EI2402 Electromagnetic compatibility 7.5 credits

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
Course syllabus for EI2402 valid from Spring 2019

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

Education cycle
Second cycle

Main field of study
Electrical Engineering

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

Intended learning outcomes
The course provides basic understanding of how electromagnetic disturbances appear in, propagate and influence electromagnetic components and systems. Moreover, the participant acquires knowledge about methods and strategies that reduce the influence of disturbances.

After completion of the course, the participant shall be able to

• construct simple models that describe non-ideal properties for electrical components
• understand and apply the concept of zone-division in electrical systems
• analyse cross-talk in multiconductor systems
• identify low frequency (electric and magnetic) coupling mechanisms and calculate simple examples
• identify high frequency (electromagnetic) coupling mechanisms and calculate simple examples
• design effective shielding devices and filters
• describe typical misconceptions in designs

Course contents


Specific prerequisites

EI1200 Introductory course in classical electromagnetic field theory or equivalent including documented proficiency in english corresponding to eng B

Course literature

Kompendium
Föreläsningsmaterial.
Paul, Electromagnetic Compatibility. 2nd ed.

Examination

• LAB1 - Laboratory Work, 3.5 credits, grading scale: P, F
• TEN1 - Written Exam, 4.0 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
Approved laboratory assignments and written exam.

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.