

# Course Syllabus


















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<b>EEL4461</b> <b>EEL5462</b> <b>Fall 2017</b>	<b>Antenna Systems</b> <b>Advanced Antenna Systems</b>
<b>Instructor</b>	Dr. Joaquin Casanova, <a href="mailto:jcasa@ufl.edu">jcasa@ufl.edu</a> ( <a href="mailto:jenshan@ufl.edu">mailto:jenshan@ufl.edu</a> ) (When sending emails, add [EEL4461] or [EEL5462] as a prefix to the subject line.) NEB 565
<b>Class Time and Room</b>	MWF 3 (9:35-10:25am), @ BEN 328
<b>Office Hours</b>	MWF 4 (10:40-11:30am), @ NEB 565 (my office)
<b>Teaching Assistant</b>	N/A
<b>Class Website</b>	on E-Learning System ( <a href="http://lss.at.ufl.edu/">http://lss.at.ufl.edu/</a> ( <a href="http://lss.at.ufl.edu/">http://lss.at.ufl.edu/</a> ))
<b>Textbooks</b>	Suggested: Balanis, Antenna Theory - Analysis and Design, 3rd ed. 2005
<b>Prerequisite</b>	EEL3472 Electromagnetic Fields and Applications 1
<b>Objectives</b>	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.
<b>Outline</b>	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

	<p>Friis transmission equation and radar range equation</p> <p>Far-field radiation</p> <p>RF propagation, ground effect, weather effect, RF safety</p> <p>Dipole antennas</p> <p>Loop antennas</p> <p>Microstrip patch antennas</p> <p>Antenna arrays and feed network</p> <p>Broadband antennas</p> <p>Practical antenna design using EDA tool</p>
<b>Grading</b>	<p>Homework (6 or 7 assignments): 20% (Online submissions. Late submissions will not receive grades.)</p> <p>Exam #1: 20%</p> <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 <b>with appropriate justifications and supporting documents.</b></p> <p>Standard UF grading policy for assigning grade points will be used:  <a href="https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx">https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx</a>  <a href="https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx">(https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx)</a></p> <p>Grading scale (numerical grade to letter grade conversion) depends on average and may be different between EEL4461 and EEL5462.</p>
<b>Academic Honesty</b>	<p>Follow UF Student Conduct &amp; Honor Code:  <a href="https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/">https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/</a>  <a href="https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/">(https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/)</a></p>
<b>Accommodations for Students with Disabilities</b>	<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>
<b>Attendance and Classroom Rules</b>	<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 6/5/2017

## Course Summary:

Date	Details	
Mon Aug 21, 2017	 <a href="https://ufl.instructure.com/calendar?event_id=577090&amp;include_contexts=course_340650">Intro (https://ufl.instructure.com/calendar?event_id=577090&amp;include_contexts=course_340650)</a>	12am
Wed Aug 23, 2017	 <a href="https://ufl.instructure.com/calendar?event_id=577091&amp;include_contexts=course_340650">Antenna Parameters: Radiation pattern (https://ufl.instructure.com/calendar?event_id=577091&amp;include_contexts=course_340650)</a>	12am
Fri Aug 25, 2017	 <a href="https://ufl.instructure.com/calendar?event_id=577092&amp;include_contexts=course_340650">Antenna Parameters: Directivity/Gain (https://ufl.instructure.com/calendar?event_id=577092&amp;include_contexts=course_340650)</a>	12am
Mon Aug 28, 2017	 <a href="https://ufl.instructure.com/calendar?event_id=577093&amp;include_contexts=course_340650">Antenna Parameters: Efficiency/Impedance (https://ufl.instructure.com/calendar?event_id=577093&amp;include_contexts=course_340650)</a>	12am
Wed Aug 30, 2017	 <a href="https://ufl.instructure.com/calendar?event_id=577095&amp;include_contexts=course_340650">Antenna Parameters: Polarization (https://ufl.instructure.com/calendar?event_id=577095&amp;include_contexts=course_340650)</a>	12am
Fri Sep 1, 2017	 <a href="https://ufl.instructure.com/calendar?event_id=582494&amp;include_contexts=course_340650">Antenna Parameters: Polarization (https://ufl.instructure.com/calendar?event_id=582494&amp;include_contexts=course_340650)</a>	12am
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344620">HW1 (https://ufl.instructure.com/courses/340650/assignments/3344620)</a>	due by 9:35am
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344677">Exam 1 (https://ufl.instructure.com/courses/340650/assignments/3344677)</a>	
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344679">Exam 2 (https://ufl.instructure.com/courses/340650/assignments/3344679)</a>	
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344624">HW 2 (https://ufl.instructure.com/courses/340650/assignments/3344624)</a>	
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344625">HW 3 (https://ufl.instructure.com/courses/340650/assignments/3344625)</a>	
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344626">HW 4 (https://ufl.instructure.com/courses/340650/assignments/3344626)</a>	
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344673">HW 5 (https://ufl.instructure.com/courses/340650/assignments/3344673)</a>	
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344675">HW 6 (https://ufl.instructure.com/courses/340650/assignments/3344675)</a>	
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344676">HW 7 (https://ufl.instructure.com/courses/340650/assignments/3344676)</a>	
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344687">Participation (https://ufl.instructure.com/courses/340650/assignments/3344687)</a>	
	 <a href="https://ufl.instructure.com/courses/340650/assignments/3344686">Project (https://ufl.instructure.com/courses/340650/assignments/3344686)</a>	



