

EEL4461 EEL5462 Spring 2019	Antenna Systems Advanced Antenna Systems
Instructor	Dr. Joaquin Casanova, jcasa@ufl.edu (When sending emails, add [EEL4461] or [EEL5462] as a prefix to the subject line.) NEB 588
Class Time and Room	MWF 9 @ Benton 328
Office Hours	MWF 8 @ NEB 588 (my office)
Textbooks	Suggested: Balanis, Antenna Theory - Analysis and Design, 3rd ed.
Prerequisite	EEL3472 Electromagnetic Fields and Applications 1
Objectives	The objective of this course is to introduce the fundamental principles of antenna and to apply them to the design and analysis of antenna systems. Students will learn how to characterize antennas and how to use antennas. Different types of antennas and their applications will be introduced, with focus on linear wire antennas, loop antennas, microstrip patch antennas, antenna arrays, and the design considerations of using antennas in wireless communication systems.
Outline	Introduction; Fundamental principles of antenna Introduction of different types of antennas and their applications Antenna radiation pattern, power density, and intensity Antenna beamwidth, directivity, efficiency, gain Antenna polarization, input impedance, effective aperture Friis transmission equation and radar range equation Far-field radiation RF propagation, ground effect, weather effect, RF safety Dipole antennas Loop antennas Microstrip patch antennas Horn antennas Antenna arrays Frequency-independent antennas Antennas and wireless communication systems Practical antenna design using EDA tool
Grading	Homework (6 or 7 assignments): 20% (Online submissions. Late submissions will not receive grades.) Exam #1: 20%

	<p>Exam #2: 20%</p> <p>Final Project and Presentation: 30% (report 20%, presentation 10%)</p> <p>Class Participation: 10% (active participation by asking questions and answering questions)</p> <p>Exam makeups can only be scheduled before the exam with appropriate justifications and supporting documents.</p> <p>Standard UF grading policy for assigning grade points will be used: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx</p> <p>Grading scale (numerical grade to letter grade conversion) depends on average and may be different between EEL4461 and EEL5462.</p>
Academic Honesty	<p>Follow UF Student Conduct & Honor Code: https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/</p>
Accommodations for Students with Disabilities	<p>Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the course instructor when requesting accommodation.</p>
Attendance and Classroom Rules	<p>Attendance is required since I use blackboard a lot and you need to take notes. Active class participation also accounts for 10% of the grade.</p> <p>Personal computers and mobile devices can be used for taking notes and working on in-class assignments only. Texting and other non-classroom activities are not allowed.</p>

Updated 9/30/2018