EP2500 Networked Systems Security 7.5 credits

Säkra nätverkssystem

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 04/15/2021, the Head of the EECS School has decided to establish this official course syllabus to apply from autumn semester 2021, registration number: J-2021-0915.

Grading scale

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

Education cycle

Second cycle

Main field of study

Computer Science and Engineering,Information and Communication Technology

Specific prerequisites

Completed course in algorithms and data structures equivalent DD1338/DD1327/DD1320/DD1321/ID1020 or completed course in computer engineering equivalent EP1200/DD1377/IS1200/IS1500.

Active participation in a course offering where the final examination is not yet reported in Ladok is considered equivalent to completion of the course.

Registering for a course is counted as active participation.

The term 'final examination' encompasses both the regular examination and the first re-examination.

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

- identify, explain and analyse vulnerabilities, threats and attacks against a number of modern network systems
- state clear properties and requirements of security solutions for network systems
- analyse and design security protocols and mechanisms that protect the network operation against attacks
- explain and analyse qualitatively and quantitatively general security mechanisms
- identify and analyse best practice for security systems that currently are generally used in network systems

in order to

- become prepared for future advanced studies in the subject
- be able to handle open, real technical problems.

Course contents

Basically, the course will bring up security including integrity for a spectrum of network systems that includes:

- Internet and TCP/IP networks,
- Mobile voice and data networks,
- Wireless local and personal networks,
- Wireless sensor networks,
- Mobile ad hoc and hybrid networks, such as vehicle communication systems

The emphasis in the course lies on basic concepts and technologies about joint security requirements in different systems and about how the functions in each system decide the latest security solutions.

Examination

- INL1 - Assignment, 2.5 credits, grading scale: P, F
- KON1 - Assignment, 2.5 credits, grading scale: P, F
- TEN1 - Examination, 2.5 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.