

# Kishwaukee College Syllabus

Fall 2013

Wireless Communication (2 Credit Hours)

CIS 143 - 3001

## I. Meeting Time and Place

Lecture/Lab: A1372

Time: 6:00 P.M. - 7:40 P.M. Wednesday and Wednesday

Dates: 8/28/2013 - 12/18/2013

## II. Instructor Information

Instructor: James A. Sager

Office: A1368

Office hours: MW 3-4 pm  
other times by appointment

Phone: 815/825-2086 x 6046

Dept Secretaries: 815/825-2086 x2030 or x2830

Email: [jsager@kishwaukeecollege.edu](mailto:jsager@kishwaukeecollege.edu)

Website: <http://www.kishwaukeecollege.edu/faculty/jsager/>

## III. COURSE DESCRIPTION

Introduces wireless networking over a range of applications from cell phones to wireless local area networks to broadband wide area network links to satellite. Topics will include: the advantages and disadvantages of wireless communication and the difference between radio and infrared. The course will also cover WLANs, in particular 802.11b and 802.11. Cell phone technology, including 2G, 2.5G, and 3G, WAP, and SMS will be presented. Fixed broadband wireless and satellite communications will also be covered. Hands-on assignments will reinforce the concepts covered. Two hours lecture/discussion a week.

Prerequisite: CIS140

## IV. STUDENT LEARNING OUTCOMES

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

- A. List and explain various wireless communication technologies;
- B. Understand and describe concepts of wireless communications;
- C. Understand and describe wireless data transmissions;
- D. Understand and describe radio frequency communications;
- E. Explain and describe how antennas work;
- F. Understand, describe and configure Low Rate Wireless Personal Area Networks;
- G. Understand, describe and configure High Rate Wireless Personal Area Networks;
- H. Understand, describe and configure Low Speed Wireless Local Area Networks;
- I. Understand, describe and configure High Speed WLANS and WLAN Security;
- J. Understand and Describe Wireless Metropolitan Area Networks;
- K. Understand and describe Wireless Wide Area Networks;
- L. Understand and describe Wireless Communication in Business;
- M. Understand and configure 802.11b & 802.11g access points, network cards and bridges;
- N. Understand and configure 802.11a access points and network cards;
- O. Complete a site survey and make determinations concerning access points, antenna selections and frequency choice;

## V. Required Text and Materials

1. Required Text

Ciampa, Mark Ph.D. *CWNA Guide to Wireless LANs* 3rd edition Boston, Massachusetts: Course Technology, Cengage Learning, 2013.

2. Internet access
3. Flash/Thumb drive for keeping lab reports electronically

**VI. BREAKDOWN OF COURSE REQUIREMENTS**

13 Chapter Questions @ 40 pts each	520 points
Lab Assignments	140 points
midterm @ 100 points	100 points
final exam @ 100 points	100 points
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Total	860 points

**VII. FINAL GRADE DETERMINATION:**

Grade reports will not be mailed out. Please check KishSOS, My Student Info, under Academic Profile, Grades, for grade reports.

A = 90 - 100%	774 points or more
B = 80 - 89.9%	688 - 773 points
C = 70 - 79.9%	602 - 687 points
D = 60 - 69.9%	516 - 601 points
F = below 60%	less than 516 points

**Tentative Weekly Schedule**

Please note that this schedule and the topics covered are likely to change. Changes will be announced in class. If you are not able to attend class, it is your responsibility to find out what was covered. Assignment descriptions and updated due dates will be posted on the course web site.

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Week 1	8/28	Thr World of Wireless	Chapter 1
Week 2	9/4	Wireless Local Area Networks	Chapter 2
Week 3	9/11	Radio Frequency Fundamentals	Chapter 3
Week 4	9/18	Antennas	Chapter 4
Week 5	9/25	Physical Layer Standards	Chapter 5
Week 6	10/2	Media Access Control Standards	Chapter 6
Week 7	10/9	WLAN Management and Architecture	Chapter 7
Week 8	10/16	Catch Up and <b>Midterm</b>	
Week 9	10/23	Conducting a Site Survey	Chapter 8
Week 10	10/30	Wireless LAN Security Vulnerabilities	Chapters 9
Week 11	11/6	Implementing Wireless LAN Security	Chapter 10

