_____SOUTH SEATTLE COMMUNITY COLLEGE_____

COURSE OUTLINE
Revision: Carol Koepke - Date: January, 2009

DEPARTMENT: Technical Education

CURRICULUM: Computing Technology

COURSE TITLE: Wireless Communications I, Network Administration

COURSE NUMBER: CTN 278

TYPE OF COURSE: Vocational Preparatory

COURSE LENGTH: 1 q\Quarter

CREDIT HOURS: 3

LECTURE HOURS: 33

LAB HOURS: 0

CLASS SIZE: 24

PREREQUISITES: CTN 270 or equivalent

COURSE DESCRIPTION:

Intro to wireless communication and wireless LAN technologies. Covers WLAN use, design, installation, security and troubleshooting. Learn the 802.11 standards including WiFi, light-based and radio-based WLANs, Bluetooth and cellular technology concepts. Learn how & why wireless communication works; how to select / setup the correct wireless devices for the best network solution. Explore the future of the exiting and rapidly growing field of telecommunications and VOIP. Prereq: CTN 270 or equivalent

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Information Literacy - Use various sources to access the most current information on computer networks.
2. Critical Thinking and Problem Solving – Analyze test questions to obtain a clear interpretation of the problem presented.
3. Technology - Use the technological skills learned to interpret and answer conceptual questions..
4. Human Relations - Use social interactive skills to work in teams effectively

PROGRAM OUTCOMES ADDRESSED:

1a Identify hardware and operating systems components and proper combinations.
1b Identify network devices and OSI components and systems.
1c Identify network devices and operating systems combinations.
2a Install and properly configure network devices and related operating systems.
3a Select, implement appropriate troubleshooting tools and methods for problem solving.
3b Be able to analyze and troubleshoot various Microsoft, Novell, and open source operating systems.
3c Troubleshoot and solve problems occurring at any level of the OSI layers in a network.
3f Be able to secure and monitor activities on computers and networks.
4a Use critical thinking for analysis of hardware, OS, or network problems.
4b Access information efficiently and accurately to resolve computer problems.
4c Work effectively with others to accomplish complex tasks.

GENERAL COURSE OBJECTIVES:
At the end of the course the student will:

1. Be able to plan, advise the client, properly install and troubleshoot a simple wireless network.
2. Be able to select the correct Wireless network devices for a given situation.
3. Know how to acquire and /or research leases for towers and antennae.
4. Know how to predict and minimize interference in wireless communication situations.
5. Describe the advantages and limitations WiFi and wireless telephony.
6. Know to respect and follow the commonly known laws and FCC rules that pertain to WLANs.
7. Be able to setup some protective security measures for a given WLAN.
8. Compare and contrast different Wireless technologies.

TOPICAL OUTLINE: APPROX. HOURS

I.	Types and range of wireless communications	2.0
II.	Advantages and disadvantages of WLAN and wireless communications	1.0
III.	WLAN utilization	1.5
IV.	Wireless signals:	4.0
	a) frequencies, and transmission	
	b) codings	
	c) assignments	
	d) radio waves: narrowband and spread spectrum	
	e) light (infrared)	
V.	Interferences and signal strength	1.0
VI.	Overview of the Standards: incl. 802.11	2.5
VII.	Fixed wireless vs. roaming wireless	2.0
VIII.	Planning the network	3.0
IX.	Wireless devices: identification & selection	3.0
X.	Planning the wireless network	3.5
XI.	Installing the wireless network	3.5
XII.	Troubleshooting the wireless network	3.0
XIII.	Securing the wireless network	<u>3.0</u>
	Total	33.0

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