

Schedule: 16 Weeks, 42 lectures (50 minutes each) plus exams.

Course goals: The overall objective is to introduce the student to various popular wireless technologies and communication systems.

Course learning outcomes (CLO) and relation to ABET student outcomes (SO):

- Upon successful completion of this course, a student will: [SO]
1. Understand the fundamental and some advanced transmission techniques used in communication systems. [1]
 2. Understand the different propagation models for radio channels. [1]
 3. Be able to evaluate and calculate radio communication channel parameters and losses. [1]
 4. Be able to analyze and design the link budget of a wireless communication system. [1, 2]

Course topics:	Hrs
1. Radio wave propagation and its mathematical models.	9
2. Multiplexing and multiple-access techniques.	8
3. Microwave communication system, system gain, and link-budget calculations.	8
4. Satellite communication systems and GPS.	7
5. Modern wireless networks: Bluetooth, ZigBee, WiMAX, Wi-Fi, infrared wireless, near-field communications, ultrawideband.	8
6. Cognitive radio, Internet of Things.	2

Ground rules: Attendance is required and highly encouraged. To that end, attendance will be taken every lecture. Eating and drinking are not allowed during class, and cell phones must be set to silent mode. All exams (including the final exam) should be considered cumulative. Exams are closed book. No scratch paper is allowed. You will be held responsible for all reading material assigned, even if it is not explicitly covered in lecture notes.

Assessment & grading policy:				
	Assignments	0%	Quizzes	0%
	First Exam	30%	Projects	0%
	Midterm			
	Exam	30%	Lab Reports	0%
	Final Exam	40%	Presentation	0%
			Total	100%

Last Revised: March 2021