

San José State University
Department of Aviation & Technology
Tech 165 Wireless Communications Technologies, Fall 2017

Course and Contact Information

Instructor:	Dr. Pouya Ostovari
Office Location:	IS 106
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Email:	pouya.ostovari@sjsu.edu
Office Hours:	MW: 14:30 – 15:30 or by an appointment
Class Days/Time:	MW: 10:30 – 11:20 Lecture M: 12:00 – 14:45 Lab
Classroom:	Engr 103
Prerequisites:	Tech 63 and Tech 65

Course Format

The course relies on lecture and lab materials presented in class and students are strongly encouraged to attend.

Course Description

Digital wireless technologies. RF Communications. Wireless Personal Area Networks. Wireless Local Area Networks. Wireless Metropolitan Area Networks. Wireless Satellite Fixed Broadband. Wireless Wide Area Networks. Radio Frequency Identification. Wireless Communications in Business. Emerging wireless technologies.

Course Learning Outcomes (CLO)

Upon successful completion of this course, students will be able to:

1. Describe the limitations, advantages, and disadvantages of each major wireless network architecture.
2. Identify and select appropriate hardware and software for specific WLAN needs.
3. Troubleshoot a basic wireless computer network.
4. Design and setup a simple wireless LAN...

Required Texts/Readings

Textbook

Olenewa, J. (2014). Guide to Wireless Communications. 3rd Ed. Cambridge, MA: Course Technology. ISBN-13: 9781111307318. Available at Spartan Bookstore/

Course Requirements and Assignments

You will answer selected questions for each chapter. Homework and lab assignments will be posted on Canvas. You should submit your work via Canvas by the due date.

Final Examination

The final exam will be comprehensive, covering all material presented in class.

Lab assignments

Real-World Exercises

You will work in groups of 2-3 students to answer and submit the Real-World Exercises reports (located in the textbook) on or before the due date. Only one report per group. Only the indicated students will get the credit. Real-World Exercises contribute to CLO 2, applying the course material in solving proposed scenarios related to wireless computer networks and developing teamwork skills.

Hands-On Projects

You will work in groups of 2-3 classmates to perform Hands-On Projects to install, configure, and optimize basic wireless networks. The Hands-On Projects are in the textbook. It is possible that you might need to rethink your answers to the Hands-On Projects and this is part of the learning process. It is strongly recommended that you work in teams. Hands-On Projects contribute to CLO 2, reinforcing the course material and developing teamwork skills.

Grading Information

Homework	15%
Quizzes	10%
Midterms 1	15%
Midterms 2	15%
Lab	20%
Final Exam	25%

The final grade will be determined according to the following scale:

A+ 96-100	B+ 87-89	C+ 77-79	D+ 67-69	F <60
A 93-95	B 83-86	C 73-76	D 63-69	
A- 90-92	B- 80-82	C- 79-72	D- 60-62	

1. Check continuously your standing in the class on [Canvas](https://sjsu.instructure.com) (https://sjsu.instructure.com). Notify the instructor immediately if there is an error in any of your grades.
2. All late assignments submitted up to 7 calendar days after the due date and time will have a penalty of 10% per day.
3. **Assignments submitted after 7 calendar days of the due date will not be accepted and they will be recorded as 00.**
4. There will not be any makeup quiz, but your lowest quiz grade will not be considered.

Classroom Protocol

Class participation and attendance are strongly encouraged. Use of cell-phones are not allowed. Laptop computers and tablet are allowed only for taking lecture notes and related work to the lectures.

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at <http://www.sjsu.edu/gup/syllabusinfo/>

Students with Special Need

If you need special accommodation, please contact Accessible Education Center at your earliest convenience. You can find more information at <http://www.sjsu.edu/aec/faculty/index.html>.

Tech 165 Wireless Communications Technologies, Fall 2017 Course Schedule/Outline

Tentative Calendar*

Week	Topics, Readings, Assignments, Deadlines
1, Aug 23 th	<ul style="list-style-type: none">• Introduction, Course Organization, Orientation• Chapter 1: Introduction to Wireless Communications
2, Aug 28 th	<ul style="list-style-type: none">• Continue Chapter 1• Chapter 2: Wireless Data Transmission
3, September 4 th	<ul style="list-style-type: none">• Continue Chapter 2
4, September 19 th	<ul style="list-style-type: none">• Chapter 3: Radio Frequency Communications
5, September 26 th	<ul style="list-style-type: none">• Continue Chapter 3• Chapter 4: How Antennas Work
6, October 2 th	<ul style="list-style-type: none">• Chapter 5: Wireless Personal Area Networks
7, October 9 th	<ul style="list-style-type: none">• Continue chapter 5• Review chapters 1-5• Midterm exam 1
8, October 16 th	<ul style="list-style-type: none">• Chapter 6: High-Rate Wireless Personal Area Networks
9, October 23 th	<ul style="list-style-type: none">• Chapter 7: Low-Speed Wireless Local Area Networks• Chapter 8: High-Speed WLANs and WLAN Security
10, October 30 th	<ul style="list-style-type: none">• Chapter 9: Wireless Metropolitan Area Networks
11, November 6 th	<ul style="list-style-type: none">• Chapter 10: Wireless Wide Area Networks
12, November 13 th	<ul style="list-style-type: none">• Continue chapter 10• Review chapters 6-10• Midterm exam 2
13, November 20 th	<ul style="list-style-type: none">• Chapter 11: Radio Frequency Identification and Near-Field Communication
14, November 27 th	<ul style="list-style-type: none">• Continue chapter 11• Chapter 12: Wireless Communications in Business
15, December 4 th	<ul style="list-style-type: none">• Continue Chapter 12
16, December 11 th	<ul style="list-style-type: none">• Review
Friday, December 15	<ul style="list-style-type: none">• Final exam, 9:45-12:00

* Subject to change with fair notice

Holidays:

Monday, September 4 Labor Day - Campus Close

Friday, November 10 Veteran's Day - campus closed

Wednesday, November 22 Non-instructional holiday (no classes held)

Thursday - Friday, November 23 - 24 Thanksgiving Holiday - campus closed

You can find the calendar at <http://info.sjsu.edu/static/policies/calendar-fall.html>