**PHY 201 Syllabus (3 Credit hours)**

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

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| Course Title/Number | PHY 201-104 | | |
| Semester/Year | Fall Semester 2017 | | |
| Days/Time | TR 2:00 pm – 3:15 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 11:00 am – 12:00 pm, W 9:00-10:00 am  *Any other time, please knock by my office door, 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 without notice or obligation  **Student Conduct**: Student rights and responsibilities are outlined in the Marshall catalog, page 34. 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. If an emergency call/message comes through, please leave the class before you answer it. If during an EXAM, anf of these devices are in sight, they are taken away! | | |
| **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 the subject of Physics and will develop the skills of problem solving and scientific thinking | | Understanding conceptual how things work, then start learning how to solve problems involving matter in motion (trajectories) in one- and two-dimensions; solve problems in static and dynamic equilibrium; understand concepts like work, energy, momentum, and implement the laws relating these concepts; rotational kinematics and dynamics; all using the mathematical tools from algebra, and trigonometry | Attendance to Lecture Group Work, Homework, Tests, Examinations. |
| Students will build a strong foundation that will enable them to understand the laws of nature that underline the field of Physics, and constitute a background for other scientific fields. | | State in words and in formulas functional relationships in physics; interpret equations found in the textbook books, and identify *limitations* applying to those equations; properly chose and implement equations to solve physical problems | Attendance to Lecture Group Work, Homework, Tests, Examinations. |
| Students will demonstrate the ability to think critically and will learn the essential skills of approaching and solving real-life problems. | | Apply physical principles to everyday life problems, employ critical thinking skills to solve problems. | Attendance to Lecture Group Work, Homework, Tests, 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. | Attendance to Lecture Group Work, Homework, Tests, 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 challenging class and requires commitment from you both in time and effort. In order to achieve the results you intend in this class, you will have to:

* attend class, ask questions and participate in discussions
* read the assigned textbook materials and do your homework
* come to office hours when you need help

**Required Texts and Web Resources**

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| Textbook | College Physics, by Etkina, Gentile and Van Heuvelen |
| Access Card | [www.masteringphysics.com](http://www.masteringphysics.com), Course ID: HAMILTONPHY201104 |

**Course Description**

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| This course uses an investigative learning approach to teach introductory physics. This approach encourages students to take an active role in learning physics, to practice scientific skills such as observing, analyzing, and testing, and to build scientific habits of mind. Students learn physics best by getting involved in physics. |
| *The point of the course is for you to learn by doing. There is a lot of information to be processed, and the difficult skill of problem-solving to be acquired! No shortcuts!* |

**Grading Policy**

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| Breakdown   |  |  | | --- | --- | | Tests (4@15% each) | 60% | | Homework | 30% | | In-class work | 5% | | Notebook | 5% | | Total Possible | 100% | | Grades   |  |  | | --- | --- | | A | 90% -100% | | B | 80% - 89.9% | | C | 65% - 79.9% | | D | 50% - 64.9% | | F | 49.9% and below | |

**Grading Specification**

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| Examination | The subject of the tests will consist of a combination of 4 to 6 problems, chosen from the ones solved in class between each test, and the problems assigned as homework. Calculators will be permitted. There will be given 5% extra credit at each test, consisting of 5 multiple choice questions. The exams are closed book. *There will be no formula sheet for the first two tests! You need to know these essential in order to be able to understand the language of physics. Before each exam I will provide you with a clear study guide, containing the problems and formulas you are required to know. During the exam, if you are unsure about the exact expression, you can ask me, and I will check the formulas you wrote. I will allow a 3x5 or 4x6 index card with essential formulas for the last two exams.*  The exam will be returned after 1 week. You have two days after the exam is returned to challenge a grade. After this, grade will be fixed. |
| Homework | The homework will be available on the MasteringPhysics web page. |
| In-class | You will be rewarded for coming to class and do group work. |
| Notebook | You will be rewarded for keeping a notebook for this class. |