

 <b>FLORIDA ATLANTIC UNIVERSITY</b>	<b>COURSE CHANGE REQUEST</b> <b>Graduate Programs</b>		UGPC Approval _____ UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner _____ Catalog _____
	<b>Department</b> CEECS  <b>College</b> Engineering and Computer Science		
<b>Current Course Prefix and Number</b> EEL 6482	<b>Current Course Title</b> Electromagnetic Theory		
Syllabus must be attached for ANY changes to current course details. See <a href="#">Guidelines</a> . Please consult and list departments that may be affected by the changes; attach documentation.			
<b>Change title to:</b>  <b>Change prefix</b> <b>From:</b> _____ <b>To:</b> _____ <b>Change course number</b> <b>From:</b> _____ <b>To:</b> _____ <b>Change credits*</b> <b>From:</b> _____ <b>To:</b> _____ <b>Change grading</b> <b>From:</b> _____ <b>To:</b> _____ <b>Academic Service Learning (ASL) **</b> <b>Add</b> <input type="checkbox"/> <b>Remove</b> <input type="checkbox"/>		<b>Change description to:</b>  <b>Change prerequisites/minimum grades to:</b> Graduate standing for CEECS students, and instructor's approval for students from other major.  <b>Change corequisites to:</b>  <b>Change registration controls to:</b>  Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade.	
<b>Effective Term/Year for Changes:</b> Spring 2021		<b>Terminate course? Effective Term/Year for Termination:</b>	
<b>Faculty Contact/Email/Phone</b> Hanqi Zhuang/zuang@fau.edu/ 297-3413			
<b>Approved by</b> Department Chair _____ <b>Hanqi Zhuang</b> College Curriculum Chair _____ <b>Francisco Presuel-Moreno</b> College Dean _____ <i>M. Cardelino</i> UGPC Chair _____ UGC Chair _____ Graduate College Dean _____ UFS President _____ Provost _____		<b>Date</b> _____ _____ 10/25/2020 _____ _____ _____ _____	

Email this form and syllabus to [UGPC@fau.edu](mailto:UGPC@fau.edu) 10 days before the UGPC meeting.

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<b>1. Course title/number, number of credit hours</b>	
Electromagnetic Theory / EEL 6482	3 credit hours
<b>2. Course prerequisites, corequisites, and where the course fits in the program of study</b>	
Prerequisites: Graduate standing for CEECS students, and instructor's approval for students from other major.	
<b>3. Course logistics</b>	
Term: Class location and time:	
<b>4. Instructor contact information</b>	
Instructor's name Office address Office Hours Contact telephone number Email address	
<b>5. TA contact information</b>	
<b>6. Course description</b>	
Review of fundamental concepts. Electromagnetic theorems and concepts, including duality, uniqueness, field equivalence, reciprocity, Green's functions; boundary value problems in rectangular, cylindrical, and spherical coordinates.	
<b>7. Course objectives/student learning outcomes/program outcomes</b>	
Course objectives	To provide students with a firm foundation in engineering electromagnetics and design techniques. Considerations include Maxwell's equations, the wave equation, wave propagation and polarization, reflection and transmission, solution by potential functions, scattering, integral equations, asymptotic methods, and use of computer-aided design software packages.
Student learning outcomes & relationship to ABET a-k objectives	<ol style="list-style-type: none"> <li>1. The student will understand the basic concepts of electromagnetic field quantities, Maxwell's equations, and boundary conditions. (a)</li> <li>2. The student will learn advanced methods of electromagnetic analysis. (a,c)</li> <li>3. The student will learn to apply popular computer-aided design software packages to practical problems. (c,e)</li> </ol>

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<b>8. Course evaluation method</b>	
Homework assignments	15%
Computer-aided design projects	20%
2 Tests	40%
Final Examination	25%
<b>9. Course grading scale</b>	
Grading Scale: 90 and above: "A", 85-89: "A-", 82-84: "B+", 78-81: "B", 75-77: "B-", 72-74: "C+", 68-71: "C", 65-67: "C-", 62-64: "D+", 58-61: "D", 55-57: "D-", 54 and below: "F".	
<b>10. Policy on makeup tests, late work, and incompletes</b>	
<p><i>Makeup tests</i> are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student of participating in the exam. Makeup exam should be administered and proctored by department personnel unless there are other pre-approved arrangements</p> <p><i>Late work</i> is accepted with a 33% penalty for each day late.</p> <p><i>Incomplete grades</i> are against the policy of the department. Unless there is solid evidence of medical or otherwise serious emergency situation incomplete grades will not be given.</p>	
<b>11. Special course requirements</b>	
Students have to perform at least 4 computer-aided designs during the semester. No prior knowledge of software packages to be utilized is assumed.	
<b>12. Classroom etiquette policy</b>	
University policy requires that in order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular phones and laptops, are to be disabled in class sessions.	
<b>13. Attendance policy statement</b>	
Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.	
<b>14. Disability policy statement</b>	
In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's	

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campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at [www.fau.edu/sas/](http://www.fau.edu/sas/)

**15. Counseling and Psychological Services (CAPS) Center**

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

**16. Code of Academic Integrity Policy Statement**

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

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**17. Required texts/reading**

*Advanced Engineering Electromagnetics*, C. A. Balanis, Wiley, 2011.

**18. Supplementary/recommended readings**

1. *Engineering Electromagnetics Class Notes*, J. Bagby, 2011, available on Blackboard.

**19. Course topical outline, including dates for exams/quizzes, papers, completion of reading**

1. Course introduction (1 period)
  2. Field quantities, Maxwell's equations, boundary conditions, electrical materials (3 periods)
  3. Wave equation and basic solutions in Cartesian, cylindrical, and spherical coordinates (4 periods)
  4. Wave polarization, reflection, and transmission (3 periods)
  5. Solutions utilizing potential functions (2 periods)
  6. Electromagnetic theorems and principles (3 periods)
  7. Scattering of electromagnetic waves (3 periods)
  8. Integral equation formulations and solutions (2 periods)
  9. Asymptotic methods (2 periods)
  10. Use of CAD software in electromagnetics (3 periods)
  11. Tests (2 periods)
- (Total 28 80---minute class periods)

Test 1:

Test 2:

Final Exam: