COLLEGE PHYSICS I (NET COURSE)  
PHYS 1310, SECTION N AND LAB SYLLABUS SUMMER 2016

<table>
<thead>
<tr>
<th>CONTACT INFORMATION</th>
<th>TEXT</th>
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</table>
| Instructor: Dr. Andrew Young  
You may call me Dr. Drew. | REQUIRED: University Physics (14th Edition)  
by Young and Freedman with MasteringPhysics. Published by Pearson.  
Yes, we will use the same textbook for Physics 1320 (Physics 2). |

<table>
<thead>
<tr>
<th>LABKIT</th>
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| REQUIRED:  
Physics Lab Kit From eScience Labs  
SKU: CC2601  
More details in the syllabus. |

<table>
<thead>
<tr>
<th>LECTURE/LAB TIMES</th>
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</table>
| Office Hours: Monday, Wednesday 9:00 AM to 11:00 AM, Friday 9:00 AM to 10:00 AM, and by appointment and drop ins.  
Phone#: 1-307-268-2243 |
| Email Address: ayoung@caspercollege.edu  
(email is usually the best way to contact me)  
Office: PS 206  
Feel free to stop by my office anytime if you need help. You are welcomed to schedule an appointment. |
| Lecture (Section N): ONLINE  
Lab: ONLINE. Do not register for the in-class section. Do not attend the in-class section. |
| MASTERINGPHYSICS Course ID:  
YOUNGONLINEPHYS1310SUMMER2016 |

| Academic Dates:  
Withdrawal Deadline: July 6, 2016 |
|--------------------------|
| As this is a summer course, all timelines are accelerated. You must purchase the book and masteringphysics access in order to complete all labs, assignments, exams, etc…  
Last update: 5/29/16 |
| There will be no extensions for assignments as the summer session duration is too short for any delay. |

SYNOPSIS
Welcome to Physics 1310! This is the first course in a year long sequence that studies fundamental aspects of physics. In this class, we will cover classical mechanics in great detail. We shall start with the concepts of motion and kinematics. Afterwards, we will examine motion in more complex dimensions, such as plane and circle. In addition, we shall cover the fundamentals of the conservation laws for energy and momentum. Finally, we will apply Newtonian mechanics to various systems, including the forces of gravity, rotational bodies, and oscillations. I hope you will enjoy this class.

This course is normally taken by students who are concentrating in the physical sciences (geology, chemistry, biology, physics, science for el. ed., etc…). Regardless of whether you want to do the science, teach the sciences, or are just interested in a more in-depth physics course, the course work will require a midlevel proficiency in English, mathematics, and science. In this course, the qualitative and quantitative details of many physical phenomena will be explored at a level higher than that of an algebra-based course. In addition to the lab work, you will be completing a rigorous amount of homework assignments. Doing physics means applying a lot of mathematical (calculus and algebra) and physical concepts in a variety of context. Thus, an enormous amount of effort should be spent on understanding these fundamental tools and using them as if they were second nature to you.
Please read the entire syllabus carefully. You are responsible for all of the requirements and procedures described herein. You are also responsible for all announcements (whether verbal or on powerpoint), assignments, videos, demonstrations, and changes in the dates when material is discussed in lecture, etc..., whether or not you are in class. This syllabus is subject to minor revisions and modifications as needed.

As this is an on-line course, the impetus is on you to ensure progression through this content. While being on-line offers the flexibility to arrange your education timeline in conjunction with your work and personal life, you are still required to be an active participant in the learning process. This includes communication with your instructor (when needed or required), completion of the on-line assignments, retrieval of documents on-line, and mental consumption of material, wherever it may lie. Your instructor is your guide on this academic journey, but it is you who must walk the steps to reach the finish line.

<table>
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<tr>
<th>GRADES: 1000 points total, comprised of:</th>
<th>GRADING SCALE</th>
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<tbody>
<tr>
<td>Midterm 1: 8% (80 points)</td>
<td>A, 870 to 1000 points</td>
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<tr>
<td>Midterm 2: 8% (80 points)</td>
<td>B, 750 to 869 points</td>
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<tr>
<td>Midterm 3: 8% (80 points)</td>
<td>C, 625 to 749 points</td>
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<tr>
<td>Midterm 4: 8% (80 points)</td>
<td>D, 500 to 624 points</td>
</tr>
<tr>
<td>Final Exam: 8% (80 points)</td>
<td>F, 499 points and below</td>
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<tr>
<td>Homework: 21% (210 points, 15 points per assignments, 14 assignments)</td>
<td>Exams consist of lecture, lab, homework, and textbook material.</td>
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<tr>
<td>Lab: 19.5% (195 points, 15 points per lab [2 pts pre-lab, 10 points main lab, 3 pts post lab], 13 labs)</td>
<td>Grades and work are not transferrable between live and internet sections.</td>
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<tr>
<td>Podcast Assignment: 19.5% (195 points, 15 points per assignments, 13 assignments)</td>
<td>There is no grading curve. The scale is set above.</td>
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Course Description:
First semester course in physics designed for those majoring in physics, engineering, mathematics, or physical sciences. Topics covered are mechanics and heat.

