

Fall 2021

PHYS 432-001: Electromagnetism I

Slawomir Piatek

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Piatek, Slawomir, "PHYS 432-001: Electromagnetism I" (2021). *Physics Syllabi*. 437.
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Course Outline
Phys 432-001, Electromagnetism I
Fall 2021

Slawomir Piatek
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Lecture: Monday & Thursday, 2:30 PM – 3:50 PM (in person)

Location: FMH 405

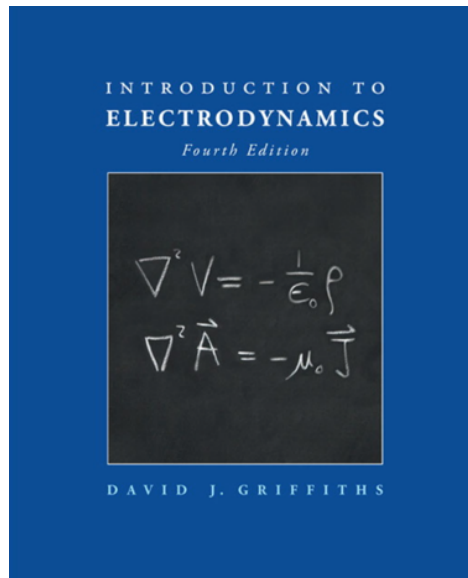
When away, a lecture will be given online via WebEx at:

<https://njit.webex.com/meet/piateknjit.edu>

Office Hour: M & R, 8:30 AM – 9:30 AM via WebEx

<https://njit.webex.com/meet/piateknjit.edu>

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: Starting on September 9, a lecture quiz will be given by the end of every Thursday class. The quiz will contain 3 open-ended problems worth 5 points each for a total score of 15. The quiz will be administered within Canvas, including quiz submissions. The quizzes are open textbook but closed notes.

Midterm: There will be a midterm on Monday, October 18, covering chapters 1 – 3. The exam will contain six open-ended problems, each worth 10 points for the total score of 60. The exam will be administered within Canvas, including the submission. The format is open textbook but closed notes.

Final Exam: A final exam will be given during the final exam period (TBA), covering chapters 4 – 6. The exam will contain six open-ended problems, each worth 10 points for the total score of 60. The exam will be administered within Canvas, including the submission. The format is open textbook but closed notes.

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.**

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. R, 9/2	Vector analysis	Ch. 1.1 – 1.2	Ch. 1: 3,4,7,9,10,11,12,13,15,22,26
2. W(M), 9/8	Vector analysis	Ch. 1.3 – 1.4	Ch. 1: 29,31,32,33,34,37,38,39,42,43
3. R, 9/19	Vector analysis	Ch. 1.5 – 1.6	Ch. 1:44,46,47,48,49,50
4. M, 9/13	Electrostatics	Ch. 2.1	Ch. 2: 1,2,3,4,5,6,7
5. R, 9/16	Electrostatics	Ch. 2.2	Ch. 2: 9,10,11,12,13,14,15,16
6. M, 9/20	Electrostatics	Ch. 2.3	Ch. 2: 20,21,22,23,24,25,27,28
7. R, 9/23	Electrostatics	Ch. 2.4 – 2.5	Ch. 2: 31,32,34,36,38,39,41,43,44
8. M, 9/27	Potentials	Ch. 3.1	Ch. 3: 1,3,4,5,6
9. R, 9/30	Potentials	Ch. 3.2	Ch. 3: 7,8,9,10,11
10. M, 10/4	Potentials	Ch. 3.3	Ch. 3: 13,14,15,16,17
11. R, 10/7	Potentials	Ch. 3.3 – 3.4	Ch. 3:18-23,25,27,28,29,32,33,34,35
12. M, 10/11	Potentials (Problem solving)	Ch. 3.1 – 3.4	Ch. 3: 39,43,44,46,51,52,56,57
13. R, 10/14	Electric Fields In Matter	Ch. 4.1	Ch. 4: 2,3,45,6,7,8,9
14. M, 10/18	Midterm (Chapters 1 – 3)		
15. R, 10/21	Electric Fields in Matter	Ch. 4.2	Ch. 4: 10,11,12,13
16. M, 10/25	Electric Fields in Matter	Ch. 4.3	Ch. 4: 15,16,17
17. R, 10/28	Electric Fields in Matter	Ch. 4.4	Ch. 18,19,20,21,22,23,24,26,28
18. M, 11/1	Electric Fields in Matter (Problem solving)	Ch. 4.1 – 4.4	Ch. 30,31,33,34,36,39
19. R, 11/4	Magnetostatics	Ch. 5.1	Ch. 5: 1,2,3,4,5,6
20. M, 11/8	Magnetostatics	Ch. 5.2	Ch. 5: 8,9,10,11,12,13
21. R, 11/11	Magnetostatics	Ch. 5.3	Ch. 5: 14,15,16,17
22. M, 11/15	Magnetostatics	Ch. 5.4	Ch. 5: 23,24,25,26,27,30
23. R, 11/18	Magnetostatics	Ch. 5.4	Ch. 5: 34,35,36,37,38
24. M, 11/22	Magnetostatics (Problem solving)	Ch. 5.1 – 5.4	Ch. 5: 39,41,44,46,54,57,58,60,61,62
25. M, 11/29	Magnetic Fields in Matter	Ch. 6.1	Ch. 6: 1,2,3,4,5,6
26. R, 12/2	Magnetic Fields in Matter	Ch. 6.2	Ch. 6: 7,8,9,10
27. M, 12/6	Magnetic Fields in Matter	Ch. 6.3 – 6.4	Ch. 6: 12,13,15,16,17,18,20,21
28. R, 12/9	Magnetic Fields in Matter (Problem solving)	Ch. 6.1 – 6.4	Ch. 6: 23,24,26,27,28