10/27/2022 DATE

☑ REQUIRED COURSE

☑ ELECTIVE COURSE

Business DIVISION

☐ NEW COURSE

☑ REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	CIS-053		**TITLE:** *(30 Characters Max)*	Wireless Networking									
SEM CR HRS:	3	**Lecture:**	2	**Lab:**	2						**ECH:**	4	
Course Level:	☐ Gen Ed / IAI ☐ Career/Technical ☐ Baccalaureate /Non-IAI ☐ Dev Ed/ Not in Degree Audit			**Clinical Practicum:**	0	**Work-based Learning**	0	**WBL ECH:**	0				
COURSE PCS #	12 - 11. 901		**IAI Code**							**Contact Hours (Minutes Per Week)**			
Repeatable (Y/N):	Y	**Pass/Fail (Y/N):**	N	**Variable Credit (Y/N):**	N	**Min:**		**Max:**		**16 Wks**	200	**8 Wks**	400
Prerequisites:	CIS-081, CIS-079												
Catalog Description: (40 Word Limit)	An overview course of wireless LAN technologies and implementations. Course of study includes both theory and configuration of current wireless devices, details of 802.11 standards and discussions of security implementations and concerns.												

	List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
1	Overview of WLANs	2			
2	Wireless Fundamentals	4			
3	802.11 Standards	3			
4	Building a WLAN	5			
5	Installing/Configuring/Managing Wireless Cards	2	4		
6	Installing/Configuring/Managing Wireless Access Points	4	10		
7	Installing/Configuring/Managing Wireless Repeaters	3	6		
8	Installing/Configuring/Managing Other Wireless Devices	3	10		
9	Wireless Security and Troubleshooting	4			
	TOTAL	30	30	0	0

EVALUATION							
QUIZZES	☑	**EXAMS**	☑	**ORAL PRES**	☐	**PAPERS**	☑
LAB WORK	☑	**PROJECTS**	☑	**COMP FINAL**	☑	**OTHER**	☐

COURSE MATERIALS		
TITLE:	CWNA Guide to Wireless LANs	
AUTHOR:	Mark Ciampa	
PUBLISHER:	Course Technology	
VOLUME/EDITION/URL:	2nd Edition	
COPYRIGHT DATE:	2005	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Overview of WLANs	2	Identify key issues in a wireless network environment.
Wireless Fundamentals	4	Evaluate different wireless carrier methods. A. Light-based B. Radio frequency-based
802.11 Standards	3	Identify the wireless components at different OSI layers. A. Physical layer transmissions B. Data Link layer access C. Network Layer implementation
Building a WLAN	5	Discuss the techniques used in the planning and implementation of a wireless LAN. A. Needs assessment B. Cost vs. function - technology choices C. Layout and Configuration E. Evaluation

Installing/Configuring/Managing Wireless Cards	2	Evaluate different 802.11 cards and discuss installation and configuration differences. A. 802.11b, 802.11a and 802.11g B. Peer-to-peet mode C. Infrastructure mode
Lab Exercises	4	Install and configure 802.11b, 802.11a and 802.11g cards.
Installing/Configuring/Managing Wireless Access Points	4	Evaluate the variety of Access Points, discuss when each is appropriate and install and configure a respresentative sample. A. 802.11b, 802.11a and 802.11g B. Installation considerations C. Configuration issues
Lab Exercises	10	Design, install and configure an access point implementation using 802.11b, 802.11a, and 802.11g.
Installing/Configuring/Managing Wireless Repeaters	3	Examine methods of connecting different wireless segments or devices with repeaters. A. Extending client ranges b. Connecting segments
Lab Exercises	6	Install and configure repeaters in an existing wireless lab environment.
Installing/Configuring/Managing Other Wireless Devices	3	Examine the variety of miscellaneous wireless devices, their uses and their implementations.
Lab Exercises	10	Install and configure a variety of wireless miscellaneous devices in the existing wireless lab setup.
Wireless Security and Troubleshooting	4	Describe the methods and procedures for securing and troubleshooting the wireless environment. A. Security evaluation and implementation B. Troubleshooting techniques
	60	

COURSE OUTCOMES*	At the successful completion of this course, students will be able to:
Identify the 802.11 technologies	
Describe the function and use of a cantenna	
Identify the major security additions to 802.11 technologies	

** Course Outcomes will be used in the Assessment Software for Outcomes Assessment. Limit to 3 - 5.*