Course Outcome Guide (COG)

Course:	CIS 164 - Fundamentals of Networking I	Credits:	3	Instructor:	Ken Quamme
Course Description:	This course teaches students the skills needed to obtain entry-level home network installer jobs. It also helps students develop some of the skills needed to become network technicians, computer technicians, cable installers, and help desk technicians. It provides a hands-on introduction to networking and the Internet using tools and hardware commonly found in home and small business environments. Instructors are encouraged to facilitate field trips and outside-the-classroom learning experiences. Labs include PC installation, Internet connectivity, wireless connectivity, file and print sharing, and the installation of game consoles, scanners, and cameras.				

Concepts and Issues	Process Skills	Assessment Tasks	Intended Outcomes		
			Course	General Education or Program	Institutional
• Introduction to Networks • The Open Systems Interconnection Specifications • Networking Topologies, Connectors, and Wiring Standards • Networking Devices • Introduction to Internet Protocol (IP) • IP Addressing • Introduction to IP Routing • Switching and Virtual LANs (VLANs) • Wireless	• Describe networking standards, concepts, topology, and media including LANs, WANs, the OSI model, cabling, IP addressing, sub-netting, network hardware and various protocols. • Explain networking theory and protocols on common network systems. • Apply IP routing concepts and router administration, distance vector and link state based IP routing algorithms, router interfaces, routing tables, and routing protocol	• Participation • Case studies • Network Simulations • Individual and group projects • Individual/group projects and presentations • Completion of Chapter Assessments • Final Assessment • Skills-Based Assessment • Course Feedback	1. Set up a personal computer system, including the operating system, interface cards, and peripheral devices 2. Plan and install a small network connecting to the Internet 3. Troubleshoot network and Internet connectivity 4. Share resources such as files and printers among	1. Assemble the components of a PC and install one or more operating sytems resulting in a functioning PC. 2. Identify major telecommunications media types, including coaxial cable, UTP and fiber optic cable. 3. Design a small or medium sized computer network including media types, end devices and interconnecting devices. 4. Design basic wide area networks and	1. Students will demonstrate effective communication skills. 2. Students will use reasoning skills to analyze and solve problems.

Technologies • Authentication and Access Control • Network Threats and Mitigation • Physical and Hardware Security • Wide Area Networks • Software and Hardware Tools	configuration and network security concepts. •		multiple computers 5. Recognise and mitigate security threats to a home network 6. Configure an integrated wireless access point and wireless client	work with a number of WAN encapsulations. 5. Perform basic configuration on routers and Ethernet switches. 6. Perform basic tasks expected of a Network Administrator, inc luding management of user accounts, shared resources and network security. 7. Work in a UNIX environment and successfully create and manage files. 8. Create a database, query a database, and ouput reports from a database in a database program. 9. Write a sample program in at least one programming language. 10. Effectively use the Internet for learning and tech support. 11. Have a basic understanding of

				TCP/IP.	