Week 12	11/13	Managing a Wireless LAN	Chapter 11
Week 13	11/20	Wireless Network Troubleshooting and Optimization	Chapter 12
Week 14	11/27	Thanksgiving - school closes at 5:00 PM	
Week 15	12/4	Wireless Networks	chapter13
Week 16	12/11	Other Topics	
Week 17	12/18	<b>Final Exam</b> (comprehensive) 6:00 - 7:40 PM	

### XXIII Course Procedures

- A. Students are expected to attend every class session on time and prepared. Students should bring the text and whatever they need to take notes to every class.
- B. Students are expected to spend **time outside of class** completing assignments.
- C. Food and beverages are not permitted in the classrooms or labs.
- D. A familiarity with computers and the Windows operating system is expected.
- E. Depending on the assignment, both digital and hardcopy versions of assignments may be required for submission. The procedure for submitting digital copies of assignments will be explained in class. Make sure you always keep a copy of all of your assignments. The instructor is NOT responsible for network failures, server failures, or student mistakes.
- F. The instructor answers many questions via email. Due to the high volume of requests, submissions, and questions received via email, the instructor must prioritize responses. Most questions will be answered (or at least acknowledged) within 48 hours. If you do not get a response when you expect one, please keep in mind that your email may have failed to reach the instructor, or may have automatically been rejected by an email client or server. Please try to contact the instructor again and possibly use the phone or an in-person visit if email is failing.

### XXI MAKE-UP POLICY

- A. Assignments are to be turned in on time. Assignments which are not turned in on time will not be accepted unless individual arrangements are made **in advance** with the instructor. In unusual cases where late assignments are accepted, the cost of being late is ten percent of the total possible points for every portion of a day late, up to a maximum of three days late. For example, an assignment received twenty-five hours past its due date will lose twenty percent of its total possible point value (because it is two days late). Assignments which are received more than three days (seventy-two hours) late will not be accepted and are not worth any points. Exceptions made be made to this rule if the student contacts the instructor before the due date and makes special arrangements **in advance** with the instructor. All late acceptance decisions of this nature are left solely to the discretion of the instructor. This rule does not apply once answers to an assignment have been distributed or posted. Assignments submitted after answers have been released are worth zero points even if the answers are posted one minute past the due date.
- B. Answers to assignments may be posted online, handed out in class, or sent via email by the instructor. Once an answer to an assignment has been released, no further submissions for the assignment will be allowed. This rule supersedes all other rules about when late assignments may be accepted. In general, the instructor will try to

wait at least forty-eight hours before posting or distributing solutions, but there is no guarantee, so get your assignments in on time.

- C. Tests are to be taken at the day and time scheduled. Failure to take a test at the scheduled time may result in a grade of 0 for that test. In the case of an excusable absence or a genuine emergency, the instructor must be contacted as soon as possible, preferably before the scheduled test, to reschedule the makeup of that test in the Learning Skills Center on the day the student returns to campus.

### **XXXV. ATTENDANCE POLICY**

Class attendance is strongly encouraged. You are responsible for whatever was covered in class, whether you are there or not. If you must miss a class, it is your responsibility to contact the instructor and make arrangements for notes, handouts, or announcements that were missed. Although attendance is not counted toward the final grade, there may be coursework which is done during class time which may count toward the final grade and may not be able to be taken outside of class time.

### **XXXIX. CLASS WITHDRAWAL**

A "W" cannot be given as a final grade. The student is responsible for officially withdrawing from the class according to procedures described in the college catalog. Any student that does not officially withdraw from the class will receive a letter grade. The last date for withdrawal for this course can be found at "My Class Schedule" on KishSOS. Kishwaukee College reserves the right to administratively withdraw at midterm those students who are not actively pursuing course objectives or who are in violation of standards of behavior as outlined in the Student Code of Conduct and Discipline. For a copy of the student conduct policy, contact the Vice President of Student Services Office or refer to the Kishwaukee College catalog.

### **XL. INCOMPLETE GRADE**

All course requirements must be completed by the end date for the course. In the event that extremely difficult circumstances merit granting a student more time to finish course requirements, an **Incomplete (I)** grade may be given. Taking an Incomplete is possible only at the instructor's discretion. To receive an Incomplete, a contract between the student and the instructor must be completed and approved regarding the completion of all remaining work within a strictly defined period of time. If the conditions of the contract are not met, an "I" grade may revert to an "F".

