

Pellissippi State Community College  
Master Syllabus

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**WIRELESS TECHNOLOGY**  
**CSIT 2770**

Class Hours: 3.0  
Credit Hours: 4.0  
Laboratory Hours: 3.0  
Revised: April 2011

Instructor:  
Office:  
Phone:  
Email:

NOTE: This course is not intended for transfer credit.

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**Catalog Course Description:**

A study of wireless and communication systems. Topics include principles of radio frequency and WiFi, modulation/demodulation, testing equipment, security, coding, transmitters, receivers, antennas, wireless system electronics, and wireless optical systems.

**Entry Level Standards:**

The student MUST be familiar with basic operations of standard PCs (personal computers). The student must have math, writing, verbal and English language skills at the college entry level.

**Prerequisites:** CSIT 1730 or consent of instructor

**Textbook(s) and Other Course Materials:**

**Required:**

- *Wireless# Guide to Wireless Communications*, Mark Ciampa and Jorge Olenewa, Course Technology, ISBN: 978-1-4188-3699-3.

**Recommended/References:**

- *CWNA Guide to Wireless LANs, Second Editions*, Mark Ciampa, Course Technology, ISBN: 978-0-619-21579-8.
- *Ham Radio License Manual Revised, 2<sup>nd</sup> ed.*, The American Radio Relay League, 2010 ISBN: 978-0-87259-097-7

This field of study is changing so rapidly that any textbook will more than likely be changed every time this class is offered. The class also relies heavily on online and reference materials.

**I. WEEK/UNIT/TOPIC BASIS:**

<b>Week(s)</b>	<b>Topic(s)</b>
1-2	Course introduction; introduction to wireless technology terms, concepts, and methods
2-3	Basic computer/wireless mathematics; electricity; electronics
4-5	Antennas

<b>Week(s)</b>	<b>Topic(s)</b>
6-7	WPAN-Wireless Personal Area Networks
8-9	WLAN- Wireless Local Area Networks
9-10	WMAN- Wireless Metropolitan Area Networks
10	WWAN- Wireless Wide Area Networks
11-12	Satellite Fixed Broadband Wireless
12-13	RFID- Radio Frequency Identification
13	Wireless Communications in Business
13-14	Networking PCs via Wireless/FCC Technician License Preparation
14	FCC Technician License Preparation
15	Final Projects/Exam/FCC License Examination

## **II. COURSE GOALS:\***

- A. Develop a working understanding of the terminology, hardware devices, and system software (device drivers, etc.) and associated wireless devices. II, III, IV, V, VIII, IX
- B. Exhibit knowledge of diagnosing and troubleshooting PCs and wireless devices' problems. I,II,III,IV,IX
- C. Exhibit knowledge of installing, configuring, and upgrading wireless communications components and software. I,II,III,IV,IX
- D. Exhibit proficiency in written and oral communications about computers and wireless communications. I,II,IX,X

\*Roman numerals after course objectives reference goals of the Business and Computer Technology department.

## **III. EXPECTED STUDENT LEARNING OUTCOMES:\***

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

1. Solve problems by diagnosing and troubleshooting wireless communications problems. A,B,C,D
2. Solve problems encountered in the planning, installation, configuration, and upgrading of wireless communications systems. A,B,C,D
3. Participate in wireless systems planning and problem-solving teams. D
4. Handle and examine modern computing and communications systems devices. A,B,C,D
5. Prepare documents for management explaining wireless system problems and the need for new systems, upgrades, networks, etc. A,B,C,D

\*Letters after performance expectations reference the course objectives listed above.

#### IV. EVALUATION:

##### A. **Testing Procedures: 70% Of Grade**

A minimum of three examinations will be given. An alternative evaluation plan is to administer examinations after each chapter is completed. Examinations not satisfactorily completed (missed) can **NOT** be made-up without documentation for the reason for the absence!

##### B. **Laboratory Expectations: 20% of Grade**

Lab attendance is required. Assignments must be completed and submitted before the assigned deadline. This is a coordinated laboratory class, and assignments must be completed as scheduled. Laboratory expectations in this class will contribute at least 55% of the final grade! This laboratory expectation includes **REQUIRED** Field Trips!

##### C. **Field Work: 10% of Grade**

Field experiences to wireless communications installations (cellular, radio, TV, etc.) are planned, and these experiences are **MANDATORY** for completion of this course. Points will be awarded for attending these experiences and completing a laboratory report on each.

##### D. **Other Evaluation Methods:**

##### E. **Grading Scale:** (based on the maximum number of points possible in a semester)

Points will be accumulated and a percentage of all possible points will be computer as shown on the grading scale below. To determine your final grade, calculate your total scores and subsequently the total possible points, and then compute your percentage of the total.

You will be required to produce a current grade calculation periodically during the semester in order to assure you maintain current knowledge of your grades.

#### Percentage of Total Points

#### Grade Awarded

93 – 100%	A
88 – 92%	B+
83 – 87%	B
78 – 82%	C+
73 – 77%	C
65 – 72%	D
Below 65%	F

#### VI. POLICIES:

##### A. **Attendance Policy:**

Pellissippi State Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. (*Pellissippi State Online Catalog*)

Maintaining continuous attendance in your classes is very important. If you are considering dropping or withdrawing from a course, please check with the Financial Aid Office before doing so. Dropping or withdrawing from a class can adversely affect your financial aid and/or lottery eligibility.

This course uses wireless communications hardware not normally available out-of-class to students. Regular attendance is required for success in this class. Refer to the Class Policies document for more information.

**B. Academic Dishonesty:**

Plagiarism, cheating and other forms of academic dishonesty are prohibited. A student guilty of academic misconduct, either directly or indirectly through participation or assistance, is immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions that may be imposed through the regular Pellissippi State procedures as a result of academic misconduct, the instructor has the authority to assign an F or a zero for the exercise or examination or to assign an F in the course. (*Pellissippi State Online Catalog*)

**C. Computer Usage Guidelines:**

College-owned or –operated computing resources are provided for use by students of Pellissippi State. All students are responsible for the usage of Pellissippi State's computing resources in an effective, efficient, ethical and lawful manner. (*Pellissippi State Online Catalog*)

**D. Accommodation for Disabilities:**

Students who need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127, 132, 134, 135 or by phone: 694-6429(TTY) or 539-7153. More information is available at [www.pstcc.edu/departments/swd/](http://www.pstcc.edu/departments/swd/)

**E. Other Policies:**

Behavior is expected to conform to Pellissippi State Catalog and to the normal classroom behavioral expectations to include:

- Do not use the keyboard or become involved in distracting conversations during presentations, discussions, and other teacher lead instructive processes.
- Do not eat, drink, or use tobacco products in the computer lab (Pellissippi State policy).
- Refrain from making noise that will distract other students especially during exams.
- Support other classmates and faculty.
- Arrive on time and prepared to contribute to classroom discussions. Late arrivals will be recorded as an absence without rationale or after four (4) instances of arriving late.
- Using cell phones for voice, text messaging, and data services, i.e. browsing, etc., is **NOT** allowed during class lectures, discussions, labs, and especially examinations. The instructor has the prerogative to ask a student to vacate the classroom/laboratory if this policy is violated during scheduled class/lab periods.