrical Engineering

## Specific prerequisites

Completed Degree of Bachelor (180 credits) or the equivalent academic qualifications. Documented skill in English equivalent English B.

## 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

- discuss key issues of the role of engineers in the society
- discuss and analyse impact of systems-, control- and robotics engineering in society, and its role in achieving economically, socially and ecologically sustainable development
- discuss and analyse social and ethical aspects of research and development
- discuss and analyse our responsibility for how technology is used, including social and economic aspects as well as environmental and safety aspects
- discuss and analyse ethical and cultural issues and differences in an international environment
- discuss on a high level considering the aggregation of the topics above
- present arguments based on scientific results
- meet deadlines
- write brief, clear, analyses including own reflections.

## Course contents

The course extends over two years i.e. eight periods. Each period includes different subjects. Main themes for the course are: the role of engineers and the technology in society, social and ethical aspects, the responsibility of people for how the technology is used, the international labour market, culture and communication.

## Examination

- UPP1 - Assignment, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- UPP2 - Assignment, 1.5 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.

## Other requirements for final grade

Participation in all seminars, submitted and passed assignments. The grading is based on the student's active participation in the discussions and on the quality of the submitted reports.

## 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.