

Syllabus

PHY 3323 – Electromagnetism 1 (Spring 2020)

Instructor : Dominique Laroche, Department of Physics

Office: NPB 2261, tel 352-392-8591 **Lab**: NPB B-2

Class time and place: NPB # 1002, M,W & F Period 4 (10:40-11:30 am)

Email : dlaroc10@ufl.edu. I will attempt to respond to emails within 24 hours.

Office hours: Tu, 7th and 8th period (1:55pm to 3:50 pm). I will also be available Friday after class by "appointment" (i.e. ask me at the end of class). But if you see me in my office at any other time, feel free to ask if I'm available.

Additional problem solving sessions will be held occasionally (once every 2-3 weeks) at a time to be determined.

Class website: available on canvas (www.ufl.instructure.com/courses for login) Homework, homework solutions, course calendar as well as a list of equations provided on quizzes and tests and a copy of the syllabus will be made available. The material will also be available on the class website : <http://phys.ufl.edu/courses/phy3323/spring20/>

Prerequisites: PHY 2049 or PHY 2061 or the equivalent; MAP 2302 or the equivalent.

Textbook : Introduction to Electrodynamics, 4th Edition, (Cambridge University Press, 4th edition) by D. J. Griffiths. Students having access to the older 3rd edition of the textbook are welcome to use it, but should beware that problem numbers will be different in-between both editions.

Supplementary textbook : Students looking for other references could look at Modern Electrodynamics by Andrew Zangwill. This textbook is however not required for the course.

Course description : This is the first course of a series of 2 for undergraduate level electrodynamics. It covers electro- and magneto-statics both in the vacuum and

inside matter, which corresponds to the first 6 chapters of the textbook. Chapters 7 and beyond are covered in the second course in the series, EM2 (PHY 4324). Some of the material covered in this course might have already been covered in one of the pre-requisites. These concepts will be revisited using more powerful mathematical tools and expanded to more realistic applications. By the end of the course, students will be expected to have the knowledge and the mathematical machinery to solve standard problems in the static aspect of electromagnetism. Problems dealing with evolving charge and currents configurations will be the subject of the second course in the series, and more specialized problems are the subjects of discipline-specific advanced courses. A week-by-week description of the material covered will be available on canvas and on the course the website.

Course expectations: Students enrolling in this class should be comfortable with calculus I and II: vector calculus, differentiation, integration and trigonometry. Students are also expected to be able to solve ordinary differential equations and be learning about multi-variable calculus in Cartesian, spherical and cylindrical geometries, as well as line and surface integrals. There is no secret to success in this class. If you attend class, read the textbook ahead of times, review the class notes, and work the problems and examples diligently, then you will learn the material. I cannot stress how important learning to solve the problems on your own is. Simply reading out the solutions is generally insufficient to learn the material! On average, you are expected to devote 5 to 8 hours a week (outside of classes) to keep up with the material. If at any time there is a question in your mind, either during classes or outside of classroom hours, please do not hesitate to talk to the instructor. All exams and quizzes will be “closed-book” and no notes and/or calculator will be allowed. Essential mathematical formulas/expressions will be provided, and they will be shared with the class ahead of time.

Attendance: Attendance in class is definitely expected since material outside the textbook might be presented. You are responsible for all material covered in the text and in class.

Grading: The graded material will consist of the following.

Homework (9/9 + 1)	→ 27% of total grade
Quizzes (3/3)	→ 18% of total grade

In-class mid-term exam → 20% / 0% of total grade
Final exam → 35% / 55% of total grade

The quizzes will be held in class, will last 25 minutes and will consist of a slightly modified homework problem from the previous two sets. Both exams will be comprehensive. If the grade on the final exam is better than one on the mid-term exam, the final exam will be worth 55% of the final grade and the mid-term will not count towards the final grade. Otherwise, the mid-term will be worth 20% and the final exam 35%.

The grading scheme is outlined below. The passing grade for Physics major is C and above. More information is available in the University official grading policies: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

A	→	85% -- 100%	→ 4.0 Grade point
A-	→	80% -- 84.999%	→ 3.67 Grade point
B+	→	75% -- 79.999%	→ 3.33 Grade point
B	→	70% -- 74.999%	→ 3.0 Grade point
B-	→	65% -- 69.999%	→ 2.67 Grade point
C+	→	60% -- 64.999%	→ 2.33 Grade point
C	→	55% -- 59.999%	→ 2.0 Grade point
C-	→	50% -- 54.999%	→ 1.67 Grade point
D+	→	45% -- 49.999%	→ 1.33 Grade point
D	→	40% -- 44.999%	→ 1.0 Grade point
E	→	0% -- 39.999%	→ 0.0 Grade point

Final exam date: 4/29/2020 from 15:00 – 17:00

Make-Up of Graded Material: Consistent with university policies (catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/), students will be allowed to make-up in-class graded material (exams and quizzes). In most circumstances, the reason for the make-up will need to be documented by a note typically from a medical doctor, an attorney, or a UF official. Notes from family members are not acceptable. When possible, the student should inform the Instructor in advance of absences from graded assignments. Barring exceptional circumstances, make-up for the homework will not be allowed, as the solutions

will be posted after the deadline. However, one extra problem set will be posted, effectively enabling a 10% forgiveness policy.

Incomplete Policy: A grade of incomplete is typically given to students who endure a situation in which they are incapable of completing the coursework. The I-grade is not to be given to students who are simply dissatisfied with their performance in the course. If you find you are in a situation that might qualify you for an I-grade in this course and you want to pursue this potential option, then you must contact me immediately and be sure to have the necessary documentation from a medical doctor or an attorney. Again, letters from family members are not acceptable. A letter of understanding indicating when and how the incomplete grade will be made up will eventually be drafted and signed by the student and the Instructor. A PDF of the policy is posted at:

<http://www.phys.ufl.edu/downloads/gradepolicy.pdf>.

Grading adjustments: The graded material will be returned in a timely manner, typically within one-week of submission. Students SHOULD NOT mark on the graded sheets. If students notice an error or are dissatisfied with the grading, they should return the graded work to the instructor within 1 day of receiving it, and set-up a time to review the grading. Failure to do so will result in the student relinquishing the opportunity to review the grading. Simple cases can also be handled directly with the instructor after the lecture.

STUDENTS with DISABILITIES: Students who require accommodation for disabilities/learning barriers must first contact the Dean of Students Office. That office will provide documentation, which the student must bring to his/her instructors AS SOON AS POSSIBLE. Contact the Disability Resources Center (352-392-8565 or <https://disability.ufl.edu/students/get-started/>) for information about available resources for students with disabilities.

COUNSELING and MENTAL HEALTH RESOURCES: Student facing difficulties completing the course or in need of counseling should call the on-campus Counseling and Wellness Center at (352) 392 1575.

Academic Honesty: Each student is expected to hold himself/herself to a high standard of academic honesty. Under the UF academic honesty policy, unauthorized assistance or the use of unauthorized resources is strictly forbidden on work-for-credit. Although discussions among the students are highly

encouraged, you are to work alone on all homework assignments unless specified differently. Fabrication or falsification of excuses or related documentation is also a violation of the UF academic honesty policy. **Violations of this policy will be dealt with severely. There will be no warnings or exceptions.**

Online course evaluation : Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/ . Summaries of course evaluation results are available to students at gatorevals.aa.ufl.edu/public-results/ .