PHYSICS 201 General Physics (Fall 2016):
CRN 14981 (Noon Lecture) and 14994 (2pm Lecture)

Instructor:
Professor Richard Taylor
Office: 173 Willamette Hall, telephone: 541 - 346 - 4741, email: rpt@uoregon.edu
Office hours*: Monday, Wednesday and Friday 10.30am-11.30pm (held in Willamette 175)
*these are the times when I am guaranteed to be available. You can also try my office (Willamette 173) at other times or pre-arrange a meeting.

Lectures: (begin on Monday 26th September)
Objectives: to learn the basic laws of physics in the field of mechanics AND to see that physics can be interesting, relevant to your daily experiences, and even fun! More specifically, learning outcomes include developing: 1) a working knowledge of the principles and concepts of mechanics, 2) the ability to apply these concepts to analyze problems, 3) the ability to work both independently and in collaboration with your peers, 4) the ability to communicate your understanding of mechanics orally and in writing.

I will be teaching two nominally identical lectures (noon and 2pm) each Monday, Wednesday and Friday. Therefore, if you can’t make your registered lecture then you can attend the other lecture if seats are available.

You will not be graded on lecture attendance. We do, however, have a consciousness rule - if you fall asleep in the lecture, we might drop 5% from your overall grade. The Study Guide to the textbook (see below) contains lecture slides and spaces for you to add your own notes. If you miss a lecture, make sure you obtain the notes from a fellow student.

Prerequisites: MATH 111 and 112 or equivalent (you must know basic algebra and trigonometry).

Course Website: https://canvas.uoregon.edu/

Required textbook: College Physics, UO Custom Edition Third Edition by Knight, Jones and Field (published by Pearson, ISBN 9781323475164). This customized edition comes with a free Study Guide and an access code for “Mastering Physics” (the on-line homework system). You will not be able to participate in the course without the Custom (Third Edition) Edition package. It will be available at a reduced price the Duckstore close to the start of the Fall term (unfortunately, it will not be available elsewhere). A second custom package will also available at the Duckstore (ISBN 9781323475157) which doesn’t feature the free Study Guide. This is for the other section of Physics 201 taught by Professor Jenkins - make sure you get the package containing the free Study Guide!!!

Tutorials:
In additional to your 3 lectures, you are required to attend 1 tutorial session each week. Tutorial sessions take place in Willamette 112. Tutorials start in week 2.
Objectives: Tutorials give you the opportunity to discuss the physics you have met in lectures with your classmates and teaching assistants (TAs). With the support of the TAs, you will work collaboratively with your classmates to solve a set of tutorial problems. These tutorial problem sets are designed to help you with your homework by developing and practicing your problem solving skills. The solution set to the week’s tutorial problems will be posted in the Modules folder on the Canvas website at noon every Friday. The tutorial problems are not graded but attendance will be taken at the end of each tutorial (see Grading Section below).

Registration for tutorials: you must register for one of the weekly tutorial sessions using Duckweb (http://duckweb.uoregon.edu/). Each week you should attend your allocated tutorial session unless you have permission from the teaching assistants to attend another session.

Teaching Assistants. The document “Office Hours” to be posted on Canvas will list TA office hours and email addresses. You can attend the office hours of any of the course TAs (i.e. not just the TAs in your tutorial).

Further help: in addition to your tutorial session and office hours, you can also use the “drop in” help-center located at Willamette room 147. The Drop-in center schedule will be posted in the Modules folder on the Canvas website.

Homework: Homework problems will be assigned each Tuesday 6pm at the “Mastering Physics” website. The assignment should be completed prior to the deadline of 9am on Thursday morning of the next week (i.e. you have 8 days to complete your assignment, during which time you will have attended your tutorial). Late homework will not be accepted because homework solutions will be available at 9am on Thursday in the Modules folder on the Canvas website (If you have a valid reason for not handing in a homework, contact your tutorial’s teaching assistant as soon as possible. They will create a homework score for your missed homework based on average of your other homework scores).

