Alabama Department of Postsecondary Education

Representing the Alabama Community College System

STATEWIDE CAREER/TECHNICAL EDUCATION COURSE ARTICULATION REVIEW MINUTES

Articulation Agreement Identifier: CIS/DPT161-2009-1__ Identifier is the postsecondary course prefix followed by Plan-of-Instruction version number (e.g.; INT 100 (2007-1)).

Applicable CIP code(s): 11.0101

Postsecondary course prefix, number, and title: CIS/DPT 161 Introduction to Network Communications

Secondary Education course(s) title and number: 460113/520021 - Networking I

Initial Review: October 8, 2009 Annual DPE Review: February 14, 2012

Effective date: **Fall Semester 2011**.

Course Content Analysis (all postsecondary course objectives must be sufficiently addressed in the secondary courses):

Notes:

1. **Skills and knowledge contained in the postsecondary course objectives must be present in the corresponding secondary objectives for a "match" to occur.**
2. **Postsecondary and Secondary objectives must reflect similar content and performance levels before the course articulation agreement will be recommended to the TEDAC Oversight Committee.**
3. **More than one Secondary Course may be used in order to articulate to a Postsecondary course.**

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Postsecondary Course Objectives	Secondary Objectives and Location(s)	TEDAC Comments
MODULE A – NETWORKING PRINCIPLES **Competency:** A1.0 Explain basic concepts related to networking. **Performance Objective –** None **Learning Objectives:** A1.1.1 Define terms associated with networking. A1.1.2 Explain concepts associated with networking. A1.1.3 Identify types of certifications available for networking. A1.1.4 Explain the procedures for obtaining various network certifications. A1.1.5 Identify the components of a network. A1.1.6 Explain network standards. A1.1.7 Explain the OSI model. A1.1.8 Explain network protocols. A1.1.9 Explain network topologies. **MODULE B – NETWORKING TECHNOLOGY** **Competency:** B1.0 Install, configure, and troubleshoot network hardware. **Performance Objective:** B1.1 Given materials and specifications install and troubleshoot a network. **Learning Objectives:** B1.1.1 Explain characteristics of the types of connectivity. B1.1.2 Explain tools used for installing network equipment and components. B1.1.3 Explain networking media. B1.1.4 Explain the process of constructing cable. B1.1.5 Summarize the process of installing and configuring network hardware. B1.1.6 Explain the process of troubleshooting a network. B1.1.7 Explain the process of verifying connectivity. B1.1.8 Explain the process of performing preventative maintenance. B1.1.9 Explain when to upgrade or replace network	**Networking I** **Unit – Computer Basics** **Content Standard(s)** 1. Describe the purpose and function of personal computers, including software applications and Internet applications. 2. Explain digital representations of common forms of data. Examples: binary, hexadecimal 3. Demonstrate the process of installing, verifying, and upgrading computer components. **Learning Objective(s)** 1. Identify tasks that can be completed using computer hardware and software. 2. Analyze how user needs determine computer hardware and software selection. 3. Explain digital representation of analog data. 4. Differentiate between binary, decimal and hexadecimal number systems. 5. Explain the function of exponential notation. 6. Identify computer hardware components. 7. Identify Input, processing, output and storage functionality. 8. Perform installation, verification and upgrades of PC hardware and software. **Unit Networking** **Content Standard(s)** 11. Determine appropriate components and peripheral devices to meet networking requirements. 12. Explain how communication occurs across a local Ethernet network. 13. Describe access layer devices and communication methods on a local Ethernet network. 14. Differentiate between client and server interaction. 15. Describe the various components and structure of a	

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components. B1.1.10 Explain developing a baseline and monitoring network performance. **MODULE C – NETWORK OPERATING SYSTEMS** **Competency:** C1.0 Install and configure network operating systems. **Performance Objective:** C1.1 Given materials and specifications install and configure a network operating system. **Learning Objectives:** C1.1.1 Explain the primary functions of a network operating system. C1.1.2 Explain installing and configuring a network operating system. C1.1.3 Explain basic concepts of network administration. C1.1.4 Explain basic concepts of troubleshooting a network operating system.	wireless local area network (LAN). 16. Analyze wired and wireless networks for common hardware and connection issues. 17. Utilize the troubleshooting process to identify and solve common problems with a LAN. • Interacting with the computer help desk • Utilizing a bottom-up or top-down troubleshooting methodology **Learning Objective(s)** 1. Evaluate data communications requirements. 2. Interpret the source/destination communication relationship. 3. Indentify access layer devices and determine interconnection options. 4. Define client/server and peer-to-peer associations. 5. Identify and compare WLAN devices to LAN devices. 6. Determine common network hardware and connectivity issues. 7. Apply troubleshooting methodology to solve common LAN issues. **Unit – System Design** **Content Standard(s)** 11. Describe the purpose of a layered model to illustrate the interaction of various protocols. 12. Utilize mathematics skills to design a LAN. 13. Describe the process of using and connecting to an Internet service provider (ISP). 14. Compare the various methods of obtaining an Internet Protocol (IP) address. 15. Describe the applications of Network Address Translation (NAT) on a home or small business network. **Learning Objective(s)** 1. Discuss the modular nature of layered models.	

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	2. Perform network addressing tasks. 3. Compare ISP connection options. 4. Perform IP address administration. 5. Discuss the impact of NAT on addressing resources. **Unit – Security** **Content Standard(s)** 16. Evaluate wireless security issues and mitigation strategies for improved security. 17. Utilize research results to determine ways to improve network security, including evaluating current network threats and methods of attack. 18. Describe attack mitigation strategies and different security applications. **Learning Objective(s)** 1. Discuss WiFi security concerns. 2. Examine system components and configurations to determine threats. 3. Analyze security solutions.	