Course Number: PH211 – 4 credits
Lecture Time: Mon-Wed-Fri, 10:00 a.m. - 10:50 a.m. (CRN: 50658) (3/31/2014 - 6/06/2014)
Mon-Wed-Fri, 11:00 a.m. - 11:50 a.m. (CRN: 50659) (3/31/2014 - 6/06/2014)
Lecture Location: Weniger 151
Lab Location: Weniger 200
Course Instructor: Dr. Skye Dorsett
Course Website: http://www.physics.oregonstate.edu/~dorsetts/COURSES/ph211
Instructor Email: dorsetts@onid.orst.edu
Office Hours: Monday, Wednesday : 2:00 – 3:50 pm
Office: Weniger 203
TA Office Hours: M-F, 12:00 – 6:00 pm in Weniger 145, S-Th 6:00 – 10:00 pm in Valley Library
Course Prerequisites: MTH 251
Course Corequisite: MTH 252
Required Text: Physics for Scientists and Engineers, OSU edition, by Randall D. Knight (required)
Required Materials: A scientific calculator, graph paper (for lab), Mastering Physics subscription, and Turning Point clicker.

Mastering Physics subscriptions: New purchases of the text come with an option for an access code to subscribe to the masteringphysics.com website, which is required. Subscriptions last for 2 years from the date of activation so if you already have a current subscription you do not need to purchase the text with the access code. If you buy a used text you can purchase an access code through the M.P. website. Make sure you select the text “Physics for Scientists and Engineers with Modern Physics 3e” by Knight when registering with M.P. The Course ID for PH 211 is MPDORSETT06267.

Lecture Personal Response Clickers: Throughout the term, during some lectures, questions will be posed through the ResponseCard NXT clicker system by Turning Technologies. You can purchase the student clicker at the OSU bookstore or online. You must register your clicker at the beginning of the term. This is done through blackboard by clicking on the course then selecting “tools” from the left-hand menu. Once in the tools section you select “TurningPoint Registration Tool.” You will then be asked to put in the Device ID found on the back of your clicker. Students cannot share clickers in the same course section.

Course Description:
General Physics with Calculus I includes the following topics: vectors, concepts of motion, kinematics in 1-dimension, kinematics in 2-dimensions, force, dynamics, impulse and momentum, work and energy, and conservation laws. These topics are treated using practical problems and examples. Emphasis is placed on logical reasoning, thorough understanding of the principles and the ability to successfully
solve numerical problems. The theory and results of classical mechanics are used to predict the behavior of actual physical systems and explain phenomena commonly encountered in the real world.

**Attendance:**

**Lecture:** Attendance is not mandatory, but is **highly encouraged** and there will be clicker questions asked that make-up 2% of your course grade throughout the course of the term.

**Lab:** Attendance is mandatory for all 7 labs. There are no ‘dropped’ labs. **All 7 labs must be attended and completed to pass the course.** A “complete” lab means at least 10/20 points earned for that lab. Students cannot switch lab times with other lab sections of this course. (If there are open seats in a lab section in which a student would like to attend, the lab can be made up, but only with prior approval from the lab TA and course instructor.) All lab work must be completed in lab and turned in to the instructor before leaving. Late labs will not be accepted. **At most, two labs can be made up during make-up week.** If a lab has to be missed, the student should try to make it up that same week, if possible. **You must ask permission from the lab TA whose lab you wish to attend before you arrive to any lab for which you are not registered.** Labs are full and there may not be room for you in any section but the one in which you are registered. Students arriving more than 15 minutes late to a lab will not be allowed to complete the lab for points. The beginning of each lab meeting is vital for student comprehension and lab group participation. Students are required to bring graph paper and a scientific calculator to lab. Exceptions to this policy will only possibly be made for emergencies and must be discussed with the course instructor as early as possible.

**Prior Lab Credit:** Students that have passed PH211 (course, not just the lab) at OSU, in the past 2 years, with a D- or better are not required to retake the lab (although it is still suggested). If you would like to use this exemption, then please send me an email with the subject heading “PH211 lab exemption request.” Include the following information in a clear bulleted format: 1) your name, 2) your ID number, 3) course ID, 4) the term and year that you took the lab. I will email you a confirmation by the end of the first week.

**Write-Out Homework:**

Homework sets will be given weekly, on Wednesdays, and will be due on the following Wednesday, by 5:00 pm (8:30 pm on days that coincide with the class midterms). Late homework will not be accepted. Homework assignments can be turned into **box #2 outside Weniger 234.** Write-out homework problems (typically 5 – 7 problems per set, 1 set per week) for which you will be required to show all work for full credit. Two of the write-out problems will be chosen at random to grade and will constitute the total score for that assignment. **It is the student’s responsibility to complete the entire homework assignment regardless of the problems chosen for grading.** The one write-out problem chosen for grading will be worth 20 points. The homework problem graded each week will be worth a total of 20 points per weekly homework set.