Prerequisite:
MATH 2200: Calculus 1

Goal:
Learn the fundamental properties of forces, energy, and kinematics. Use them in both a linear and rotational context. See the applications in the natural world and in products of humanity.

Moodle:
The first order of business is to stay up-to-date on materials for this course. In order to do this, you will need to access Moodle. It is your responsibility to register for Moodle access and to familiarize yourself with the class layout. Please be sure to contact me if you are having problems accessing it. Documents on-line may include powerpoint lectures, homework solutions, assignment and exam schedules, and other assorted items. You will download and read and listen to all of the files on Moodle.

Exams:
Exams consist of in-class learning activities, lecture, homework, and textbook material. It may be essays, short answers, or a combination there of. Essays may be entirely math based. All midterms and the final exam will be cumulative. Show your work on all exams to receive partial credit. Additional guidelines will be posted one week prior to exam. Exams will be conducted on-line on www.masteringphysics.com.

Faculty Initiated Withdrawal:
I reserve the right to initiate a Faculty Initiated Withdrawal per the guidelines of the Casper College Catalog and should any of these conditions occur: Failure to register for www.masteringphysics.com, two missed exams, incompletion of two week’s worth of assignments, or failure to login to this course shell through Moodle for 2 consecutive weeks. Students who register late for the course are still subject to these conditions.

**Retention Alert:**
I reserve the right to send out a Retention Alert should any of the following occur: Incompletion of one week’s worth of assignments, missed exams, failure to register for www.masteringphysics.com within 1 week of the class start date, failure to login to this course shell through Moodle within 1 week of the class start date. Students who register late for the course are still subject to these conditions.

**The Philosophy of Science:**
Science is an investigation of the natural world. We strive to quantify and qualify the objects and events that we see in the universe through a process of data collection and thorough analysis. We also try to make a prediction of the things we may see based on what we know. Science is more than just generating numbers. The important thing is to understand each seemingly isolated event and integrate them into a bigger picture. It is important to understand what we know through the process of the scientific method. Have fun learning!

**Chain of Command:**
If you have any problems in the class, you should first contact the instructor in order to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then move on to the department head, dean, and lastly, the vice president for the academic affairs.

**Readings:**
There will be assigned reading for the week. You are responsible for buying the correct book for my class. If you wish to purchase the e-text version, you may do so. You are also responsible for keeping up with the reading. I will post the assigned reading on-line each Monday on Moodle. Please do not delay the purchase of this book. Waiting for the lowest bid on E-bay or requesting free shipping from Amazon does not relieve you of the academic obligations required in this class.

**Computing Expectations:**
Please note, as you are registered for an online class, you must have access to the following things:

- A working computer with Firefox browser, Adobe Flash Player, Adobe Acrobat reader, Quicktime, Microsoft Powerpoint viewer, Microsoft Word viewer and Microsoft Excel viewer, iTunes (or other .mp3 application) and Javascript enabled. These programs must be kept up to date. If you wish to try other programs/browsers to see if they work, that is up to you, but you are responsible for making sure those programs work.
- Your computer must have the operating system and hardware requirements to be able to handle the demands placed on the system.
- A working internet connection (at least DSL speed).
- A printer.
- A valid email account.
- A high level of tech savvy, independence, and perseverance.

Computers for student use are available at Casper College at various facilities (such as the Math Learning Center in the Physical Science Building). Computers for general use are typically available at public libraries in your community.

Today, thanks to the internet, we now have a wonderful communication system. You must have a valid e-mail address. Activate your Casper College email. Full inboxes are not valid reasons to ignore email. You must also check your email every few days as I will send a broadcast message out at least once a week. Taking an on-line
class does not obviate the need for instructor/student communication. Because this is an on-line class, e-mail will be the primary method of communication. If you ask me a question on email, you should check your email daily for a response.

I strongly suggest that you start working on internet assignments as early as possible. You never know when the internet may experience heavy traffic, or if lightning will hit your house and zap your electronics.

I will be happy to help you as best I can to address your computing issues. Please keep in mind though that you must adhere to the basic requirements listed above in order to accomplish the tasks set out in this class. Having anything less may compromise your performance.

