



Faculty of Economic Sciences, Communication and IT
Computer Science

Syllabus

Course Approval

The syllabus was approved by the Faculty Board of Economic Sciences, Communication and IT on 25 March 2010, and is valid from the Autumn semester of 2010 at Karlstad University.

Course Code: DVGC19

Computer Security I, 7.5 ECTS Credits
(Datasäkerhet I, 7.5 Swedish credit points)

Degree Level: Bachelor

Progressive Specialisation: G2F (First cycle, has at least 60 credits in first-cycle course/s as entry requirements)

Language of Instruction

English or Swedish: Contact the course coordinator for information about the current language.

Prerequisites

Computer Science 60 ECTS cr. including Computer networking 7.5 ECTS cr. and Operating Systems 7.5 ECTS cr.

Major Field of Study

DVA (Computer Science)

Learning Outcomes

Upon completion of the course students should be able to:

- explain basic security terminology and security aspects such as secrecy, privacy, authentication, threat and vulnerability,
- explain and describe a selection of security problems and protective measures such as access control, malicious software, encryption and operating system security,
- give an account of cryptographic systems based on symmetrical and asymmetrical methods and of the primary algorithms and protocols applied in such cases,
- reflect on security and integrity problems related to networking,
- give an account of security policies and protocols in network systems,

Content and Form of Instruction

The course introduces the area of IT security and consists of three parts. The first part has a focus on computer security and primarily covers ISO security services (secrecy, privacy, non-repudiation, authentication and access control), malicious software and operating system security. This course component also includes an introduction to cryptography. Part two centres on network security and treats the areas of IP security, web security, transport storage security, hacking detection and firewalls. Part three deals with security management with a focus on relevant security areas of laws and privacy.

Instruction is in the form of lectures, exercises and laboratory work.

Reading List

See separate document.

Examination

Examination is in the form of laboratory reports, hand-in assignments and a written exam.

Grades

One of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), or U (Fail) is awarded in the examination of the course.

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course assessment is based on student views and experiences as reported in written course evaluations and/or group discussions. Students will be informed of the result of the evaluation and of the measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional Information

Students who enrolled before 1 July 2007 will complete their studies in accordance with the requirements of the earlier admission. Upon completion students may request degree and course certificates to be issued under the current ordinance if they meet its requirements.

The local regulations for studies at the Bachelor's and Master's levels at Karlstad University stipulate the obligations and rights of students and staff.

Karlstads universitet 651 88 Karlstad, Sweden
Tel +46-54-700 10 00 Fax +46-54-700 14 60
information@kau.se www.kau.se