The approximate point breakdown for write-out homework problems is as follows:

- Translation of the problem into data, drawing useful figures: 1 pt.
- Identifying the general physics principles (equations) used: 2 pts.
- Mathematical work with clear steps and correct answer: 7 pts.
**Mastering Physics (MP) Online Homework:** Online homework is assigned on the website masteringphysics.com and will be worth 8% of your final grade. New purchases of the text come with a subscription to the masteringphysics.com website. If you buy a used text you will have to purchase an access code through their website.

**Mastering Physics Grading:** Late assignments will receive up to (100% - # days late*10%). This maxes out at 50%. For each incorrectly answered multiple-choice or true/false question, before the last attempt, the deduction will be 100%/(# of answer options – 1). Deductions for incorrectly answering any other type of question before the last attempt will be 3% per incorrect answer. Answering questions in hints or not using hints results in extra credit.

**Registering:** When you register for the class it will ask you for your name and your student ID. Please enter your student ID without dashes and not the course ID. It will also ask you which book we are using and it is Knight/Jones/Field, College Physics, 3e.

**Problems with Mastering Physics:** If you experience problems with Mastering Physics you need to contact their customer support. If they are unable to fix your problem you must get the case ID number from your conversation with support and email me your problem, along with the case ID they gave you.

**In-class clicker questions:**
There will be in-class questions interspersed throughout some lectures. Correct answers are worth 2 points, incorrect 1 point and no answer 0 points. Your total score depends on how many questions you answer and whether you answer correctly. The total points from all clicker questions throughout the term are scaled to make-up 2% of your total course grade.

**Exams:**
There are 2 midterm exams and 1 final exam. All exams are cumulative but the 2<sup>nd</sup> midterm will focus on material not covered on the 1<sup>st</sup> midterm. The final exam will cover material from the entire class with an emphasis on material not covered on the 1<sup>st</sup> or 2<sup>nd</sup> midterm. Students will be allowed to bring one 8 ½” x 11” note sheet to each midterm exam. The note sheet can be two-sided, but must be hand-written (in the student’s own handwriting, unless special exceptions have been made for students with documented disabilities). The note sheet can contain anything you want, other than another student’s work. The note sheet cannot be used if there is any photocopied material on it. For the first midterm exam, only a single note sheet can be used. For the second midterm exam, one new note sheet and the note sheet from the first midterm can be used. For the final exam, both midterm note sheets can be used, in addition to a third note sheet for the final. The midterm exams will be 80 minutes each and will be administered from 8:30 p.m. – 9:50 p.m. on Wednesday of the 4th and 8th week, 04/23 and 05/21, respectively. The final exam will be announced during the term. The midterm exams will consist of 7 short answer questions (multiple choice, multiple select, true/false, fill in the blank) and 4 problems
requiring a full solution. The final exam will consist of 8 short answer questions and 4 problems requiring a full solution. The short answer questions will not allow for partial credit and will each be worth 10 points on the midterms and final exam. The numerical work-out problems will allow for partial credit and will each be worth 25 points on midterms and 40 points on the final exam. All work must be shown on numerical work-out problems for full credit.

The approximate point breakdown for exam problems involving partial credit will be as follows:
Translation of the problem into data, drawing useful figures: 10%
Identifying the general physics equations used: 20%
Mathematical work with clear steps and correct answer: 70%
**Note: Proper symmetry arguments can replace any of these points, depending on the problem.

The approximate point breakdown for each of the midterms is as follows:
Seven short answer questions, 7 x 10 points = 70 pts.
Four write-out problems, 4 x 25 points = 100 pts.
Total: 170 pts.

The approximate point breakdown for the final exam is as follows:
Eight short answer questions, 8 x 10 points = 80 pts.
Four write-out problems, 4 x 40 points = 160 pts.
Total: 240 pts.

No students will be allowed to take exams earlier than the specified exam dates. No students will be allowed to take late exams except under extreme circumstances. Any late exams will consist of different problems than the normally-scheduled exams. You must take the Final Exam at the date and time above except under extreme circumstances in which you and I have agreed on an "Incomplete" for the course and I have approved a make-up exam.

**Exam Grading Appeals:** An exam appeal consists of the following items, stapled together, in this order:
A specific written description of the issue; the entire original scored exam (with no subsequent marks made by you); and a photocopy of the exam, with any marks or annotations you wish to make. Your written description should identify the problem/item, and specifically why the scoring is incorrect, etc. It is NOT sufficient simply to say “I think I deserved more points for this.” You have to say why. The best approach for this is to use the photocopy of your exam and basically “re-score” the problem in question—as if you were the grader—showing how your version of the scoring is more aligned with the posted solution. Leave your appeal for the instructor in Weniger 301 (the Physics Department office). I will review all appeals filed by the 10-day deadline, but no appeals are reviewed until after that deadline has passed, so you won’t know the outcome of your appeal until about 2 weeks after you’ve picked up the exam. Warning: I re-grade the problem, so you may gain or lose points. The instructor’s decision on appeals is final; there are no re-appeals.
**Course Grade:**

Write-out Homework Sets: 9 sets x 20 pts. = 180 pts.
Mastering Physics HW Sets: 8 sets x 10 pts. = 80 pts.
In-class clicker questions: total scaled to 20 pts. = 20 pts.
Midterms: 2 midterms x 170 pts. = 340 pts.
Final Exam: 1 final x 240 pts. = 240 pts.
Lab: 7 labs x 20 pts. = 140 pts.
Total: 1000 pts.

