

Physics 222

Fall 2008

Electricity and Magnetism

Modern Physics

Course Basics

Instructor: Thomas Handler

Office: 226E Ayres Hall

Phone: 974-7820

Email: thandler@utk.edu

Web Page:

<http://cpt.phys.utk.edu/~th/Physics222/Fall08.htm>

Office Hrs:

09:30-10:30am TR or by Appointment

Textbook

- **Required:**

Serway & Faughn, College Physics, 7th Edition

- **Suggested:**

***Schaum's Outline Series: Physics for Biology
and Pre-Med, Biology, and Allied Health
Students***

Or any equivalent problem solving book

Grades

- **3 Examinations:** **57%**
No Makeup examinations and all count!
- **Laboratory:** **24%**
- **Homework: WebAssign** **19%**
No Extensions or Makeups
- **Grade Scale:**
 - A 90 and above
 - B+ 88 and above
 - B 80 and above
 - C+ 78 and above
 - C 70 and above
 - D 60 and above
 - F below 60

Exams

Exams are Closed Book:

Appropriate Formulae and constants will be supplied

Exam Schedule:

Test I: Sept. 23

Test II: Oct. 30

Test III: Dec. 11

***** Exam Dates are provisional *****

Changes, if any, will be announced in class

Exam Grading:

One week after exams are returned – grade is final!

Course Assumptions

- **Familiarity with Trigonometry and Calculus concepts**
- **Kinematic Motion**
- **Energy Considerations**
 - Work**
 - Kinetic Energy**
 - Potential Energy**
 - Conservation of Energy**
- **If needs be**
 - review material from Chapters 1 – 8 of textbook**

Material To Be Covered

**Introduction, Electric
Charges/Fields
Gauss's Law
Electric Potential
Capacitance and Dielectrics
Current, EMF, Resistance
DC Circuits
Magnetic Fields, Magnetic Forces
Sources of Magnetic Fields
Electromagnetic Induction
Inductance
AC Circuits**

**Relativity
Photons, Electrons, and Atoms
Wave Nature of Particles
Quantum Mechanics
Radioactivity
Atomic Structure
Nuclear Physics
Particle Physics**

Course Notes

- **Course notes will be posted to web page**
 - **Posted material is not intended to replace reading and studying textbook**
- **It is expected that students will have read the material before coming to class**