Courses in English

Course Description

Department 07 Computer Science and Mathematics

Course title Network Management

Hours per week (SWS) 4

Number of ECTS credits 5

Course objective
Learn the principles of computer network management techniques such as:

Management Information Bases (MIB II, RMON1, RMON2, Private MIB), Network Management Protocols (SNMP1, SNMP2, SNMP3), Abstract Syntax Notation.One (ASN.1), Network Security Management (Analysis of network attacks, Firewall, Intrusion Prevention)

Apply management techniques on various network configurations and network components based on exercises in the network management virtual laboratory

Prerequisites
Basic knowledge in computer networks or data communications

Recommended reading
4. Online tutorials, online exercises, and over 100 questionnaires with explained answers within the virtual laboratory on:

Teaching methods
Electronic media presentations, demos, case studies

Assessment methods
40% of the grade will be based on reports/questions on the results of exercises, project, 60% of the grade will be based on final exam question

Language of instruction English

Name of lecturer Alexandru Soceanu

Email Soceanu@cs.hm.edu

Link http://w3-o.cs.hm.edu/~soceanu/
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Course content
Network Management Tools: Network General Sniffer, Wireshark, HP-Open View, 3COM-Transcend, VLAN Manager, RMON-Tool Hifn, Firewall Checkpoint One, Intrusion Prevention System (McAfee)
Online exercises within the virtual laboratory of vhb:
1) Frame analyses based on Wireshark-Analyser, 2) Using a RMON-Tool based on Hifn Tool, 3) Using a Network Management Tool based on HP-Open View, 4) Configuration and setup Spanning Tree for Bridges, 5) Setup 3Com/Sonix ISDN Router, 6) Setup CISCO ISDN Router, 7) Setup CISCO Ethernet Router, 8) Setup a VLAN-Manager for a switch 3COM-CB 5000, 9) Setup Quality-of-Service (QoS) for CISCO-Routers, 10) Setup a Firewall System from Check Point One, 11) Setup an Intrusion Prevention System: IPS McAfee

Remarks