**SYLLABUS FOR *GENERAL PHYSICS - PHYS 201-201***

**Term**: Spring 2014

**Location:** S277

**Time:** TTR 9:30-10:45 am

**Text: College Physics 9th ed.,** Hugh Young, ISBN: 9780321749802

**Instructor**

Thomas Wilson, Ph.D.

Office: S153

Phone: (304) 696-2752

E-mail: wilsont@marshall.edu (I generally will not respond to emails however)

**Office Hours**

MWF from 3-4 PM in S153

If you are unable to make these times, I am happy to meet with you at any time. You are free to come by my office or lab (S154), but your chances of finding me are better if you make an appointment. I will be happy to provide hints for how to proceed with the assigned homework.

**Overview**

My lectures will in general not be a repeat of your book but they will be complementary to the book. I will stress the concepts and I will make you see beyond the equations, beyond the concepts. I will try to show you whether you like it or not, that physics is beautiful and you might even start to like it. I suggest you do not slip up, not even one day, as PHY201 is not easy. We have new concepts every week and before you know you may be too far behind.

**Attendance and Policy**

Attendance at all class meetings with prompt arrival is expected. I expect to have your undivided attention when I am speaking. Cell phones should be turned off if not being used for Peer Instruction (below). Loud (except during Peer Instruction!) or disruptive behavior will not be tolerated. Students are responsible for material presented in lecture. Excused absences will be granted for those generated by the Office of the Dean of Students (ODS).

By enrolling in this course, you agree to the University Policies found at: <http://www.marshall.edu/academic-affairs/?page_id=802>) describing:

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.

**Required Materials (Please read carefully)**

* **College Physics 9th ed.,** author: Hugh Young, ISBN: 9780321749802. For the “Peer Instruction” (see Lecture below), one will need also EITHER (1) a TurningTechnologies ***ResponseWare*** annual license, if you would like to use your own smart device (i.e., Apple® iPhone, iPad or iPod touch, BlackBerry smartphones, Windows Mobile® devices). A license can be purchased at: http://store.turningtechnologies.com (use “mar1” for the school code). In this case, you will also need to download the *ResponseWare* app onto your mobile device. All of our clicker sessions will use the same *ResponseWare* Session ID: “wilson”, OR (2): a TurningTechnologies ***ResponseCard (RF* or NXT) ‘clicker’** available at the bookstore or also directly from: <http://store.turningtechnologies.com> (use “mar1” for the school code).

**Lecture, Homework, Quizzes, and Peer Instruction**

I will cover in sequence the content of chapter 0-13 with supplementary material as necessary. This is the subject of Newtonian mechanics. You will not be exposed to a more complete picture that can only be achieved using calculus (PHY211); rather, we will make use of algebra and plausibility arguments that sometimes may be less than satisfying for the curious mind. You will be responsible for reading carefully the chapter material at the rate of approximately one chapter per week. I will inform you weekly which Chapter you should read for the following week. In my lectures, I will make use of the whiteboard and *Peer Instruction* (PI) “clicker” questions; the latter are designed to elicit an understanding of the concepts that are considered. I also hope, depending upon equipment availability, to perform a number of related demonstrations.

With *Peer Instruction (PI),* I will project *PowerPoint* slides containing several questions in sequence (often conceptual-based), which you will answer either with your clicker, or your own smart device. For such PI sessions, you will answer the question individually (answers are anonymous from the class perspective). At the end of the timed period, a bar chart will be displayed showing the class distribution. If the problem distribution is not highly centered on the correct answer, then I may give some hints, and will again pose the same question. For the 2nd such attempt, you should discuss the problem energetically and enthusiastically with your peers! (limited to 2 or 3 others seated nearby), and then respond. These “Peer Instruction” (PI) questions are designed to probe and elicit a deeper understanding of the physical concepts via discussions with your peers. Physics educational research during the past two decades has clearly demonstrated the benefits of this approach. Some of these clicker questions also may reappear on either of the two exams. There is no grade component associated with PI – thus there is no pressure to perform ‘well’, only to ‘think and discuss’ well.

Paper homework assignments will be distributed weekly. During the first day or week of class, you should coordinate with two other students to form a team of three to solve these problems together outside of lecture. You must choose a team name and inform me of team members. Except for the first week, a team will have approximately one week to prepare for a **five-minute** solution presentation at the whiteboard, from any one of the distributed homework problems that I will ask for just prior to the presentation. A team must be prepared to have solutions for any of the homework problems. Your solution presentation will be scored for clarity, correctness and your ability to defend your position (0, 5, or 10 points per presentation). The level of detail in your solution on the whiteboard should be comparable to that for the examples found in the text. Some of these homework problems may reappear on the mid-term or final exam.

Multiple single-problem (primarily to be chosen from the homework assignments) paper quizzes of 10-minute duration will also be given throughout the semester. These will be simply scored as 0, 5 or 10 points per quiz.

**Exams**

There will be a closed-book mid-term exam and a comprehensive closed-book final examination. Only calculators are allowed during the exams (with no stored formula):

Mid-Term Exam: Tuesday, 03/04/14

Final Exam: Friday, 5/06/14 8:00-10:00 am

Note: Without an excused absence from the Dean of Students Office, a missed exam will count as a zero.

**Grades**

Grades (thresholds: A 90%, B 80%, C 70%, D 60%) for the course will be determined according to the following component percentages:

Classroom Homework-Solution Presentations: 10%\*

Paper Quizzes (principally chosen from the homework assignment): 30%\*

Paper Mid-Term Exam: 30%

Paper Final Exam: 30%

\*The weighting of the *Presentations* and Quizzes may vary depending upon their frequency and other unforeseen grading issues that may arise.

A request for an incomplete will only be considered provided that one has taken the mid-term exam, and also that 75% of EACH of the homework presentations and the paper quizzes, are completed.