

Information Technology and Administrative Management Department  
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**ITAM**

Information Technology &  
Administrative Management

Central Washington University

**IT 362**

**Wireless Communications  
Course Syllabus - 3 credits**



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**Course Description:**

Identify, describe, install, set up, use, secure, and troubleshoot wireless communications systems. Prerequisites: IT 351. Overview of wireless communications. This course examines wireless communications over a range of applications including but not limited to cell phones, wireless local area networks (WLANs) and broadband wide area networks (WWANs).

**Course Objective:** This course prepares students to describe the advantages, disadvantages, and challenges of wireless communications. Students will understand the differences between various wireless technologies and be able to describe their differences. They will study various configurations from wireless local area networks (WLANs) to wireless wide area networks (WWANs). They will have a good understanding of major wireless standards and will be able to explain the steps needed to build a wireless infrastructure.

**Learning Objectives:**

<b>Learner Outcomes</b>	<b>Assessment</b>
Know how wireless technology is used	Exam + Cases
Be able to describe the use of different wireless applications in different environments	Exam +Blackboard activities
Understand the advantages and disadvantages of wireless	Exam
Understand how data is represented and transmitted	Exam
Understand how antennas work and have an idea about their implementation	Exam
Understand WPAN	Exam
Be able to discuss Bluetooth and ZigBee technologies and their security	Exam
Understand WPAN standards	Exam

Be able to discuss WPAN challenges	Exam
Understand and can discuss WLAN applications, modes, standards	Exam
Understand WMAN (especially WiMAX) and their security	Exam
Understand cellular telephone applications and challenges	Exam
Be able to discuss satellite broadband wireless	Exam
Have some ideas about RFID and its applications/challenges	Exam
Be able to discuss wireless communication in the context of business (advantages, challenges, considerations to build a wireless infrastructure)	Exam
Develop writing skills and critical thinking	Cases

**Textbook and other required materials for the course:**

Olenewa, J. and M. Ciampa, Most recent edition. *Wireless# Guide to Wireless Communications* (2<sup>nd</sup> edition), Thompson Course technology.

A course pack for the course has been prepared. It includes slides (student version), exercises, text for the first blackboard activity, case information, and other materials.

Blackboard will be used (especially to upload your activities and cases). Check it often to get news and materials associated with the course (see <http://courses.cwu.edu>).

**Instructional Methods and Activities**

Lectures, in-class exercises, discussions, and cases will be used to aid in the understanding of wireless communication. Three exams will directly assess your understanding and your skill development. Cases put students in real life situations and will also help you apply the course content (Note: check the end of each chapter in the book to help you to prepare exams). All class assignments are individual. Class discussions are an important part of the learning process, reinforcing the understanding of the concepts and allowing the detection of problems.