



# HI117V IT-Security I 7.5 credits

## IT-säkerhet I

This is a translation of the Swedish, legally binding, course syllabus.

## Establishment

Course syllabus for HI117V valid from Autumn 2007

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Electrical Engineering, Technology

## Specific prerequisites

Completed upper secondary education incl documented proficiency in English.

## Language of instruction

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

## Intended learning outcomes

Since this course is offered in English, it is therefore also open to international students without a working knowledge in Swedish. The course can be taken in any country, no physical presence at KTH in Sweden is required. Our IT-security course series, HI117V, HI119V and HI120V, 15 credit hours total, is also available at international campuses. This course is part of our IT-Security and Datacom 25 credit hour course package, offered each academic year. All 25 credit hours can be taken away from KTH in a single year, no attendance on KTH campus required.

## Course contents

Overview; Classical Encryption Techniques, Block Ciphers and the Data Encryptions Standard; Introduction to Finite Fields, Advanced Encryption Standard; Contemporary Symmetric Ciphers; Confidentiality using Symmetric Encryption; Introduction to Number Theory; Public-Key Cryptography; Message Authentication and Hash Functions; Hash and Mac Algorithms; Digital Signatures and Authentication Protocols; Authentication Applications; Electronic Mail Security; IP Security; Web Security; Intruders and Viruses; Firewalls; Standards and Standard-setting Organizations; Project for Teaching Cryptography and Network Security.

## Course literature

For further information in English, please contact the teacher.

## Equipment

For further information in English, please contact the teacher.

## Examination

- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- ANN3 - Assignment, 1.5 credits, grading scale: P, F
- ANN1 - Assignment, 1.5 credits, grading scale: P, F
- ANN2 - Assignment, 1.5 credits, grading scale: P, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

## 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.