

DESCRIPTION OF STUDY MODULE*

Study programme Applied Informatics and Programming

Study module SWITCHING AND ROUTING **Credits in total** 6

Learning outcomes
<ul style="list-style-type: none"> - Ability to create complex virtual network. - Able to connect and configure a small network from given requirements or a virtual network model. - Is able to find a suitable command to configure network equipment. - Ability to adapt the detection protocol to configure a network in a continuous chain. - Identifies network faults and removes them. - Self-study using Netacad environment.
Aims of study module
<p>Aim of the course – learn to build and configure a small/medium size network from given requirements or a virtual network model and be able explain why one or another network design decision where done. At the end of the course a group laboratory work is done to build and connect different Cisco equipment into a small network.</p>
Annotation of a study module
<p>This course provides students with practical knowledge to connect and configure networks. Delves into the internal computer network design and configuration according to the given requirements. Learning to use console commands to configure the most reliable network, connect the equipment into circuits, configure equipment with static or dynamic addresses, configure of DNS and DHCP, assign VLAN, configure remote access to the equipment.</p>
Topics of the subject
<ol style="list-style-type: none"> 1. Introduction to Cisco Routers, Switches, IOS & the Boot Process 2. Using the Command-Line Interface (CLI) 3. VLANs 4. Static routing 5. Routing dynamically 6. Basic Configuration of Router and Switches 7. Configuring Router Interfaces 8. Access control 9. Configuring DNS & DHCP 10. Saving, Erasing, Restoring and Backing up Configuration & IOS File 11. Password Recovery on a Cisco Router <p>Laboratory work No. 1</p> <ol style="list-style-type: none"> 12. Cisco Discovery Protocol (CDP) 13. Using Telnet on IOS <p>Laboratory work No. 2</p> <ol style="list-style-type: none"> 14. Administrative Distance and Routing Metrics 15. Classes of Routing Protocols 16. Routing Loops 17. Route Redistribution <p>Laboratory work No. 3</p>
Procedure for assessment of knowledge and competences
<p>Applicable criterion-ten-point scale, and the cumulative assessment scheme: control works consist of 0.1, laboratory work - 0.1 - 0.2 and exam 0.5 of evaluation score, which is calculated by the weighted average method. Subject absorption final rating is calculated only if all self-employment (individual homework) assignments and control work is handed over and evaluated positive. $F = C1*0.1+L1*0.1+L2*0.1+L3*0.2+E*0.5$</p>
Main literature
<ol style="list-style-type: none"> 1. T. Lammler (2013) CCNA Routing and Switching Study Guide. 1178 p. 2. W. Odom (2013) Cisco CCENT/CCNA ICND1 100-101. 1758 p. 3. Cisco material in NETACAD system.

* Short form