**PHY 213 Syllabus (4 Credit hours)**

*Marshall University – College of Science – Department of Physics*

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| Course Title/Number | PHY 213-202 | | |
| Semester/Year | Spring Semester 2017 | | |
| Days/Time | TR 11:00 am – 1:00 pm | | |
| Location | SCI 277 | | |
| Instructor | Maria Babiuc Hamilton | | |
| Office Number | SCI 257 | | |
| Phone/Email | 304-696-2754/ babiuc@marshall.edu | | |
| Office Hours | Open door: TR 1:00 pm – 3:00 pm  *Any other time, you can drop by my office, or send me an email* | | |
| University Policies | By enrolling in this course, you agree to the University Policies listed 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”.  Direct: [www.marshall.edu/academic-affairs/policies](http://www.marshall.edu/academic-affairs/policies)  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 Emergencies: [www.marshall.edu/emergency](http://www.marshall.edu/emergency)  MU Alert Sign Up: [www.marshall.edu/emergency/mualert](http://www.marshall.edu/emergency/mualert) | | |
| Instructor Policies | **Course corrections**: Information in this syllabus was, to the best knowledge of the instructor, considered correct and complete when distributed at the beginning of the term. The instructor, however, reserves the right, acting within policies and procedures of Marshall, to make changes in the course content and/or instructional techniques during the term, as deemed necessary, without notice or obligation.  **Student Conduct**: Student rights and responsibilities are outlined in the Marshall catalog. Especially, the infractions and violations listed under "Conduct, Rights and Regulations" will be enforced in this class. Students who disrupt class may be removed from class (failing all of the activities for the day) on a daily basis, as warranted, by the instructor. Continuing behavior problems will result in an instructor drop of the offending student.  **Cell Phones/Tablets** may be set to vibrate during regular class times and used only as calculators. If an emergency call/message comes through, please leave the class before you answer it. CELL PHONE IS PROHIBITED DURING EXAM! | | |
| **Student Learning Outcomes** | | **How students will practice each outcome in this Course** | **How student achievement of each outcome will be**  **assessed in this Course** |
| Students will learn Physics and will develop the skills of problem solving and scientific thinking | | Study fundamental facts in electromagnetism, optics and modern physics, and learn how to set up and solve physical problems involving electric charge, current, magnetic field, electromagnetic waves, molecular, atomic, nuclear physics and relativity. | Group Work, Homework, Examinations |
| Students will build a strong foundation that will enable them to understand the laws of nature that underline not just Physics, but also other scientific fields. | | State in words and in formulas functional relationships in physical science. Interpret equations found in reference books and identify *limitations* applying to those equations. Properly implement an equation found in a reference book (including the text book) to physical problem. | Group Work, Homework, Examinations |
| Students will demonstrate the ability to think critically and will learn the essential skills of solving complicated problems. | | Apply physical principles to everyday life problems, employ critical thinking skills to solve problems. | Group Work, Homework, Examinations |
| Students will understand how science operates and the linking of a theoretical model with reality. | | Demonstrate the ability to work effectively. Read and interpret graphs and data, being able to fit existing data and predict new data. | Group Work, Homework, Examinations |

**Other Course Expectations**

All students are expected to attend classes and to actively participate.

***Five unmotivated absences will be sanctioned with -1% of your final grade!***

This is a difficult class and requires commitment in time and effort from you.

* Attend class, ask questions and participate in discussions
* Read the assigned textbook materials and do all your homework
* Come to office hours when you need help

**Required Texts and Web Resources**

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| Textbook | University Physics with Modern Physics, by Young and Freeman |
| Access Card | [www.masteringphysics.com](http://www.masteringphysics.com), **Course ID: MBABIUCHAMILTON60024** |

**Course Description**

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| This course teaches the fundamental principles in physics and their applications to real life. It will provide students with key tools for developing both conceptual understanding and problem-solving skills, through lectures and worked examples. |
| *This class is challenging! There is a lot of information to be processed, and the difficult skill of problem-solving to be acquired! There are no shortcuts! The point of the course is for you to learn! Only watching me won’t do! I know already how to do problems!* |

**Grading Policy**

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| Breakdown   |  |  | | --- | --- | | Tests (4@15% each) | 60% | | Homework | 30% | | In-class | 5% | | Notebook | 5% | | Total Possible | 100% | | Grades   |  |  | | --- | --- | | A | 90% -100% | | B | 80% - 89.9% | | C | 65.0% - 79.9% | | D | 50.0% - 64.9% | | F | 49.9% and below | |

**Grading Specification**

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| Examination | The subject of the exams will consist of 6 problems from both the material we covered in class and assigned as homework. Calculators will be permitted The exams are closed book. *A formula sheet will be provided for each test.* The exam will be returned after 1 week. If you or I made an involuntary error on the exam, you have two days after the exam is returned to challenge a grade. However, you cannot base your request material not on the test. After this, grade will be fixed. |
| Homework | The homework will consist of problems from the book and will be available on the MasteringPhysics web page after each lecture. |
| In-Class | You will receive 5% of your grade for presence and in class participation. It is important to attend lecture and will in group. |
| Notebook | You will receive 5% for keeping a notebook of the in-class notes and the homework problems. This notebook is essential for your good performance on the tests. You will be successful in learning physics only if you are willing to put in the time and effort to learn. |
| Extra Credit | There will be 5 points of extra credit available at each test, and an optional extra credit homework assignment at the end of the class. |