



FLORIDA INTERNATIONAL UNIVERSITY
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

Department of Electrical and Computer Engineering

EEL 4410 – Fields and Waves

Instructor : Dr. Nezhil Pala
Office Hours : Monday 12:00PM - 1:00PM In person
Thursday 12:00PM - 1:00PM [Zoom or in office](#)
By appointment
Office : EC 3142
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Email : npala@fiu.edu
Section/Classroom/Time
: TBD
Web Page : Class notes are available on FIU Canvas - <http://canvas.fiu.edu/login/>

Catalog Description:

Electric and magnetic fields. The relation between field and circuit theory: waves and wave polarization, reflection, refraction, and diffraction. Electromagnetic effects in high-speed digital systems.

Textbook : *“Fundamentals of Applied Electromagnetics”*, Ed6, Ulaby, Michielssen, Ravaioli
ISBN-10: 0132139316, ISBN-13: 978-0132139311

Course Objectives:

The purpose of this course is to

1. Learn to solve for static electric and magnetic fields
2. Be able to work with the electromagnetic wave equation
3. Solve problems using transformations and complex analysis

ABET Relationship of course to program outcomes:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.



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POLICIES

1. Important Information

Before starting this course, please review the following pages:

- [Policies](#)
- [Netiquette \(Links to an external site.\)](#)
- [Technical Requirements and Skills](#)
- [Accessibility and Accommodation](#)
- [Panthers Care & Counseling and Psychological Services \(CAPS\)](#)
- [Academic Misconduct Statement](#)

2. Proctored Exam Policy

Through a careful examination of this syllabus, it is the student's responsibility to determine whether this online course requires proctored exams. Please visit our Proctored Exam Resources ([Links to an external site.](#)) webpage for important information concerning proctored exams, proctoring centers, and important forms.

3. Expectations of this Course

This is an online course, which means most (if not all) of the course work will be conducted online. Expectations for performance in an online course are the same for a traditional course. In fact, online courses require a degree of self-motivation, self-discipline, and technology skills which can make these courses more demanding for some students.

The student will:

- Take the practice quiz to ensure that your computer is compatible with Canvas.
- Interact online with the instructor.
- Review and follow the course calendar.
- Submit assignments by the corresponding deadlines.
- Log in to the course at least four times per week.
- Respond to messages within three days.

The instructor will:

- Interact online with students.
- Log in to the course at least four times per week.
- Respond to messages within three days.
- Grade assignments within seven days of the assignment deadline.

4. Course Communication

Communication in this course will take place via the Inbox. Check out the [Canvas Conversations Tutorial \(Links to an external site.\)](#) to learn how to communicate with your instructor and peers using Announcements, Discussions, and the Inbox.

5. Assignments

- Academic Misconduct: For work submitted, it is expected that each student will submit their own original work. Any evidence of duplication, cheating or plagiarism will result at least a failing grade for the course.



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- **Deadlines:** Assignments are due at the date specified in the syllabus and the modules. Assignments submitted late (within 1 week) will receive half credit. NO later assignments will be accepted.
- Instructor reserves right to change course materials or dates as necessary.

6. Grading

To qualify for an Incomplete, a student:

- Must contact (e.g., phone, email, etc.) the instructor or secretary before or during missed portion of class
- Must be passing the course prior to that part of the course that is not completed
- Must make up the incomplete work through the instructor of the course
- Must see the Instructor
- All missed work must be finished before last two weeks of the following term

Homework assignment are expected to be uploaded as pdf files through the Canvas. They will not be graded for the correctness but will be checked for completeness and authenticity. The students are expected to check their solutions against to the posted ones, which will be posted in the following week to assess their performance.

There are no makeup exams offered.

Graded Work				
Topic	Number of items	Points of Each	Total Points Available	Weight
Exam 1 <i>no makeup</i>	1	100	100	25 %
Final <i>no makeup</i>	1	100	100	25 %
Quizzes	10	10	100	15 %
Term Project Proposal	1	100	100	5 %
Term Project Final Report	1	100	100	20 %
Homework	10	10	100	10 %
TOTAL	24		500	100 %

Grading Scale									
A	100 - 95	B+	< 90 - 87	B-	< 83 - 80	C	< 77 - 70	F	< 60 - 0
A-	< 95 - 90	B	< 87 - 83	C+	< 80 - 77	D	< 70 - 60		

7. University policies on sexual harassment, and religious holidays, and information on services for students with disabilities can found in the following links:

- <http://academic.fiu.edu/>
- <https://diversity.fiu.edu/>



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8. University's drop date: Drop date and other important dates can be found in the following link: <https://onestop.fiu.edu/academic-calendar/>

9. The Disability Resource Center (DRC) collaborates with university faculty to provide inclusive learning environments. If you have a disability and plan to utilize academic accommodations, additional information may be found in: the DRC's website: <http://drc.fiu.edu> .

