Spring 2020

PHYS 433-002: Electromagnetism II (Revised for Remote Learning)

Slawomir Piatek

Course Outline

Phys 433-002, Electromagnetism II
Spring 2020

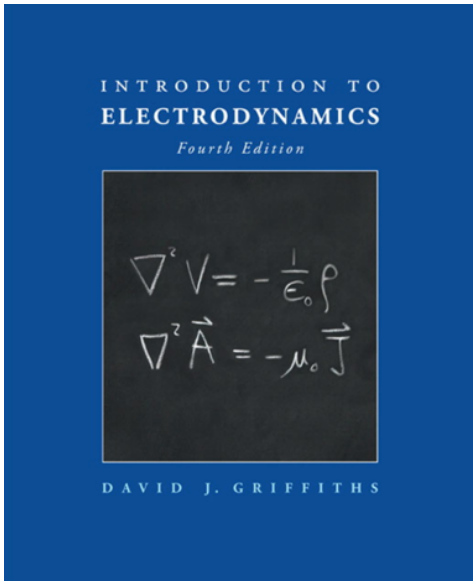
Slawomir Piatek
423F Tiernan Hall
973-596-3551 (office)
piatek@njit.edu

Lecture: Tuesday & Thursday, 4:00 PM – 5:55 PM, FMH 310

Office Hour: T & R, 2:30 PM – 3:30 PM, other times by appointment

Course Website: www.physics.rutgers.edu/~piatek/class/Phys433/S20/Syllabus.pdf

Textbook: *Introduction To Electrodynamics*, 4th Edition, David J. Griffiths, Pearson, ISBN-13: 978-0-321-85656-2, ISBN-10: 0-321-85656-2



Lecture Quizzes: Staring on January 28, a lecture quiz will be given by the end of every Tuesday class. The quiz will contain 1 – 5 problems depending on the level of difficulty. The quiz will be graded and discussed in the following lecture. The quizzes will be "open textbook" but "closed notes."

Midterm: There will be a midterm exam on Thursday, March 22, covering chapters 1– 3 The exam will contain five open-ended problems.

Homework: No formal homework will be assigned; however, the syllabus lists suggested practice problems that a student should attempt to solve. Problems for the lecture quizzes, midterm, and final may be (but do not have to be) selected from the suggested problems.

Grading:

Lecture quizzes 40%
Midterm 30%
Final 30%

Cutoffs for letter grades:

85% − A
80% − B+
70% − B
65% − C+
50% − C
40% − D
Below 40% − F

Students with disabilities:

If you need accommodations due to a disability please contact Chantonette Lyles, Associate Director of Disability Support Services, Fenster Hall Room 260 to discuss your specific needs. A Letter of Accommodation Eligibility from the Disability Support Services office authorizing your accommodations will be required.

Honor Code and Etiquette:

NJIT has a zero-tolerance policy for cheating of any kind and for student behavior that disrupts learning by others. Violations will be reported to the Dean of Students. The penalties range from a minimum of failure in the course plus disciplinary probation up to expulsion from NJIT. Avoid situations where your own behavior could be misinterpreted as dishonorable. **Students are required to agree to the NJIT Honor Code on each exam, assignment, quiz, etc. for the course.**

Turn off all cellular phones, wireless devices, computers, and messaging devices of all kinds during classes and exams. Please do not eat, drink, or create noise in class that interferes with the work of other students or instructors. Creating noise or otherwise interfering with the work of the class will not be tolerated.

Class Calendar

Lecture	Topic	Reading Material	Suggested Problems
1. T, 1/21	Electrodynamics	Ch. 7.1	Ch. 7: 1, 2, 4, 5, 6, 7, 8
2. R, 1/23	Electrodynamics	Ch. 7.2	Ch. 7: 12, 13, 15, 16, 21, 22, 23, 26, 28, 30, 33
3. T, 1/28	Electrodynamics	Ch. 7.3	Ch. 7: 34, 35, 36, 40
4. R, 1/30	Electrodynamics, problem solving	Ch. 7.1 – 7.3	Ch. 7: 41, 43, 44, 47, 54, 57, 58, 62
5. T, 2/4	Conservation Laws	Ch. 8.1	Ch. 8: 1, 2
6. R, 2/6	Conservation Laws	Ch. 8.2	Ch. 8: 3, 4, 5
7. T, 2/11	Conservation Laws	Ch. 8.2	Ch. 8: 6, 7, 9
8. R, 2/13	Conservation Laws	Ch. 8.3	Ch. 8: 11, 12
9. T, 2/18	Conservation Laws, problem solving	Ch. 8.1 – 8.3	Ch. 8: 13, 14, 15, 16, 17, 22
10. R, 2/20	Electromagnetic Waves	Ch. 9.1	Ch. 9: 2, 3, 4, 8
11. T, 2/25	Electromagnetic Waves	Ch. 9.2	Ch. 9: 9, 10, 11, 13
12. R, 2/27	Electromagnetic Waves	Ch. 9.3	Ch. 9: 14, 15, 17, 18
13. T, 3/3	Electromagnetic Waves	Ch. 9.4	Ch. 9: 19, 20, 21, 22, 23, 25, 26
14. R, 3/5	Electromagnetic Waves	Ch. 9.5	Ch. 9: 27, 28, 29, 30, 32
15. T, 3/10	Electromagnetic Waves, problem solving	Ch. 9.1 – 9.5	Ch. 9: 35, 36, 39, 40
16. R, 3/12	**No class**		
17. T, 3/24	Potentials and Fields	Ch. 10.1	Ch. 10: 1, 2, 3, 4, 7, 8
18. R, 3/26	**Midterm (Chapters 7, 8, & 9)**		
19. T, 3/31	Potentials and Fields	Ch. 10.2	Ch. 10: 10, 11, 12, 13
20. R, 4/2	Potentials and Fields	Ch. 10.3	Ch. 10: 15, 16, 19, 20, 21, 22
21. T, 4/7	Potential and Fields, problem solving	Ch. 10.1 – 10.3	Ch. 10: 24, 28, 30, 31, 32
22. R, 4/9	Radiation	Ch. 11.1	Ch. 11: 2, 3, 4, 5, 8, 10, 11
23. T, 4/14	Radiation	Ch. 11.2	Ch. 11: 12, 13, 14, 17, 18
24. R, 4/16	Radiation, problem solving	Ch. 11.2 – 11.3	Ch. 11: 22, 24, 25, 26, 28, 34
25. T, 4/21	Electrodynamics and Relativity	Ch. 12.1	Ch. 12: 3, 5, 7, 8, 16, 18, 19, 20
26. R, 4/23	Electrodynamics and Relativity	Ch. 12.2	Ch. 12: 24, 25, 28, 33, 34, 37, 39, 41
27. T, 4/28	Electrodynamics and Relativity	Ch. 12.3	Ch. 12: 42, 43, 44, 45, 47, 48
28. R, 4/30	Electrodynamics and Relativity	Ch. 12.3	Ch. 12: 50, 51, 53, 54, 56, 67, 69