CCNA

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Descriptions and Course Outcomes of Cisco Academy CCNA Program

Cisco Exploration 1 - Network Fundamentals ITCC1401

Course Description: A course introducing the architecture, structure, functions, components, and models of the internet. Describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link, and physical layers. Covers the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations. Build simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices, including routers and switches; and implementing IP addressing schemes.

End-of-Course Outcomes: Identify and describe internet architecture, structure, functions, components, and models; describe the use of OSI and TCP layered models; identify and describe the nature and roles of protocols and services at the application, network, data link, and physical layers; describe principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations; and build simple LAN topologies by applying basic principles of cabling, device configuration, and IP subnetting.

Cisco Exploration 2 - Routing Protocols and Concepts ITCC1404

Course Description: This course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Recognize and correct common routing issues and problems. Model and analyze routing processes.

End-of-Course Outcomes: Describe the purpose, nature, and operations of a router; describe the purpose and nature of routing tables; describe the purpose and procedure of configuring static routes; design and implement a classless IP addressing scheme for a given network; describe the basis features and concepts of link-state routing protocols; and configure and verify basic RIPv1, RIPv2, single area OSPF, and EIGRP operations in a small routed network.

Cisco Exploration 3 - LAN Switching and Wireless ITCC2408

Course Description: This course helps students develop an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Detailed explanations of LAN switch operations, VLAN implementation, Rapid Spanning Tree Protocol (RSTP), VLAN Trunking Protocol (VTP), Inter-VLAN routing, and wireless network operations. Analyze, configure, verify, and troubleshoot VLANs, RSTP, VTP, and wireless networks. Campus network design and Layer 3 switching concepts are introduced.

End-of-Course Outcomes: Identify and correct common network problems at layers 1, 2, 3, and 7 using a layered model approach; select the appropriate media, cables, ports, and connectors to connect switches to other devices and hosts; perform and verify initial switch configuration tasks including remote access management; configure, verify, and troubleshoot VLANs, VLAN Trunking, Inter-VLAN routing, VTP, and RSTP; verify network status and switch operation using basic utilities (ping, traceroute, telnet, SSH, arp, ipconfig); identify and describe the purpose of the components in a small wireless network (SSID, BSS, ESS); and identify the basic parameters to configure on a wireless network to ensure that devices connect to the correct point

Cisco Exploration 4 - Accessing the WAN

Course Description: This course explains the principles of traffic control and access control lists (ACLs) and provides an overview of the services and protocols at the data link layer for wide-area access. Describes user access technologies and devices and discover how to implement and configure Point-to-Point Protocol (PPP), Point-to-Point Protocol over Ethernet (PPPoE), DSL, and Frame Relay. WAN security concepts, tunneling, and VPN basics are introduced. Discuss the special network services required by converged applications and an introduction to quality of service (QoS).

End-of-Course Outcomes: Describe the impact of applications (Voice Over IP and Video Over IP) on a network; implement basic switch security (port security, trunk access, management vlan other than vlan1, etc.); configure, verify, and troubleshoot DHCP and DNS operation on a router (CLI/SDM); describe today's increasing network security threats and explain the need to implement a comprehensive security policy to mitigate the threats; configure and apply ACLs based on network filtering requirements (CLI/SDM); configure and apply an ACLs to limit telnet and SSH access to the router using (SDM/CLI); configure NAT for given network requirements using (CLI/SDM); configure and verify a basic WAN serial connection; configure and verify Frame Relay on Cisco routers; and describe VPN technology (importance, benefits, role, impact, components).

The Cisco CCNA network associate certification validates the ability to install, configure, operate, and troubleshoot medium-size routed and switched networks, including implementation and verification of connections to remote sites in a WAN. This new curriculum includes basic mitigation of security threats, introduction to wireless networking concepts and terminology, and

performance-based skills. This new curriculum also includes (but is not limited to) the use of these protocols: IP, Enhanced Interior Gateway Routing Protocol (EIGRP), Serial Line Interface Protocol Frame Relay, Routing Information Protocol Version 2 (RIPv2),VLANs, Ethernet, access control lists (ACLs)

CCNA courses and CCNA certification program is to improve the skills of professionals in the home and small office networking segment. Cisco CCNA certification is basic competency in computer networks. Installation and support of 100 nodes or fewer in a LAN/WAN environment is the knowledge examined in this certification.

CCNA targets a wide audience of both students and professionals in IT and computer science background. Cisco CCNA is for those who are interested in gaining technical knowledge of Internet and Networking. This can help start a good career in the Networking industry.

CCNA certification is a foundation level certification to build a future in Computer Networking. CCNA is a pre-requisite for many of the advanced level certifications offered by Cisco. You can become an expert or professional by taking the other courses offered by Cisco the CCNP and CCIE.

Look at Cisco's site for explanation of CCNA exam numbers:

http://www.cisco.com/web/learning/le3/le2/le0/le9/learning_certification_type_home.html

CCNA courses changes at LSC-Tomball

The CCNA curriculum is evolving to include current topics and skill levels.

2 years ago we had the curriculum called CCNA ver. 3.1. The courses that referenced this curriculum were ITCC 1402, ITCC 1406, ITCC 1442, and ITCC 1446.

In the Fall of 2007, Spring 2008, and summer 2008 we adopted the newer CCNA curriculum which is called Exploration. During this time we had temporary course numbers of ITCC1491, ITCC1472, ITCC1473, and ITCC1474.

Starting in the Fall of 2008 we are still using the CCNA Exploration Curriculum but now have permanent course numbers assigned. They are ITCC1401, ITCC1404, ITCC2408, ITCC2410.

So registering for these courses is a little confusing within our system as all of the possiblities of course numbers being prerequisite for the next course number is a little complex. But starting in Fall 2008 the CCNA course numbers should remain static for some time.