IV2024 Principles of Computer Security 7.5 credits

Principer för datasäkerhet

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 IV2024 valid from Autumn 2008

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

60 hp in computer and systems sciences or from other university level education in computer science or information technology

Language of instruction

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

Intended learning outcomes

Having completed this course the student will be able to:

* explain terms and concepts commonly used in the area of ICT security to computer users at all levels.

* read and assimilate scientific articles in ICT security.

* identify and analyse factors that influence security in an ICT system.

* analyse how specific security measurements influence security in an ICT system as a whole.

* critically analyse personal ICT environments.

* identify vulnerabilities in an ICT system.

* suggest suitable preventive and protective security measurements in an ICT system.

Course contents

* Introduction to information security
* Security Models and Policies
* Cryptography overview
* Security Architectures, incl. Identification, authentication, access control.
* Malicious Software, incl. Viruses, worms, trojan horses, etc.
* Program Security
* Security Tools
* Assurance
* Law and ethics
* Privacy and Privacy Enhancement Tools

Course literature

• Matt Bishop: Introduction to Computer Security, Addison Wesley, 2005, 0-321-24744-2
Kommentar: This is a new reduced, cheaper version of the former course book "Computer Security: Art and Science". Ambitios students should consider buying "Art and Science", though "Introduction" is sufficient for the course.

Examination

• INL1 - Assignment, 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.

Other requirements for final grade

Written Examination, 6hp, and Assignments, 1.5p. Possible grades for the written examination are A/B/C/D/E/Fx/F while each of the assgnments are either pass or fail (P/F). To pass the course it is necessary that both the written examination and the assignments are passed. The total grade of the course is based on the grade of the written exam. If the student is close to pass the exam (assessed by the examinator), the student gets the opportunity to pass the exam by doing a complement assignment. This assignment can only give the grade E, and not higher. The assignment must be sent in according to given deadline and can only be used to raise the grade to E on the current 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.