

Embry-Riddle Aeronautical University Prescott Campus

Course	PS250.01	Physics III	(Summer A 2006)	3 credit hours
Time	M T W Th F	9:00-10:15 AM	Room 55B	
Instructor	Dr. Darrel Smith			
Office Hours	See my web page: http://physicsx.pr.erau.edu/			
Office	AC1 Room 253			
Phone	777-6663			

Course Description

Gravitational fields^o, electric fields and magnetic fields, Gauss's law, electric potential, linear accelerators, cyclotrons, capacitors, Ohm's Law, Kirchoff's laws, Ampere's law, Faraday's law, Lenz's law, Maxwell equations, selected topics from modern physics*. Prerequisites: PS160, MA242

Goals

This course is an introductory course in college physics designed primarily for students in Space Physics, Aerospace Engineering, Electrical Engineering and Computer Science and as an elective for others requiring physics at this level. The fundamental aim of the course is that of providing a rigorous introduction to classical physics at a realistic level of conceptual and mathematical sophistication for students who are taking a third course in calculus. The emphasis is on developing an understanding of the basic principles. Problem solving is central to this course and practical applications are introduced where appropriate.

Textbook **University Physics (11th edition)** Young and Freedman, Addison Wesley © 2004

Attendance "Regular attendance and punctuality, in accordance with the published class schedule, are expected at all times in all courses." ***Don't miss class !!***

Course Outline

- Chapter 21 Electric Charge and Electric Field
- Chapter 22 Gauss's Law
- Chapter 23 Electric Potential
- Chapter 24 Capacitance and Dielectrics
- 1st Exam (25%) "Electrostatics"**

- Chapter 25 Current, Resistance and EMF
- Chapter 26 Direct-Current Circuits
- Chapter 27 Magnetic Field and Magnetic Forces

^o The gravitational field is taught in the PS160 course.

* Modern physics is taught in the PS303 course

Chapter 28 Sources of Magnetic Field

2nd Exam (25%) "DC Circuits and Magnetic Fields"

Chapter 29 Electromagnetic Induction

Chapter 30 Inductance

Chapter 31 Alternating Current

Final Exam (25%)

Comprehensive Final

8:00 – 10:00

June 26, 2006

(Monday)

Grading

Weight

Homework

25%

A = 90 - 100%

Exams

25% each 2 exams = 50%)

B = 80 - 90%

Comprehensive Final

25%

C = 70 - 80%

D = 60 - 70%

Homework Assignments are posted at the end of each chapter of my lecture notes found on my web page.