IK1350 Network Protocol 6.0 credits

Protokoll i datornät

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for IK1350 valid from Autumn 2008

Grading scale

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

Education cycle

First cycle

Main field of study

Information Technology, Technology

Specific prerequisites

Knowledge in basic computer communication and basic computer user experience corresponding to the course 6B2945 Computer networks or similar.

Language of instruction

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

Intended learning outcomes

The overall goal of the course is to give the student basic knowledge and skills in planning, implementing and supporting the packet switching infrastructure of IP based local networks. Moreover, the course will create a foundation for furhter studies in IP based LANs and WANs with focus on services, planning, security and renewing of protocols and media. After the completing the course the student will be able to:+Describe the function of Ethernet based switches and methods for packet and frame switching inside LANs, for example assymetrical switching+Describe and apply packet filtering with access control lists+Describe and apply techniques for virtualziation of LANs, for example VLANs+Describe protocols used by Ethernet switches and routers in IP based LANs, for example, RIP, OSPF, Spanning-Tree and IEEE 802.1q+Explain how the algorithms used in the protocols work, for example Bellman-Ford and Dijkstra+Based on a problem definition propose suitable equipment and protocols for an IP based LAN, with respect to performance and security+Make network simulations, using for example Packet Tracer

Course contents

TCP/IP, Routing and switching in LANs, design of LANs and VLANs

Course literature

Routers and Routing Basics CCNA 2 Companion Guide (Cisco Networking Academy Program), Wendell Odom, Rick McDonaldUpplaga: 1st edition Förlag: Cisco Press År: 2006ISBN: 1587131668 Switching Basics and Intermediate Routing CCNA 3 Companion Guide (Cisco Networking Academy Program), Wayne LewisUpplaga: 1st edition Förlag: Cisco Press År: 2ISBN: 1587131706 **Course participants have access to an electronic edition of the course material.**

Examination

- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 3.0 credits, grading scale: P, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

Bonus credits are valid at the first regular exam. Tentamen, 3.0hp (TEN1)The exam is graded A to F according to the ECTS scale. The exam is held two times per year. Laborationer, 3.0hp (LAB1)The course is divided into a series of mandatory lab exercises. The exercises are graded A to F according to the ECTS scale. There are two oppurtunites per year to complete the exercises. Grading is based on the following formula where the ECTS grades are translated to the numbers 1-5, where E=1, D=2 and so on. Course grade = (LAB1+TEN1)/2

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.