Syllabus: PS250, Section 2, Fall 2006

**Lectures:** MWF, 3:00-4:00 pm, AC1-104  
**Office hours:** MW 4:00-5:30 pm, F 4:00-5:00, AC1-254  
**Textbook:** University Physics by Hugh D. Young and Roger A. Freedman (11th ed.)  
**Course website:** [http://mercury.pr.erau.edu/~greta9a1](http://mercury.pr.erau.edu/~greta9a1) (click on the link for PS250)

**Instructor:** Dr. Andri M. Gretarsson, Office: AC-1, Rm 254  
**Phone:** 777-3969, **Email:** greta9a1@erau.edu

**Course Description (from catalog)**
Gravitational fields¹, 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 physics². Credit hours: 3. Prerequisites: PS160, MA242.

**Course 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.

**Attendance**
"Regular attendance and punctuality according to the class schedule are expected at all times”. . . Don't miss class! - It's surprisingly easy to fall behind and very difficult to recover. The same goes for assigned work and reading. Discipline yourself to do them the week they are due. Putting them off simply does not work. Students who need to be absent from class for University-sanctioned reasons (e.g. athletic team travel, official ROTC events, etc.), must inform the professor in advance and provide documentation in fact sanctioned by the University (e.g. a note or email from a coach or commander). For medical absences, please have your physician’s office, or the ERAU health clinic, send a note to the instructor as soon as possible. In all cases, the note must include a phone number where the relevant university staff member or physician can be reached. If you do have a university-sanctioned absence or a medical absence, it is your responsibility to arrange a time with the instructor to perform any missed work.

**Homework**
Homework is our main learning tool. Homework will be assigned every week and a random subset of the questions will be graded. Please discipline yourself to do the homework by the due date, no matter how busy you are. Homework will not be accepted late. Homework is considered late, and will not be accepted, 10 minutes after the start of class on the day it is due.

**Students with Disabilities**
It is a University policy to provide reasonable accommodations to students with disabilities. If you would like to request accommodations due to a physical, mental, or learning disability, please contact the Disability Services Coordinator, Nancy Jensen at 777-3700. All discussions remain confidential.

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¹ The gravitational field is taught in PS160.  
² Modern physics is taught in PS303.
Academic Honesty
Academic honesty is a requirement for passing this course. *In other words, students who cheat on any coursework will receive a failing grade for the entire course.* Cheating includes (but is not limited to): Copying homework, exchanging any information with another student during exams, using any materials on a test other than a pen and/or pencil. In addition, students who cheat will be reported to the University Administration and/or Student Judiciary Committee so that appropriate University-level sanctions can be applied in accordance with the “Student Rights and Responsibilities” section of the Student Services Handbook/CD.

Holidays
Class will not meet: Mon. Sep. 4 (Labor Day), Fri. Oct. 20 (University Day), Wed.-Fri. Nov. 22-24 (Thanksgiving).

Weights towards course grade

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<tbody>
<tr>
<td>Homework</td>
<td>15</td>
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<tr>
<td>Exam 1</td>
<td>15</td>
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<td>Exam 2</td>
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<td>Exam 3</td>
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<td>Final Exam</td>
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<td><strong>Total:</strong> 100%</td>
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Meaning of letter grades

- A = 90 - 100%
- B = 75 - 90%
- C = 60 - 75%
- D = 50 - 60%

Course Outline

Chapter 21 Electric Charge and Electric Field
Chapter 22 Gauss' Law
Chapter 23 Electric Potential
Chapter 25 Current and Resistance

Exam 1 (15%). During class, Monday, Sep 25, 2006

Chapter 27 Magnetic Fields and Magnetic Forces
Chapter 28 Sources of Magnetic Fields
Chapter 29 Electromagnetic Induction
Chapter 32 Electromagnetic Waves

Exam 2 (15%). During class, Monday, Oct 30, 2006

Chapter 26 Direct-Current Circuits
Chapter 24 Capacitance and Dielectrics
Chapter 30 Inductance
Chapter 31 Alternating current

Exam 3 (15%). During class, Friday, Dec 1, 2006

Review Lectures

Comprehensive Final Exam (40%).
Location: AC1-104
Time: 2:45 pm - 4:45 pm, Saturday, Dec. 9, 2006.