### **XLI. CLASS CANCELLATIONS**

Class cancellations due to inclement weather will be posted on the College Website: [www.kishwaukeecollege.edu](http://www.kishwaukeecollege.edu). or announced by the local radio stations. Students may also call the College at (815) 825-2086. Class cancellations due to instructor absence will be posted on the classroom door and posted at [www.kishwaukeecollege.edu/class\\_cancellations](http://www.kishwaukeecollege.edu/class_cancellations). Room changes will be announced in advance whenever possible and posted on the classroom door.

### **XLII. ACADEMIC DISHONESTY**

In order to evaluate student work, faculty must be able to trust that the work is original with a student and not the work of someone else. Cheating, falsifying information, forgery, plagiarism, and other dishonest actions will not be tolerated. Sanctions for academic dishonesty are at the discretion of the instructor and subject to appeal as provided in Student Code of Conduct and Discipline. A complete explanation of the policy and procedures surrounding academic dishonesty are outlined in the Kishwaukee College Catalog.

### **XLIII. COPYRIGHT**

As a Kishwaukee College Student, you may have copyrighted materials or software made available to you by the college for course use. Please understand that copyright law may

prohibit copying these materials. Violation of copyright laws can lead to prosecution for a criminal offense. You are required to abide by the specific copyright and licensing agreements that apply to each particular piece of software.

#### **XLIV. GRADUATION REQUIREMENTS FOR TRANSFER DEGREE STUDENTS**

All students intending to graduate with an A.A., A.S., A.E.S., or A.F.A. are required to submit a complete Degree Portfolio. The Degree Portfolio is a means for the institution to measure its effectiveness in preparing students for successful completion of a degree at a transferring institution. Save your college-level work throughout your academic career in order to facilitate the portfolio compilation. Also, submit a completed application for graduation from the college the semester that you plan on graduating prior to submitting the complete Degree Portfolio. Guidelines and the specific requirements (along with the rubrics used for assessment) for the Degree Portfolio can be found at [www.kishwaukeecollege.edu/portfolio/](http://www.kishwaukeecollege.edu/portfolio/).

#### **XLV. ASSISTIVE RESOURCES CENTER/DISABILITY SERVICES**

Any student with a documented disability or special learning need and wanting to request accommodations, should contact the Coordinator in A1317 or at (815) 825-2086 ext 3960, (815) 825-9106 (TTY), or send an email to [awilson@kishwaukeecollege.edu](mailto:awilson@kishwaukeecollege.edu). The student's disability must impact their ability to participate in the educational environment and be documented by an appropriate professional prior to accommodations being approved.

#### **XLVI. LEARNING SKILLS CENTER (A1300)**

Students must present their Kishwaukee College student ID when using any Learning Skills Center services. For more information on the Learning Skills Center go to <http://www.kishwaukeecollege.edu/go/lsc>. Tutoring is available to all Kishwaukee students free of charge. The Writing Center (Learning Skills Center, A1306) answers your writing-related questions regardless of the class or assignment. Students are expected to bring all material related to the assignment, including textbooks, paper prompts, etc. Make-up tests, online tests, and placement tests are available through Testing Services, also located in the Learning Skills Center

#### **XLVII. EMERGENCY PROCEDURES/SAFETY**

Yellow and red Emergency Information flipcharts are located in each classroom. These are quick reference sheets with telephone numbers to reach emergency assistance and a brief description of the correct actions to take in the event of a tornado, fire or other emergency on campus.

#### **XLVIII. RELIGIOUS OBSERVANCES**

Students faced with schedule conflicts related to a religious observance should make prior arrangements with the instructor a minimum of seven (7) school days in advance of the examination or other activity involved.

#### **XLIX. STUDENT E-MAIL**

Your Kishwaukee College e-mail account will be the only way to receive official notices from the College. If you choose to forward your e-mail to another account, please be advised that all communication from and within the college will use your Kishwaukee student e-mail. When communicating with instructors or employees of the college, you are required to use your Kishwaukee e-mail address.

#### **L. COMMUNITY RESOURCES**

There are numerous community resources that are available to assist students in addressing a variety of personal needs. A listing and description of community resources can be found at <http://www.kishwaukeecollege.edu/go/communityresources>.

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