Course Syllabus: PHYS 2326.003.16F Fall 2016

Course Information

Course Number/Section	PHYSICS 2326.003.16F
Course Title	ELECTROMAGNETISM AND WAVES
Term	Fall 2016
Days & Times	Tuesdays and Thursdays, 1:00 pm-2:15 pm, SLC 1.102

Professor Contact Information

Instructor	Dr. Lloyd Lumata
Office Phone	972-883-2850
Email Address	lloyd.lumata@utdallas.edu
Office Location	PHY 1.904
Office Hours	Mon & Wed 1:00-2:00 pm, PHY 1.904 or by appointment
Research Website	http://dnpnmr.weebly.com/

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Prerequisites: MATH 2419 (Calculus II) or MATH 2414 (Integral Calculus) or equivalent. Students must register for Physics Lab. No exceptions to these will be allowed without the instructor's and/or other advisor's permission. Familiarity with basic mathematics (including algebra, geometry, trigonometry and basic integral and differential calculus) is assumed.

Course Description

Continuation of PHYS 2325. Topics include electrostatics and electromagnetics, electric field and potential, electric currents, magnetic fields, laws of Coulomb, Ampere, and Faraday, Maxwell's theory of wave propagation. Two lectures per week.

Student Learning Objectives/Outcomes

The course is intended to develop a qualitative and quantitative picture as to how a few basic equations can explain electrical and magnetic phenomena as experienced in our scientific and daily life. Also, the course will describe how this knowledge will be put together to predict electromagnetic radiation. The outcome is to be able to apply this background and acquired problem solving techniques to problems related to the student's career choice in fields such as engineering or biomedicine. The measurement of the student's knowledge obtained from this course and his/her problem solving capability will be primarily by the class exams.

Topics include:

Chap. 21. Electric Charge and Electric Field
Chap. 22. Gauss's Law
Chap. 23. Electric Potential
Chap. 24. Capacitance and Dielectrics
Chap. 25. Current, Resistance and Electromotive force
Chap. 26. Direct Current Circuits
Chap. 27. Magnetic Field and Magnetic Forces

Chap. 28. Sources of Magnetic Field
Chap. 29. Electromagnetic Induction
Chap. 30. Inductance
Chap. 31. Alternating Current (if time permits)
Chap. 32. Electromagnetic Waves

Recommended Textbook and Required Access Code
We will primarily follow UNIVERSITY PHYSICS, (preferably 14th Ed.; earlier versions are also fine) by Young and Freedman, publisher Pearson-Addison Wesley. If you are purchasing the book, make sure that it includes the student access kit in order to do online homework. If you already have the book and are not already registered, you will need to register at the URL www.masteringphysics.com so that you can access the homework web site for this class.

Mastering Physics is mandatory for the class. If not obtained with your text, you need to purchase the access codes online. Homework is graded and assignments will be made on-line in Mastering Physics. In order to do the homework, you must have access to the internet. The basic instructions are as follows:

a. Log on to www.masteringphysics.com
b. Click on REGISTER using the ACCESS CODE in the student access kit that came with your text and follow on-screen instructions. The course ID is "**MPLUMATA00192**" Once you are registered, you will have access to your assignment package for the particular section being covered in class. For your student ID, use your UTD e-mail ID e.g. *drt123456*. Make sure the name you give the website matches your name of record.
c. You will have one week after assignment to complete it ending at just before midnight on the due day.

Assignments & Academic Calendar
Class announcements will be sent out on eLearning (BlackBoard) that is available on the UTD home page. Your UTD user NET ID and password will give you access to this. You are expected to check this site regularly, at least twice a week.

Major Exams: There will be two midterm exams and a final exam (with tentative dates):

Midterm Exam 1 – September 22, 2016
Midterm Exam 2 – October 27, 2016
Final Exam – December 8, 2016

All exams will be in assigned rooms.

It is expected that a student will have a basic scientific calculator and writing implements. When requested, all books, notes, computers, programmable calculators, PDAs, smartphones (e.g. Blackberry, iPhone), cell phones, as well as all bags (backpacks, purses, etc.) are to be placed at the sides or front of the room during an exam. A student must produce his/her valid student identification card, Texas Driver's License or other valid form of photo ID if requested, in order to take any exam.

Grading Policy
Your course grade will be based on 2 midterm exams plus the final exam, quizzes/attendance, and homework. Each of these midterm exams will count for 20% of your grade. The final exam is not cumulative and will comprise 30% of your grade. Homework will count for 20% of your grade. There will be quizzes given in class from time to time; these will also be a random check of your attendance. *There are no makeup quizzes*. Your random quiz/attendance counts for 10% of your grade. Initial assignment of letter grades will follow the usual break points.

Letter Grading

90-100	A (A+, A, A-)
80-89.9	B (B+, B, B-)
70-79.9	C (C+, C, C-)
60-69.9	D
Below 60	F

Homework ……..…..…….….20%
Quizzes/attendance……10%
Midterm Exam 1……..…….…….20%
Midterm Exam 2……20%
FINAL Exam...……...…….……...30%
TOTAL 100%

Course Policies
The format of the class is primarily a lecture. Texting or the use of laptop computers during lectures, except for note taking, is not permitted since this can be very disruptive to other students. Attendance is very important and I expect that as far as possible you will attend every class. You are responsible for all material covered in class as well as material covered in the text unless explicitly excluded. The class will start promptly at 1:00 pm and end at 2:15 pm.

No make up exams will be given, but do speak with me if there are extenuating circumstances regarding absence for exams. You will be required to produce a medical note or other supporting documentation.

AccessAbility Services
It is the policy and practice of The University of Texas at Dallas to make reasonable accommodations for students with properly documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required. If you are eligible to receive an accommodation and would like to request it for this course, please discuss it with your professor and allow one week advance notice. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact OSA for a confidential discussion. OSA is located in the Student Services Building, SSB 3.200. They can be reached by phone at 972-883-2098, or by email at studentaccess@utdallas.edu

Campus Carry
The University's concealed handgun policy is posted on the campus carry website: https://www.utdallas.edu/campuscarry/

Academic Integrity
The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrates a high standard of individual honor in his or her scholastic work.

Academic Dishonesty: Academic dishonesty can occur in relation to any type of work submitted for academic credit or as a requirement for a class. It can include individual work or a group project. Academic dishonesty includes plagiarism, cheating, fabrication, and collaboration/collusion. In order to avoid academic dishonesty, it is important for students to fully understand the expectations of their professors. This is best accomplished through asking clarifying questions if an individual does not completely understand the requirements of an assignment.

Additional information related to academic dishonesty and tips on how to avoid dishonesty may be found here: https://www.utdallas.edu/conduct/dishonesty/

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.