



# IV2020 Network Security 7.5 credits

## Network Security

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 IV2020 valid from Autumn 2008

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

## Language of instruction

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

## Intended learning outcomes

On successful completion of this course students should:

1) Have a deep and comprehensive understanding of security threats, mechanisms, protocols

and services in computer networks.

2) Be able to analyze and evaluate the implementation and functioning of network applications and decide on their suitability from the security point of view.

3) Be able to design and implement applications that provide or use security services in computer networks.

## Course contents

### SYLLABUS

Digital signatures

Public-Key Infrastructure (PKI) and Trusted Third Party (TTP)

Message authentication

Network authentication (Kerberos)

Email security

VPN technology (IPSec)

WWW security (SSL/TLS/SET)

Security in Web services

## Specific prerequisites

Basic course in data/computer security, for example 2I1030, 2I1501/IV2018, 2I1278, 2I1273 or IV2036.

## Course literature

- Charles Kaufman, Radia Perlman, Mike Speciner, Radia Perlman, Mike Speciner: Network Security: Private Communication in a Public World (Upplaga: senaste), Pearson Education, 0-13-046019-2

## Examination

- PRO1 - Project, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 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.

Project assignment, (PRO1) 1,5 hp, grading scale Pass/Fail

Written exam, (TEN1) 6 hp, grading scale A/B/C/D/E/Fx/F

## Other requirements for final grade

To pass the course, the student needs to pass on both project assignment and the written exam. The final course grade is based on the grade on the 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.