PHY 4324

ELECTRICITY AND MAGNETISM II

7 Jan 2019 – 24 Apr 2019

University of Central Florida

Department of Physics

**Basics**

Instructor: Prof. Robert E. Peale

Office location: PS423

Office hours/Discussion: TBD

Email: [Robert.peale@ucf.edu](mailto:Robert.peale@ucf.edu)

Class website: https://physics.ucf.edu/~rep/E&MII/E&MII.html

Class time: MoWeFr 11:30AM - 12:20PM.

Class location: MSB 0306

**Course information**

Credits**:** 3(3,0).

Prerequisites**:** PHY 3323

Course Description: This required core undergraduate majors course.

Goals and objectives: Gain familiarity and problem solving skills in Maxwell's equations, conservation laws, electromagnetic waves, potentials and fields, radiation, and relativistic electrodynamics.

Required text: David J. Griffiths, Introduction to Electrodynamics, 4th Edition (Cambridge University, UK, 2017), ISBN978-1-108-42041-9

**Course calendar**

### Date Section/Event

JAN 7-FEB 1 Chapters 8 and 9: Conservation laws, waves

**FEB 4 Exam 1**

FEB 6-MAR 1 Chapters 9 and 10: Waves, potentials and fields

**MAR 4 Exam 2**

MAR 6 – APR 5 Chapters 10 and 11: Radiation

**APR 8 Exam 3**

APR 10 – 22 Chapter 12: Relativistic Electrodynamics

**APR 24, 10a-12:50p Final Exam**

**Holidays**

Monday JAN 21 MLK Jr.

Spring Break M-F MAR 11 - 15

Course assignments (assignments and exams): Homework will be assigned, collected, and graded once per week. There will be three midterm exams, and a final, with problems similar to the homework problems. You will be allowed to use mathematical tables, and a calculator, but no other books or notes, during exams.

Methods of evaluation: Homework will be graded and will count for 15% of the final grade. Exams count for 20% of the final grade each. Participation will count for 5%. + and – grades will be given. All grades will be posted on webcourses. The final course grade will be available on myucf.

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**Other Policies**

Missed work policy: It is the policy of the Department of Physics that making up missed work will only be permitted for University-sanctioned activities and bona fide medical or family reasons. Authentic justifying documentation must be provided in every case (and in advance for University-sanctioned activities). At the discretion of the instructor, the make-up may take any reasonable and appropriate form including (but not limited to) the following: giving a replacement exam, replacing the missed work with the same score as a later exam, allowing a dropped exam, replacing the missed work with the homework average.

Late homework: Homework that is handed in late for reasons other than an excusable absence will receive zero points and will be counted toward the average. An excusable absence is one that can be documented to be caused by illness, death in the immediate family, serious family emergencies, court-imposed legal obligations, or observation of a religious holiday. In case of an excusable absence, late homework will be accepted by the instructor no more than one week after the official due time.

Golden Rule: Many incidents of plagiarism result from students’ lack of understanding about what constitutes plagiarism. However, they are expected to familiarize themselves with UCF’s policy. Please read this information at the website http://goldenrule.sdes.ucf.edu UCF Creed: Please read this information at the website <http://creed.sdes.ucf.edu>. **USE OF SOLUTION MANUALS, SOLUTIONS FROM THE INTERNET, OR PROBLEM- SOLVING SERVICES IS FORBIDEN.**

Disabilities and access statement: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

Collaboration policy: Your professor believes that collaboration or study groups are an ineffective means of learning to DO physics. Obviously, no one else can read and understand a book for you. In problem solving, hard effort and frustration are to be expected before a breakthrough can be reached. Solitary struggle is essential to your learning, and the breakthroughs are what make physics fun. If you really encounter an insurmountable block in your ability to solve a problem, it can be helpful at that point to consult a colleague for a hint. Ultimately, your success as a physicist will depend entirely on yourself, so it is important to develop independence early on. In the near term, consider that you must take all exams by yourself, so you must learn to solve problems alone. If you obtain help from others, you must develop and write your own solutions. It must be obvious your results were not copied from another source. The onus is on you to prove to the grader that you obtained your answers independently. Copying from another student’s paper is very obvious and will result lost credit for all parties involved.