Mastering Physics Homework: The first time you log on to the Mastering Physics website (PearsonMyLabMastering.com) using the access code (provided with your custom textbook), you will be asked to enter your name (this MUST match the official name that the UO uses for its Canvas website) and also the course ID: taylor70295 (for the noon class titled UOPHYSICS201TAYLORNOON2016) or taylor91105 (for the 2pm class titled UUPHYSICS201TAYLOR2PM2016). Take care to register for the correct course! The introduction will teach you how to use Mastering Physics. Because you will be learning how to use the system during the first homework, this assignment will be shorter and be worth fewer points than subsequent homeworks. The problems are taken from the on-line system and their numbers do not correspond to those in the textbook. It is recommended that you print off your assignment and work off-line, going back on-line to submit your answers. You will be allowed 6 attempts at each problem.

Grading:
Tutorials (13%) + Homeworks (20%) + Mid-term 1 exam (21% each) + Mid-term 2 exam (21% each) + 1 Final exam (25%)
You are expected to participate in all three graded components of the course (tutorials, homeworks and the three exams). Note also that the physics department has a zero tolerance policy regarding cheating. If you cheat, you will not receive a grade for the course.

Tutorial points: 13% of your grade will be based on tutorial attendance as follows. Miss none = 13%, miss one or two tutorials = 12%, miss three = 10%, miss four = 8%, miss five = 6%, miss six = 4%, miss seven = 2%, miss eight = 0%. You may make up for a tutorial during the same cycle in another session if you have advance permission from your tutorial’s teaching assistant. A tutorial cannot be made up by attending a tutorial in the next cycle.

Homework grades: There are 8 homeworks and your lowest score will be dropped. Any concerns about the homework scores can be addressed to your teaching assistant or to me. Each week, a histogram of homework scores will be presented in the lecture to give you an idea of your performance relative to your classmates.

Exams: The two midterms will take place in Weeks 4 (Oct 18th) and 7 (Nov 8th) from 5.30-6.30pm in Coumbia 150. The final will take place in Finals Week (Dec 7th) from 5-7pm in Straub 156.

**Textbook Reading**

Reading the textbook will greatly enhance your understanding. To help you, the following is an approximate schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Book Section</th>
<th>Topics</th>
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<tbody>
<tr>
<td>1</td>
<td>1.4</td>
<td>Measurements and accuracy (Lecture 1)</td>
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<td></td>
<td>1.1-1.3</td>
<td>Kinematics in one dimension (2)</td>
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<td>2.1-2.3</td>
<td>Graphical representation (2)</td>
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<td>2.4-2.6</td>
<td>Motion with constant acceleration (3)</td>
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<tr>
<td>2</td>
<td>2.7</td>
<td>Acceleration and Free Fall (4-5)</td>
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<td></td>
<td>4.1</td>
<td>Newton’s First Law of Motion (5)</td>
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<td></td>
<td>4.4, 4.5</td>
<td>Newton’s Second Law (6)</td>
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<tr>
<td>3</td>
<td>4.7</td>
<td>Newton’s Third Law (7)</td>
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<td></td>
<td>5.3</td>
<td>Weight, Normal Force (8)</td>
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<td></td>
<td>1.5 (3.3)</td>
<td>Vectors (8)</td>
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<td></td>
<td>3.5</td>
<td>Vectors and relative motion (9)</td>
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<td>3.6-3.7</td>
<td>Projectile motion (9)</td>
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<td>4</td>
<td>5.1-5.2</td>
<td>Newton’s laws in two dimensions (10)</td>
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<td>4.6</td>
<td>Free body diagrams (10)</td>
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<td>5.5-5.8</td>
<td>Tension, Drag, Friction (11)</td>
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<td>5</td>
<td>3.4</td>
<td>Ramp motion (12)</td>
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<td></td>
<td>3.2, 3.8, 6.1-6.3</td>
<td>Circular motion (12-13)</td>
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<tr>
<td></td>
<td>6.4-6.5</td>
<td>Gravitation (13-14)</td>
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Gravity (orbits) (15)
Momentum and Impulse (15-16)
Work (16-17)
Kinetic and potential energy (17)
Conservation of energy (18-19)
Power (19)
Energy in Collisions (19-20)
Center of mass (20)
Rotational motion (21)
Torque, Inertia, Work (21-22)
Angular momentum (22)
Bodies in equilibrium (23)
Elasticity and stretching (23)
Fluids, density, specific gravity (24)
Pressure (24-25)
Buoyancy (25)
Fluids in motion (25)