

Syllabus: Physics 2326
Fundamentals of Physics II: Electromagnetism and Waves

Text:

University Physics, 11th edition, by Young & Freedman

Prerequisite:

PHYS 2325 and MATH 2419.

PHYS 2126 physics lab is co requisite.

Grading:

Final grades are determined from a combination of homework, exams, and the final exam.

There could be class projects also. **There will be no curving.**

Homework/Quizzes/Attendance	25%	90-100	A (A+, A, A-)
2 Exams	50%	80-89.9	B
Final Exam	25%	70-79.9	C
<u>TOTAL</u>		100%	60-69.9 D
		Below 60	F

Exams and Final Exam:

Valid picture ID must be on your desk during exams. These will be checked. Also calculators will be necessary for all exams. **Graphing calculators and programmable calculators will not be allowed in the exams.** A little scientific calculator that has trig functions can be obtained very inexpensively and should be all that is used on the exams.

Exams will consist of a conceptual **matching and multiple choice** section and a problem section composed of **3 to 5 problems**. You must **show all your work especially equations** for the problems. No partial credit will be given on the conceptual section, but there will be for the problems.

All exams will be **closed book**. **Formulas will be provided with the exam.** You must know the concepts and vocabulary for the exams. **Exams will cover both in-class examples and homework. Exams must be done in ink.**

During the exam periodic information will be given on the overhead like time updates and any clarifications necessary. A verbal warning of 10 minutes remaining will be given. When time is up I will request everyone to put their pens down and pass their exams to the right and leave to the left.

Any question about an exam grade must be addressed by the next class day after handing out of the exam to the class. After that all grades are final.

Makeup exams will only be offered once at the end of the semester and only in the case of documented, extenuating circumstances. You can only make up one exam, so don't miss more than one.

The final exam will be **cumulative** and will be based on the exams and homework. The final exam will have all rules of a regular exam still in effect.

Any student involved in cheating will be reported to the Dean of Students.

Homework:

Homework assignments are given for each chapter on the website

<http://www.masteringphysics.com> Just go to the website and login as a student following the directions.

This homework **will** be graded. Late homework will be accepted but with a penalty. Do not get behind. No handwritten homework will be accepted.

Quizzes:

There will be short reading quizzes at the beginning of each class based on the chapter going with the lecture material. They are graded and part of your final grade. Therefore you must **read the chapters before the lecture.**

You can also go to the course under WebCT and download part of the lectures. Be careful these lectures are not complete and will not be enough to pass the class. **Come to Class.**

Class Objectives: Chapters 21 –34 in text

This is a list of what I expect you to know and be able to do by the end of this class.

1. Addition, scalar multiplication, and vector multiplication of vectors
2. Work force problems including the constant acceleration equations (including electric and magnetic forces)
3. Calculation of the electric field of a continuous charge distribution in both the symmetrical and unsymmetrical cases (including the electric field from an electric potential)
4. Calculation of the electric potential, capacitance, resistance, and current density (including electric potential from an electric field)
5. Calculation of equivalent capacitance, resistance, and inductance in electric circuits
6. Understanding what capacitance and resistance depend on
7. Calculation of capacitance, charge, and potential on all capacitors in a circuit
8. Calculation of resistance, current, and potential on all resistors in a circuit
9. Calculation of electric and magnetic flux
10. Understand the Hall effect
11. Calculation of magnetic field from all sources both symmetric and asymmetric
12. Calculation of induced emf
13. Calculation of self and mutual inductance
14. Calculation of energy stored in electric and magnetic fields
15. Understand electromagnetic waves and their spectrum
- 16.** Understand reflection and refraction including focal point, magnification, and finding the image (mirrors and lenses)