Overview: The goal of this course is to give you a sound introduction to classical physics. This will include studying basic concepts in physics and development of problem solving skills. It is essential that you keep up with the material from the start as the concepts presented in this course build on each other.

Learning Objectives: Upon completion of this course you should have:

- improved your critical thinking and problem solving skills.
- gained both a quantitative and qualitative understanding of classical physics.
- gained the ability to use previously learned concepts in new contexts.
- gained an appreciation of physics.

Required Materials: You will need the following materials for the course:

- *Physics, 6th Edition*, Giancoli
- Access to *Mastering Physics*, the online homework system we will use in this course
- iClicker, a radio frequency personal response device

Expectations: This is a university science course and it will be taught at that level. The use of mathematics will be necessary for understanding the topics that we will cover, like it is in any science course. The mathematics we will use in this course are algebra, geometry, and trigonometry and it is imperative that you are comfortable with these to be successful in this course.
Attendance, while not mandatory, is *highly recommended*. Homework assignments and exams will be based on material that is presented in lecture.

To be successful in this class, time will need to be spent outside of lecture reviewing information from the course. It is highly recommended that you keep up with the reading assignments that are posted on the schedule to gain a better understanding of the concepts being presented in lecture. Weekly homework assignments also make up a large portion of your overall grade. These assignments will usually take 2-5 hours to complete so don’t wait until the last minute to start your homework. Remember that at the UM, one “unit” represents 3 hours of work by the student including class time. Being a four unit course, you can expect to put around 12 hours per week into the course to be successful.

**Grading:** Your grade for the course will be based on weekly homework assignments, four midterm exams, and a final exam. Midterm exams will be held in the evening in Urey Lecture Hall. *Late homework will not be accepted and make up exams will only be given in extreme circumstances.* The grading for the course will be broken down as follows:

- **Homework:** 25%
- **Midterm Exams:** 12.5% each (50% total)
- **Final Exam:** 25%

This course can only be taken with the traditional grading option. The letter grades in this course will be based on a curve, giving you the grade that you earn. The curve will be determined by the performance of the class as a whole, but I do not have a set number of A’s, B’s, etc. predetermined. *Note: the last day to add or drop the course via Cyberbear is September 17th. The last day to drop the course without the Dean’s signature is October 29th.*

**Course Etiquette:** This is a large lecture environment. In order to keep the environment conducive for learning please:

- arrive on time. Lectures will begin promptly at 9:10.
- do not start packing your things early, this can be very distracting. I will not keep you late and lectures will end by 10:00.
- keep cell phones set to vibrate, silent, or off and keep them put away throughout the lecture. I promise that you will get more out of the course if you do not spend lecture time texting and updating your facebook page.
Registering for *Mastering Physics*

1. Go to [www.masteringphysics.com](http://www.masteringphysics.com)
2. Click the STUDENT link under REGISTER

**If you have purchased an access code**

3. Click the button for yes, I have an access code and accept the licensing agreement
4. Create a User Name and Login that you will use for the rest of the semester
5. Enter your Mastering Physics access code
   You may need the schools zip code which is 59812
6. Complete the registration

**If you have not purchased an access code**

3. Click the button for no, I need to purchase online access now
5. Decide if you want the etext or not
6. Follow the steps above
7. Login to Mastering Physics
8. Join the course using the Course ID—**MPBULMAHN07856**

Registering Your iClicker:

1. Go to [www.iclicker.com](http://www.iclicker.com) and click on register you iclicker.
2. Enter you first and last name exactly as they appear on your student ID. For your ID use your 9-digit UM student ID# (790******).
3. Enter your iclicker remote ID (found on the back of your iclicker).
4. Send me an email ([alexander.bulmahn@umontana.edu](mailto:alexander.bulmahn@umontana.edu)) with the subject PHSX 205 and the body in the format: Lastname, Firstname, student ID# (make sure to put in commas and a space after each comma)
<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topic</th>
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<tr>
<td>1</td>
<td>8/27—31</td>
<td>Introduction, Kinematics in 1D, Vectors</td>
<td>Ch. 1, Ch. 2, Ch. 3.1-4</td>
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<td>2</td>
<td>9/3—7</td>
<td>Kinematics in 2D, Newton’s Laws</td>
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<td>3</td>
<td>9/10—14</td>
<td>Dynamics, Circular Motion</td>
<td>Ch. 4.7-9, Ch. 5.1-3</td>
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<td>4</td>
<td>9/17—21</td>
<td>Gravity Midterm Exam #1, Thursday 9/20 6:10-8:00 pm</td>
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<td>5</td>
<td>9/24—28</td>
<td>Work and Energy</td>
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<td>6</td>
<td>10/1—5</td>
<td>Linear Momentum</td>
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<td>Rotational Motion and Torque Midterm Exam #2, Thursday 10/11 6:10-8:00 pm</td>
<td>Ch. 8.1-5</td>
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<td>8</td>
<td>10/15—19</td>
<td>Static Equilibrium and Rotational Dynamics, Energy and Momentum</td>
<td>Ch. 9.1-3, Ch. 8.6-9</td>
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<td>10/22—26</td>
<td>Fluids</td>
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<td>10/29—11/2</td>
<td>Harmonic Motion Midterm Exam #3, Thursday 11/1 6:10-8:00 pm</td>
<td>Ch. 11.1-6</td>
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<td>11/19—23</td>
<td>Temperature and Thermal Expansion Thanksgiving Break</td>
<td>Ch. 13.1-4</td>
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<td>11/26—30</td>
<td>The Ideal Gas Law, Kinetic Theory, and Heat Midterm Exam #4, Thursday 11/29 6:10-8:00 pm</td>
<td>Ch. 13.6-10, Ch. 14</td>
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<td>12/3—7</td>
<td>Thermodynamics</td>
<td>Ch. 15.1-4</td>
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<td>16</td>
<td>12/10—14</td>
<td>Finals Week Final Exam, Monday 12/10 8:00-10:00 am</td>
<td>Exam in 131 CHCB</td>
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**Academic Honesty:** All students must practice academic honesty. Academic misconduct is subject to penalty by the course instructor and/or disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at [http://life.umt.edu/vpsa/documents/StudentConductCode1.pdf](http://life.umt.edu/vpsa/documents/StudentConductCode1.pdf).

**Students with Disabilities:** Whenever possible, and in accordance with civil rights laws, The University of Montana will attempt to provide reasonable modifications to students with disabilities who request and require them. Please feel free to setup a time with me to discuss any modifications that may be necessary for this course. For more information, visit the Disability Services for Students website at [http://www.umt.edu/disability](http://www.umt.edu/disability).

**Complaint Procedure:** If anyone is having issues with the way that the course is being taught or the way that material is being presented I hope that you will come to me first to express your concerns. If you feel that you cannot come to me with these issues you can contact the chair of the department, Dr. Andrew Ware, 132 CHCB.