IK1353 Computer Networks 7.5 credits

Datornätverk

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 IK1353 valid from Autumn 2008

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Language of instruction

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

Intended learning outcomes

After this course students shall be able to explain the OSI model and apply it to networking components and protocolsdescribe physical and logical topologies for computer communicationdescribe physical networking media (copper, fiber, wireless), their characteristics and usageexplain the principles of signals and coding as well as flow control and error correction on physical linksexplain the priciples of ethernet based local area networkd (LAN)describe the most important ethernet standardsexplain the principles for ethernet switching and describe different switching methodsexplain the principles for wide area networks (WAN) and describe the most important WAN protocolsexplain the principles for wireless LAN and mobile IPexplain the principles for IP addressing and apply this to subnettingexplain the IP, ICMP, TCP and UDP protocols as well as the most important protocols in the application layer of the TCP/IP modelexplain the principles for routing and the Internetdescribe some server based network services (DNS, DHCP etc)describe different securuty threats and how these can be managedcompare and contrast the various types of firewallsdesribe the principles of encryption and apply this using assymetrical keys and PGPdesign some basic network solutions

Course contents

As above

Course literature

Computer Networking: A Top-Down Approach Featuring the Internet, 3rd edition, James F. Kurose, Keith W. RossUpplaga: 3 Förlag: Addison Wesley År: 2004ISBN: 0-321-26976-4

Examination

- LAB1 - Laboratory Work, 3.0 credits, grading scale: P, F
- LAB2 - Laboratory Work, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 3.0 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

Written Exam (TEN1)Labs (LAB1 and LAB2)

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.