**General Physics – PHY 203 Fall Semester 2017**

**MWF 3:00 – 3:50 Science 277**

**Ralph Oberly S 253, S 254 304-696-2757** [**oberly@marshall.edu**](mailto:oberly@marshall.edu)

**Office hours: MWF 2:00-2:50, TR 4:00-5:00, T 12:00 – 2:00 (or by appointment)**

**University Policies:** By enrolling in this course, you agree to the University Policies listed in the sources below. Please read the full text of each policy by going to [www.marshall.edu/academic-affairs](http://www.marshall.edu/academic-affairs) and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to <http://www.marshall.edu/academic-affairs/?page_id=802> Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment

**General Physics. 3 hours**

A course in general physics for all science majors with the exception of physics and engineering majors.

**Goals/Outcomes:**

1. A. Students will learn basic physical principles for the areas of physics covering electric charge, electrical fields, magnetic fields, magnetic poles, electric circuits, magnetism, electromagnetic waves, geometrical optics, optical instruments, physical optics, special relativity, particle properties, particle interactions, atoms and nuclei.

B. Students will be assigned readings from a textbook. Basic principles will be discussed in the classroom. Students will observe and analyze demonstrations in class when they are available. Students are expected to be attentive in the classroom and participate in the classroom discussion.

C. Students will be given exams that require the student to demonstrate their knowledge of the principles covered in the classroom, the assigned problems, and the reading assignments. These exams will require logical reasoning about the principles covered.

II. A. Students will learn logical problem solving techniques covering the material listed above. B. A homework problem list for each chapter of the text covered in class will be assigned. Each student is expected to attempt the solution of every assigned problem.

C. The student is expected to be proficient in logical problem solving techniques for the semester exams, the assigned textbook problems, and the handout problems.

**Required Textbook:**  College Physics, Etkina, Gentile, Heuvelen

**Course Requirements:** Students will be expected to complete:

Textbook and handout problems, and textbook conceptual questions as assigned.

Three semester exams – see schedule of assignments.

Comprehensive final exam – see schedule of assignments. Note that the final exam is double credit compared to each semester exam.

You must check your Marshall email account on a regular basis as problem assignments will be listed there.

**Attendance:** Students are expected to attend all scheduled classes. Classroom discussion and demonstrations are vital for understanding the material covered in the course. See University Policies referred to above for the attendance policy.

**Syllabus for Physics 203 – Fall Semester 2017 – R. Oberly Page 2**

**Course Schedule:**

**Dates Chapter Assignments**

August 21, 23, 25 14 Electric Charge, Force and Energy

August 28, 30, September 1 15 The Electric Field

September 4 Labor Day – No Classes

September 6, 8, 11 16 Direct- Current Circuits

September 13, 15, 18 17 Magnetism

September 20, 25, 27 18 Electromagnetic Induction

September 22…………………………**Exam One on Chapters 14 through 17.**

September 29, October 2, 4 21 Reflection and Refraction

October 6, 9, 11 22 Mirrors and Lenses

October 13, 16, 18 23 Wave Optics

October 20, 25, 27 24 Electromagnetic Waves

October 23..…………………….**Exam Two on Chapters 18 through 23**

October 27 W day

October 30, November 1, 3 25 Special Relativity

November 6, 8, 10 26 Quantum Optics

November 13, 15, 17 27 Atomic Physics

November 20 – 25 **Thanksgiving Break – No Classes**

November 27, December 1, 4 28 Nuclear Physics

November 29………………….**Exam three on Chapters 24 through 27**

December 6, 8 29 Particle Physics

**Monday, December 11, 3:00 – 5:00......Comprehensive Final Exam**

This schedule will be followed as nearly as possible. Problem and question assignments for each chapter will be given out in class. Students are expected to work all assigned problems and questions. Additional problems and questions will be given out in class, or through your MU email address. These will be graded and become part of your course grade. It is highly recommended that you stay current with the problem and reading assignments. Ask questions whenever necessary. There will be some time spent in class answering questions on problems.

**Course grade:** Your course grade will be made up from the three semester exams (100 points each), the collected problems (100 points), and the final exam (200 points).

**Electronic Devices:** Class time is for discussion of physical principle, demonstrations, and questions. Electronic devices – cell phones, pagers, etc. – should be turned off. During exams you should have a scientific pocket calculator and all other devices should be turned off and put away!