HI1M01 The Internet Protocols 7.5 credits

Internetprotokollen

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 HI1M01 valid from Autumn 2007

Grading scale

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

Education cycle

First cycle

Main field of study

Information Technology,Technology

Specific prerequisites

Communication Networks I or equivalent course.

Language of instruction

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

Intended learning outcomes

The course aims at giving thorough knowledge about the network, transport, and application layers of the TCP/IP protocol suite.

After completing the course the participants should:

- Be able to design IP addressing including subnetting and supernetting theoretically and in lab assignments
- Be able to explain the principles for interior, exterior, and multicast routing
- Be able to explain the differences between IP version 4 and IP version 6
- Be able to solve problems related to the TCP transport protocol regarding flow control and error control
- Be able to explain the differences between different transport protocols /TCP, UDP, and SCTP) with respect to performance requirements from the applications
- Be able to explain requirements from real-time multimedia communications on communication networks and protocols
- Be able to explain how dynamic configuration of IP addresses works
- Know the basics of Internet network management
- Have a brief knowledge about Internet application protocols
- Be able to perform client-server programming assignments using sockets

Course contents

- The Internet protocol version 4 and version 6
- Transport protocols (TCP, UDP, and SCTP)
- Multicast
- Dynamic configuration of IP addresses
- The domain name system (DNS)
- Application protocols
- Multimedia and real-time applications
- Network management
- Sockets and network programming

Course literature

Forouzan, The TCP/IP Protocol Suite, 3rd Edition

Examination

- LAB1 - Laboratory Work, 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.

Other requirements for final grade

Passed written exam (TEN1; 4.5 cr.), grades A-F.
Passed lab assignments (LAB1; 3 cr.), grades P/F.
Total grades A-F.

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.