

JOLIET JUNIOR COLLEGE
DEPARTMENT OF COMPUTER INFORMATION
AND OFFICE SYSTEMS

COURSE SYLLABUS

Course Prefix and Number	CIS 162
Course Title	Introduction to Wireless Communications
Curriculum	Computer Information Systems
Semester Hours	3
Lecture	3
Lab	0
Prerequisites	None

Catalog Description:

This is an entry-level certification for novices or professionals who install or support home and small office wireless networks. Topics include: Wi-Fi networks, 802.11, Wireless security, Bluetooth, WiMAX, Infrared, and ZigBee.

Course Objectives: See attached.

Prepared by:

Reviewed by:

Angela Sullivan
Dept. of CIOS
7/04

Revised 1/07

Ram Raghuraman
Department Chairperson

Date

STUDENT MATERIALS

A. Textbooks:

Title: Wireless# Certification Official Study Guide, Exam PWO-030-2006-12-18

Author: Osborne

Publisher: McGraw Hill

B. Other Required Materials

None

Other Course Requirements

Student Evaluation (Type of Grading)

A. PROJECTS

In class exercises covering the advanced topics:

- IEEE 802.11 planning for co-location
- Creating an SSID for a Wireless Access Point
- Vendor neutral network interfaces
- Connection to a LAN
- Creating an Ad-Hoc infrastructure
- Independent and Basic Service Set methods of connection
- Network Optimization methods
- Broadcast verses hidden node
- Methods for rogue access point detection
- Wired Equivalent Privacy
- Authentication and Encryption
- Encryption methods
- Site survey

A possible outside project may analyze the wireless network a building location which grants access in either a home/work location.

- Recommended enhancements and implement improves in their wireless local area networks

B. PAPERS (number of pages, expository writing done outside of class required and graded in addition to essay examinations)

None

C. EXAMS AND WHAT TYPE

- Practical exercise in demonstrating Access point configuration and optimization
- Multiple choice
- true/false
- short answer
- On-line Final
- Practice exams

JOLIET JUNIOR COLLEGE COURSE SYLLABUS

JOLIET JUNIOR COLLEGE

FORM C, Part II: TOPICAL OUTLINE

Course Prefix and Number: CIS 162 Title: Intro to Wireless Communications

Week	Unit, Topic, Class Activity (Indicate approximate time allotment for each topic/unit)	Comments
1	The Wireless World	
2	Radio Frequency Basics	
3	Wi-Fi Features and Functionality	
4	Understanding and applying IP Addressing for WAP's	
5	SOHO WAP configuration	
6	Wireless Networking Devices	
7	Wireless Client Devices	
8	WiMax	
9	Bluetooth	
10	Infrared	
11	ZigBee	
12	Radio Frequency Identifier	
13	Wireless Security	

OBJECTIVES

Upon completion of the course the student will be able to:

1. Understand the basics of wireless technology
2. Understand Wireless repeaters, access points and media gateways.
3. Design and implement a practical WAP environment
4. Accomplish a level of expertise to move to advanced wireless certifications
5. Demonstrate a competence of 802.11 wireless communications
6. Define the role of IEEE, Wi-Fi Alliance, Zig Bee Alliance, Bluetooth SIG, IRDA
7. Define characteristics of Wi-Fi, Bluetooth, Zig Bee, IRDA, WMM, WPA, WPA2