10. Counseling and Psychological Services (CAPS) offers free and confidential help for anxiety, depression, stress, and other concerns that life brings. Learn more about CAPS at <http://caps.fiu.edu/> . Professional counselors are available for same-day appointments. Don't wait to call 305-348-2277 to set up a time to talk or visit the online self-help portal.

If you are looking for help for yourself or a fellow classmate, Panthers Care encourages you to express any concerns you may come across as it relates to any personal behavior concerns or worries you, for the classmate's well-being or yours; you are encouraged to share your concerns with FIU's Panthers Care website: <http://PanthersCare.fiu.edu/> /

12. Academic Misconduct: "Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook."

For work submitted, it is expected that each student will submit their own original work. Any evidence of duplication, cheating or plagiarism will result at least a failing grade for the course.

13. Center for Excellence in Writing offers individual consultations to students about writing assignments such as: papers, reports, projects for any course in any department, honors theses, master's theses, dissertations, proposals, resumes and applications for fellowships and employment, personal statements, group projects, PowerPoint presentations, and other non-print projects. Students who struggle with writing skills may be referred to this center for personalized attention from trained peer consultants.
<https://writingcenter.fiu.edu/>

I have read and acknowledge the policies and procedures described in this Syllabus

Name _____ Date _____



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Schedule

Week	Date	D	Topic	Quiz	Homework
Week 1 Aug. 22 - 28	August 22	M	Ch 1 & HW#1 are released		
	August 28	S	HW#1 & Q#1 are due	Q#1	HW#1
Week 2 Aug. 29 - Sept. 4	August 29	M	Ch 2 & HW#2 are released		
	September 4				
Week 3 Sept 5 - 11	September 5				
	September 11	S	HW#2 & Q#2 are due	Q#2	HW#2
Week 4 Sept. 12 - 18	September 12	M	Ch 3 & HW#3 are released		
	September 18	S	HW#3 & Q#3 are due	Q#3	HW#3
Week 5 Sept. 19 - 25	September 19	M	Ch 4 & HW#4 are released		
	September 25	S	HW#4 & Q#4 are due	Q#4	HW#4
Week 6 Sept. 26 - Oct 2	September 26	M	Ch 5 & HW#5 are released		
	October 2	S	HW#5 & Q#5 are due	Q#5	HW#5
Week 7 Oct. 3 - 9	October 3	M	Self-study and review		
	October 7	F	EXAM 1 (Ch1 - Ch5)		
Week 8 Oct. 10 - 16	October 10	M	Ch 6 & HW#6 are released		
	October 16	S	HW#6 & Q#6 are due	Q#6	HW#6
Week 9 Oct. 17 - 23	October 17	M	Ch 7 & HW#7 are released		
	October 23	S	HW#7 & Q#7 are due	Q#7	HW#7
Week 10 Oct. 24 - 30	October 24	M	Ch 8 & HW#8 are released		
	October 30	S	Term Project Proposals Due		
Week 11 Oct. 31 - Nov. 6	October 31				
	November 6	S	HW#8 & Q#8 are due	Q#8	HW#8
Week 12 Nov. 7 - 13	November 7	M	Ch 9 & HW#9 are released		
	November 13				
Week 13 Nov. 14 - 20	November 14				
	November 20	S	HW#9 & Q#9 are due	Q#9	HW#9
Week 14 Nov. 21 - 27	November 21	M	Ch 10 & HW#10 are released		
	November 27	S	HW#10 & Q#10 are due	Q#10	HW#10
Week 15 Nov. 28 - Dec. 4	November 28	M	Self-study and review		
	December 2	F	FINAL EXAM (Ch 6 - 10)		
Week 16 Dec. 5 - 11	December 5	M			
	December 11	S	Term Projects Reports are Due 11:59PM		
Week 17	December 14	W	LAST DAY TO SUBMIT THE GRADES		