IK2000 Security Architecture for Open Distributed Systems 7.5 credits

Säkerhetsarkitekturer för öppna distribuerade system

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

Establishment

Course syllabus for IK2000 valid from Spring 2009

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

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:
- Have a deep and comprehensive understanding of:
  o Significant characteristics of open / distributed systems from a security point of view
  o Current threats and security algorithms, mechanisms and protocols in open distributed systems.
- Be able to analyze the implementation and functioning of applications and systems in open network environments from the point of view of their security.
- Be able to design and implement secure applications in open and distributed systems, as well as applications that provide security services for such environments.

Course contents

1. Principles for distributed systems and object oriented technology
2. Advanced applications and protocols for distributed systems (group protocols, untrusted users)
3. Kerberos authentication system
4. Authentication protocols for distributed systems
5. Secure distributed systems
6. Integrated secure distributed systems

Disposition

Lectures and project assignment

Course literature

Preliminary:

- Anirban Chakrabarti: Grid Computing Security, 3-54044-492-0

- Yang Xiao: Security in Distributed, Grid, Mobile, and Pervasive Computing, 0-84937-921-0

Examination

- PRO1 - Project, 3.0 credits, grading scale: P, F

- TEN1 - Examination, 4.5 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.

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

Other requirements for final grade

The student needs to pass both the written exam and the assignment (project). The final course grade is based on the grade of 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.