HI1023 Network Security 7.5 credits

Nätverkssäkerhet, grundkurs

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 HI1023 valid from Spring 2019

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Knowledge in data communication corresponding to HE1033 Communication Networks and HI1032 Communication Systems

Language of instruction

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

Intended learning outcomes

The course aims at theoretical and applied knowledge in securing data communications at the network and transport levels (firewalls, ports, IP tunnels, IPSec etc.) and the application level (authentication, encryption etc.).

After completing the course the students should have

- a good knowledge about the important security aspects of distributed systems at the network and application levels
- practical experience of securing data networks at the network and application levels

knowledge about typical and severe security holes and solutions

- Include personal integrity and social aspects in security analysis and protection of networks.
- Apply mathematical methods for encryption.

Course contents

- A survey
- Encryption methods
- Authentication
- Email security
- IPSec and virtual private networks (VPN)
- IP tunnels
- Firewalls
- Viruses
- Personal integrity and social aspects of data security
- www security
- Typical security holes
- Lab assignments

Course literature

Kurslitteraturen anslås på kursens hemsida senast fyra veckor innan kursstart.

Examination

- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, F
- RED1 - Account, 6.0 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

Passed exam (RED1; 6 cr.), credit rate A-F
Passed lab assignment (LAB1; 1,5 cr.), credit rate P/F
In total, credit rate A-F

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.