2012/2013 Business Networking (Cisco Networking 1B) PTI601 - 36 weeks DoDEA Course Description and Competencies

About the Program

Business Networking prepares students for careers in the IT industry. The course sequence focuses on duties and tasks performed by professionals in Networking Systems as well as pre-employment and employment skills.

Major Concepts/Content: This second course prepares students to become network engineers and prepares them for entrance into a technology career field or for further technology study. This course includes field experience in network problem solving. Successful completion of this course (and Home Networking) should qualify the student to pass the Cisco Certified Entry Technician (CCENT) exam.

Major Instructional Activities: The program teaches students to design, build, and maintain small to medium-sized networks. Activities are conducted in a lab setting using computers, servers, and routers that students assemble into functional networks. During the course students will participate in threaded case study discussions.

Major Evaluative Techniques: Students will demonstrate their knowledge through tests, hands-on demonstrations, and projects. At the conclusion of the second year, students will be able to take the Cisco Certified Entry Networking Technician (CCENT) exam.

PTI	Business Networking	Mastery	Non-		
601	TASKS/COMPETENCIES		Mastery		
36					
weeks					
Implementing DoDEA's CTE Course Requirements					
• 001	Demonstrate DoDEA's Workplace Readiness Skills in course activities.				
• 002	Identify issues related to this field of study that affect the environment				
	and impact local and global communities.				
• 003	Identify Internet safety issues and procedures for complying with				
	acceptable use standards.				
Troubleshooting Wired Networks					
• 004	Utilize the troubleshooting process.				
• 005	Describe and use the troubleshooting process to document network				
	problems.				
• 006	Describe the utilities used to verify Transmission Control Protocol				
	(TCP)/Internet Protocol (IP) connectivity.				
Planning a Network Upgrade					
• 007	Perform a customer site survey.				
• 008	Describe the importance of planning when beginning a network				
	upgrade.				
• 009	Describe physical topology considerations when upgrading a network.				
• 010	Describe other considerations when planning an upgrade.				
• 011	Picture graphically the physical and logical layout of networks.				

• 012	Evaluate a network cabling plan.			
Planning the Addressing Structure				
• 013	Describe how (Internet Protocol) IP addressing is implemented in the Local Network (LAN)			
• 014	Calculate and implement a subnet for a given network to allow for efficient use of IP address space.			
• 015	Evaluate and explain how Network Address Translation (NAT) and Port Address Translation (PAT) are used in a network.			
Configuring Network Devices				
• 016	Perform initial configuration of Integrated Services Router (ISR) and switch.			
• 017	Use the Security Device Manager to configure network devices.			
• 018	Use the Command Line Interface (CLI) to configure network devices.			
• 019	Connect the customer premises equipment (CPE) to the ISP.			
Describing Routing				
• 020	Configure and verify internal routing protocols.			
• 021	Describe and Explain interior and Exterior Routing Protocol.			
Explor	ing ISP Responsibilities			
• 022	Evaluate ISP security considerations.			
• 023	Describe security tools.			
• 023	Describe monitoring and managing the ISP.			
• 025	Describe backups and disaster recovery.			
Explor	ing ISP Services			
• 026	Describe the ISP services.			
• 027	Describe the protocols that support ISP services.			
• 028	Describe the Domain Name Service (DNS).			
• 029	Enable services and protocols.			
Enhancing Career Exploration and Employability Skills				
• 030	Conduct a job search.			
• 031	Create or update a portfolio containing representative samples of student work.			