While it may seem like a lot of computing expertise is needed for the class, in fact it is no different than having an automobile. As a driver of a car, you are expected to know how to use the steering wheel, pedals, and change gears. You are also expected to respond to traffic lights, signs and other cars and pedestrians in the street. Finally, you are probably capable of filling up your gas tank, inflating your tires, and adding in windshield wiper fluid. The same level of proficiency you show for your car is expected for your computer as well. Welcome to the digital highway. Buckle up and fasten your seatbelts.

**Homework:**
- Homework enables you to solidify your grasp of the new material. It is the normal way to develop skills, and to integrate the new material into your overall knowledge of the subject. In class, you can often be quite passive, and although it may seem that the new material is totally clear and easy to follow, it is only after you try the problems on your own that true learning has occurred. In addition, while I may see many nods of agreement in the classroom, one of the more definitive ways to assess your understanding is through homework.
- Since the emphasis of this class is to do science, the homework is very important. I encourage you to study together. You may help each other to find how to solve a problem, but you must show all of your work and present your own discussion and steps needed to achieve the solution. This means you should not simply copy another student’s work. Weekly assignments will be posted on-line and are due per the schedule. No late homework will be accepted.
- Homework is to be done on-line. Homework will not be accepted through any other means. The website is: http://www.masteringphysics.com
- You will have an access code associated with your textbook. It is located on a separate piece of cardboard. You will need to use that code to sign up for the course. As a new student you will have to register with a name and password. Go to the website and click on Students in the Register area. Follow the instructions on the website to register your access code.
- If you bought a book without a code, you can buy one separately also on http://www.masteringphysics.com. Go to the website and click on Students in the Register area. You will be given the option to purchase access online. Follow the instructions on the website to purchase the code.
- Once you have successfully registered, you can then sign up for the course using a special course ID.
- The course ID is: **YOUNGONLINEPHYS1310SUMMER2016**
- You cannot use a previous course ID. You cannot use any other course ID. You cannot use or borrow anyone else’s access code. Your code must be your own and under your name. No substitutes will be accepted.
- This website has nothing to do with Casper College. Casper College Distance Education or Information Technology cannot help you. Your Casper College login information cannot help you. Please contact me for any questions regarding the process. I may direct you to the Publisher’s contact for more information.

**Podcast Assignment:**
- Each week a podcast will be released on Moodle for you to download in .mp3 format and listen.
- The podcast will contain a short synopsis of the previous week’s lecture.
These podcasts will contain several questions for you to answer. You must answer these questions on-line on http://www.masteringphysics.com. Podcast assignments will not be accepted through any other means.

**Extra Credit:**
There is no such thing as extra credit. Period. Don’t even bother asking. You already have plenty to do. If you are not doing the assigned labs, homeworks, and exams, then you are not working on the basics. Doing extra work while ignoring the fundamentals will not impress me.

**Review Sessions:**
There is no such thing as a review session. That is why I have office hours, an email address, and a phone. People have come to my office hours before and lived to tell about it. I am not an ogre, agent, sith lord, or ring-wraith.

**Lab Policy and Procedure:**
Labs are conducted on-line. Lab is automatically incorporated into the on-line section. Please do not register or attend the campus live section, as you will not receive credit. There are no substitutions or replacements.

Laboratory work is an integral part of the learning process. It is within these sessions that your instructor can introduce new material, or emphasize material mentioned in the lecture or textbook. The lab work conducted will involve a significant amount of quantitative and qualitative analysis. To gauge your understanding of the lab work, the exercises contained in this document will be considered as testable material for the exams.

Lab is to be done on-line. Lab will not be accepted through any other means. You will need to obtain lab documents and material on Moodle. After that, head to the website is: http://www.masteringphysics.com

- You will have an access code associated with your textbook. It is located on a separate piece of cardboard. You will need to use that code to sign up for the course. As a new student you will have to register with a name and password. Go to the website and click on **Students** in the **Register** area. Follow the instructions on the website to register your access code.
- If you bought a book without a code, you can buy a code separately also on http://www.masteringphysics.com. Go to the website and click on **Students** in the **Register** area. You will be given the option to purchase access online.
- Once you have successfully registered, you can then sign up for the course using a special course ID.
- The course ID is: **YOUNGONLINEPHYS1310SUMMER2016**
- You cannot use a previous course ID. You cannot use or borrow anyone else’s access code. Your code must be your own and under your name. No substitutes will be accepted.
- Pre-labs and post labs are also part of your lab grade. They are designed to get you ready for the main lab, and to assess your knowledge after the lab is done.
- This website has nothing to do with Casper College. Casper College IT cannot help you. Your Casper College login information cannot help you. Please contact me for any questions regarding the process. I may direct you directly to the Publisher’s contact for more information.

