



Course syllabus

Faculty of Technology
Department of Computer Science

1DV71U Datornät - introduktion, 7,5 högskolepoäng
Computer Networks - an introduction, 7.5 credits

Main field of study

Computer Science

Subject Group

Informatics/Computer and Systems Sciences

Level of classification

First Level

Progression

G1F

Date of Ratification

Approved by Faculty of Technology 2016-01-12
The course syllabus is valid from spring semester 2016

Prerequisites

30 credits in Computer Science, including Problem Solving and Programming (1DV506), 7.5 credits and Operating Systems (1DV512), 7.5 credits or equivalent.

Objectives

Upon completion of the course the student should be able to:

- give an account of the design and architecture of modern computer networks and the services offered in these networks
- describe the functionality in different layers of the TCP/IP protocol stack
- explain how the most important protocols in the TCP/IP stack works and how they are used
- write client/server applications
- explain how computer networks and data communication is an important part of modern society.

Content

The purpose of the course is to give theoretical knowledge about data communication and computer networks as well as practical skills in network programming.

The course covers:

- private, public and local networks
- network architectures such as the ISO reference model and TCP/IP
- methods for data transmission, coding, flow control and error handling
- routing and routing algorithms
- standard protocols in the TCP/IP protocol stack

- network programming.

Type of Instruction

Teaching consists of lectures, seminars and practicals. Practicals are individual or carried out in groups. Attendance at some activities is mandatory.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.

The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

Assessment of the student's performance is made through written examination and/or assignments which are presented orally and/or in written form. The assessment method is decided at the start of the course.

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Credit Overlap

This course cannot be part of a degree in combination with another course in which the content fully or partly correspond to the content of this course: 1DV201 Computer Networks - an introduction, 7.5 credits

Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material

Required reading

Comer D., *Computer Networks and Internets*, 6 ed. Pearson, 2015. Pages 640 (667). DFM, *Distributed material*. Pages 50 (50).