**Grade Scale:**

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<thead>
<tr>
<th>Grade</th>
<th>Percentage Range</th>
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<tbody>
<tr>
<td>A</td>
<td>≥ 87%</td>
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<tr>
<td>A-</td>
<td>80% - 86%</td>
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<tr>
<td>B+</td>
<td>77% - 79%</td>
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<tr>
<td>B</td>
<td>73% - 76%</td>
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<tr>
<td>B-</td>
<td>70% - 72%</td>
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<tr>
<td>C+</td>
<td>67% - 69%</td>
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<tr>
<td>C</td>
<td>63% - 66%</td>
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<tr>
<td>C-</td>
<td>60% - 62%</td>
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<tr>
<td>D+</td>
<td>57% - 59%</td>
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<tr>
<td>D</td>
<td>53% - 56%</td>
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<tr>
<td>D-</td>
<td>50% - 52%</td>
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<td>F</td>
<td>&lt; 50%</td>
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(*** Note: These percentages are approximate and may be revised after the 2nd midterm. The section points are also approximate and might be changed slightly, but will be close to this.)

**TA Office Hours:** There are physics TA office hours in Weniger 145 weekday afternoons from 12:00 to 6:00 and in the Valley Library evenings from 6:00 to 10:00. A schedule will be posted outside Weniger 145. You can attend any of the TA’s office hours. There is also free tutoring available for anyone through the Women and Minorities in Engineering Program. Their website is: http://engr.oregonstate.edu/wme/tutor.php.

**Course Reading:**

Read the sections on the Course Schedule before the date shown for those sections. Read ahead. If you have questions about the material you’ve read, don't hesitate to ask about it in class. Reading for a physical science course is very important and helps provide context to the concepts and calculations discussed in lecture.
**Baccalaureate Core:**
This course is part of the OSU Baccalaureate Core and fulfills the requirement for study related to Physical Science. The Baccalaureate Core Student Learning Outcomes for this category are: 1) recognize and apply concepts and theories of basic physical or biological sciences, 2) apply scientific methodology and demonstrate the ability to draw conclusions based on observation, analysis, and synthesis, and 3) demonstrate connections with other subject areas.

**Course Outcomes:**
Successful students taking physics classes will demonstrate the ability to:
Work cooperatively, use equipment and instruments properly, and carefully analyze data in the laboratory setting.
Use physics concepts, reasoning skills, and course-appropriate mathematics to solve physics problems. Rough check answers to make sure they're reasonable.
Cultivate an appreciation for everyday physics phenomena.
Succeed in other science and engineering courses that build on general physics.

**Academic Honesty:**
Cheating, plagiarism, and other acts of academic dishonesty are regarded as serious offenses. Instructors have the responsibility to report any such incident in writing to the Associate Vice President of Student Life. Depending on the nature of the offense, serious penalties may be imposed, ranging from loss of points to expulsion from the class or college.

All students are expected to do their work for themselves and problems must reflect your own thinking. It is okay to collaborate with others on problem sets -- collaboration means talking about a problem -- but in the end, each person writes the problem out from scratch on their own, after finishing the collaboration. Verbatim copying is not permitted, learning is not taking place.

For information about academic integrity and the University's policies, refer to the Student Conduct web site at: http://www.orst.edu/admin/stucon/achon.htm and the section on Academic Regulations in the OSU Schedule of Classes. Expectations for student conduct can also be found at http://oregonstate.edu/admin/stucon/achon.htm.

**Classroom Behavior:**
Instructors have the responsibility to set and maintain standards of classroom behavior appropriate to the discipline and method of teaching. Students may not engage in any activity which the instructor deems disruptive or counterproductive to the goals of the class. Cell phones can be a nuisance and are not to be brought to the classroom. If brought to the classroom, please make sure they are on silent and are put away for the duration of lecture and lab. Instructors have the right to remove offending students from class. Repetition of the offense may result in expulsion from the course.
**Americans with Disability Act:**
Accommodations for students with documented disabilities are collaborations between students, faculty and Disability Access Services (DAS). Students with documented disabilities seeking accommodations approved by DAS are responsible for contacting the faculty member in charge of the course as soon as possible prior to or during the first week of the term to discuss accommodations. Students who think they may be eligible for accommodations but who have not yet obtained approval through DAS should contact DAS at 541-737-4098.