**Lab Kit Purchase:**
Please see the next page for purchasing your lab kit to do the labs.
Your course requires the purchase of a lab kit. It contains all of the materials you will need to perform the labs for this course. Please order well in advance of the course start date!

![Image of lab kit]

**Ordering Your Kit:**

Your lab kit is available directly from the eScience Labs website. They will ship it directly to you.

For PHYS 1310, your custom code is: **CC2601**

To place your order follow the steps outlined below:

- Go to [www.esciencelabs.com](http://www.esciencelabs.com)
- Go to the top right corner and create a new account (if you do not have one already)
- Once logged in, click on the “Have a Code” button on the upper right side of the page
- Enter your **SKU (CC2601)** and proceed to check out

**Processing Timeline:**

Please allow up to 3-5 business days to process your order and an additional 3-5 business days for delivery. eScience Labs ships all lab kits through standard UPS Ground. Kits may be expedited for an additional charge if needed. Please call 1-888-ESL-KITS for more information.

**Getting Help from eScience Labs:**

If you need any further assistance, our Customer Support team can be reached over the phone (888-375-5487) Monday through Friday, 8am – 5pm Mountain Standard time. For after hours or weekend help, please email [info@esciencelabs.com](mailto:info@esciencelabs.com) for assistance.

**eScience Labs Return Policy**

These science kits are warranted only to contain their stated list of equipment and supplies. Only fully intact and resalable products returned within 30 days of receipt qualify for a refund.

Student must contact eScience Labs, Inc. in advance to request a Return Merchandise Authorization and shipping instructions.

Kits returned without a Return Merchandise Authorization will be refused by eScience Labs. Authorization of refund will be completed within 3-5 days of receiving the returned kit.

A restocking fee equal to 10% of the product price for inspecting and restocking and any return shipping costs will be deducted from any refund.

Estimated purchase price $180.00 (not including tax, shipping, handling, or other assorted fees).
Accommodative Services for Students with Disabilities:
Any students with special learning needs must contact their instructor during the first two weeks of class. A signed letter from Accommodative Services documenting your needs is required. Accommodations cannot be made without the letter. Only when the letter is received upon request of the student will the accommodations be implemented. Accommodations are not retroactive to past exams, essays, etc... and can only be instituted beginning on the date of the receipt. In particular, those students taking exams through Accommodative Services MUST schedule to take their exam on the same date and begin at the same start time as the classroom examination.

Academic Standards:
The Casper College Student Code of Conduct will be followed. You are responsible for being familiar with these codes. Students are welcome to work together, exchange ideas, etc. However, EACH STUDENT MUST DO THEIR OWN MEASUREMENTS AND OWN CALCULATIONS. Copying of someone else's measurements, calculations, observations, ideas, and/or writings, of plagiarism of any sort, is equivalent to cheating and will be handled accordingly.

Course Registration:
You must register for lecture in this course by the start date of the academic semester. Late registration for this course does not absolve you of missed homeworks, labs, exams, or other material. Unless there are extenuating circumstances for your late registration (upon which your instructor will decide), no make ups will be available.

General Class Schedule (subject to revision):

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>1</td>
<td>Vectors</td>
</tr>
<tr>
<td>2</td>
<td>1-D Kinematics</td>
</tr>
<tr>
<td>3</td>
<td>2-D Kinematics</td>
</tr>
<tr>
<td>4</td>
<td>Kinematics/Forces</td>
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<tr>
<td>5</td>
<td>Forces</td>
</tr>
<tr>
<td>6</td>
<td>Forces</td>
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<tr>
<td>7</td>
<td>Work</td>
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<tr>
<td>8</td>
<td>Energy</td>
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<tr>
<td>9</td>
<td>1-D Momentum</td>
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<tr>
<td>10</td>
<td>1-D Momentum</td>
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<tr>
<td>11</td>
<td>2-D Momentum</td>
</tr>
<tr>
<td>12</td>
<td>2-D Momentum</td>
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<tr>
<td>13</td>
<td>Rotational Kinematics</td>
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<tr>
<td>14</td>
<td>Torque</td>
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<tr>
<td>15</td>
<td>Rotational Dynamics</td>
</tr>
<tr>
<td>16</td>
<td>Buoyancy</td>
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FINAL EXAM

FINAL NOTE:
By registering for this class, you of course accept all the policies and stuff described in this syllabus!
It is not the responsibility of the faculty to constantly remind you of the terms of this syllabus.