

PHYSICS 301 COURSE SYLLABUS

Course Information

Course Title: Electromagnetic Theory

Fall Semester, 1999

Meeting Time: TuTh 8:00-9:30

Meeting Place: FJ 102

Instructor: Brent Hoffmeister

Office: 215 RT

Lab: 115A-E RT

Office Phone: X3913

Office Hours: 9:30-12:00 TuTh, 10:30-12:00 MW,
1:00-3:00 W, other times by appointment

Course Objective

To provide students with a solid formal foundation in electromagnetic theory and a good physical intuition for electromagnetic phenomena.

Text

Robert H. Good, *Classical Electromagnetism*, Saunders College Publishing, ISBN 0-03-022353-9

Course Requirements

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| 1. Three tests as scheduled on course calendar | 45% |
| 2. Homework | 30% |
| 3. Final exam | 25% |
- Class attendance is required.

Grading Procedures

- All graded work will be assigned a numerical score. You may estimate the corresponding letter grade by computing a percentage score and comparing it with the table below:

$$\text{Percentage Score} = (\text{Your Score} / \text{Total Possible}) * 100$$

<u>Percentage Score</u>	<u>Approximate Letter Grade</u>
90-100	A
80-89	B
70-79	C
60-69	D
Below 60	F

- Late homework assignments will be penalized by 10% of the total possible score per day that they are late.
- Make-up exams may be arranged on the condition that the student notifies the instructor in advance of missing an exam. Make-up exams will typically prove more difficult than the original.

- The conditions of the Honor Code described in the Rhodes College Student Hand Book apply to all assignments in this course unless specified otherwise by the instructor.

Course Calendar

Date	Subject	Problem Set Due
Thu. Aug. 26	Ch. 1 Vector Analysis	
Tue. Aug. 31	Ch. 1 Vector Analysis	
Thu. Sep. 2	Ch. 1 Vector Analysis	
Tue. Sep. 7	Ch. 2 Electric Field \mathbf{E} – Gauss' Law	Ch. 1
Thu. Sep. 9	Ch. 2 Electric Field \mathbf{E} – Gauss' Law	
Tue. Sep. 14	Ch. 2 Electric Field \mathbf{E} – Gauss' Law	
Thu. Sep. 16	Ch. 3 Magnetic Field \mathbf{B} – Ampere's Law	Ch. 2
Tue. Sep. 21	Ch. 3 Magnetic Field \mathbf{B} – Ampere's Law	
Thu. Sep. 23	Ch. 3 Magnetic Field \mathbf{B} – Ampere's Law	
Tue. Sep. 28	Ch. 4 Electromagnetic Induction – Faraday's Law	Ch. 3
Thu. Sep. 30	Test 1 Ch. 1-3	
Tue. Oct. 5	Ch. 4 Electromagnetic Induction – Faraday's Law	
Thu. Oct. 7	Ch. 5 Maxwell's Equations in Vacuum	Ch. 4
Tue. Oct. 12	Ch. 6 Energy and Potentials	
Thu. Oct. 14	Ch. 6 Energy and Potentials	Ch. 5
Tue. Oct. 19	(Fall Recess)	
Thu. Oct. 21	Ch. 6 Energy and Potentials	
Tue. Oct. 26	Ch. 7 Dipoles and Multipoles	Ch. 6
Thu. Oct. 28	Test 2 Ch. 4-6	
Tue. Nov. 2	Ch. 7 Dipoles and Multipoles	
Thu. Nov. 4	Ch. 8 Conductors	Ch. 7
Tue. Nov. 9	Ch. 8 Conductors	
Thu. Nov. 11	Ch. 9 Dielectrics	Ch. 8
Tue. Nov. 16	Ch. 9 Dielectrics	
Thu. Nov. 18	Ch. 9 Dielectrics	
Tue. Nov. 23	Ch. 10 Magnetic Materials	Ch. 9
Thu. Nov. 25	(Thanksgiving Recess)	
Tue. Nov. 30	Test 3 Ch. 7-9	
Thu. Dec. 2	Ch. 10 Magnetic Materials	
Tue. Dec. 7	Ch. 10 Magnetic Materials	Ch. 10