Linnæus University

Course syllabus

Faculty Board of Science and Engineering
School of Computer Science, Physics and Mathematics

1DV429 IT-Säkerhet, 7,5 högskolepoäng
IT Security, 7.5 credits

Main field of study
Computer Science

Subject Group
Informatics/Computer and Systems Sciences

Level of classification
First Level

Progression
G1N

Date of Ratification
Approved by the Board of the School of Computer Science, Physics and Mathematics 2009-06-23

Revised 2012-12-10

The course syllabus is valid from spring semester 2013

Prerequisites
1DV402 Starting Out with C#, 7,5 credits and 1DV407 Object Oriented Analysis and Design using UML, 7,5 credits or equivalent.

Objectives
After completing this course the student should:

- Be able to put together relevant requirements and understand specifications for safety.
- Know some common design principles to achieve higher security in software.
- Be able to reason around and select the appropriate implementation that supports the safety requirements.
- Know how to specify and implement tests for basic security mechanisms in software.
- Know common methods to safely deliver, deploy and update software.
- Be able to analyze the security around the development process.

Content
The course contains both theoretical aspects with practical. Laboratory work are carried out on the theoretical aspects of the course.
Parts of the course:

- Requirements gathering with standards for security, reliability, dependability, monitoring, economics.
- Design principles for secure software.
- Implementation of security systems. Error handling, sand boxing, encryption, transactions, validation, protection against reverse engine ring.
- Methods to create and implement tests of software safety.
- Delivery and deployment of software from a safety aspect. Permissions, signing, certificates.
- Security considerations around development, projects, companies and personnel.

Type of Instruction

Teaching consists of lectures and laboratory exercises. Participation in laboratory work is mandatory.

Examination

The course is assessed with the grades U,3,4 or 5.
Assessment of student performance is made through written test and/or oral examinations and/or presentation of mandatory assignments. The assessment method is decided at the start of the course.

A second examination will be offered within six weeks during the regular semester periods. The number of examinations are limited to five times.

On request, students may have their credits translated to ECTS-marks. Such request must be sent to the examiner before the grading process starts.

Course Evaluation

A course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The result of the course evaluation will be filed at the department.

Required Reading and Additional Study Material

Required Reading

Literature is chosen in consultation with and approved by the course coordinator.