Department of Physics  
PHYS 111-002 GENERAL PHYSICS I  
Spring 2015

Instructor: Dr. S. Jay Olson, Office: MPCB 312, phone: 208-473-1859  
Physics Department phone: 426-3775  
Office Hours: Tues. & Thurs. 2:00-3:00 or by appointment

Course Description
PHYS 111-112 GENERAL PHYSICS (3-3-4)(DLN). Mechanics, sound, heat, light,  
magnetism and electricity. This course satisfies the science requirement for the  
bachelor of arts and bachelor of science curricula and may be taken by forestry, pre-  
dental and pre-medical students. Recommended background: high school physics  
or PHYS 101. PREREQ: for PHYS 111: MATH 144 or MATH 147 or satisfactory  
placement score into MATH 170. PREREQ: for PHYS 112: PHYS 111.

Meeting Times and Classroom
Section 002: Tuesday and Thursday, 3:00-4:15 PM, MPCB 101

Please do not be late for class. This is disruptive and inconsiderate to others.

Textbooks and Required Materials
- Knight, Jones, and Field, College Physics, 3rd ed., Pearson, 2015  
- Lab book: Riemann, Cooperative Exercises in Physics PHYS-111  
- A scientific or graphing calculator  
- Clicker or ResponseWare app. You need to bring a registered clicker or  
  ResponseWare app to every class, or you will not receive points for clicker  
  questions. Be sure it is registered on Blackboard (Tools → Turning Technologies  
  Registration Tool).

Course Evaluation
Your current grades, except for the Mastering Physics homework, will be posted in  
the Gradebook in Blackboard. The Mastering Physics homework grade will be  
transferred to Blackboard at the end of the course. A single grade is assigned for the  
entire course, including the lab, weighted as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Component</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>55%</td>
<td>Exams</td>
<td>&gt;97% A+</td>
</tr>
<tr>
<td>20%</td>
<td>Online Homework</td>
<td>94-97 A</td>
</tr>
<tr>
<td>20%</td>
<td>Labs</td>
<td>90-94 A-</td>
</tr>
<tr>
<td>5%</td>
<td>Participation</td>
<td>87-90 B+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>84-87 B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80-84 B-</td>
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</table>

The Blackboard gradebook will calculate your current grade using these weightings  
and cutoffs. The grade calculated in Blackboard at the end of the course is the grade  
you will get. Please do not ask me to give you a higher grade.
Exams

There will be four exams including the final. Exams are 55% of your final grade. All exams will be taken in the Online Testing Center on the 4th floor of the Education building. Here are some useful guidelines:

- You need to make an appointment to take your exam. The center is very busy so make your appointment soon at
  [http://ctl.boisestate.edu/idea/tools-and-facilities/online-testing-center/](http://ctl.boisestate.edu/idea/tools-and-facilities/online-testing-center/)
- Do not miss your appointment. You probably will not be able to reschedule.
- You are allowed to bring a standard-size sheet of paper with handwritten formulas to the exam. Be sure to write your name on your formula sheets. They will be collected after you finish your exam.
- Make sure that you bring your scientific calculator. Bring extra batteries in case the calculator dies.
- Exceeding the 75-minute time limit on an exam will result in a score deduction of one point per minute, unless you have prior permission for extended time.

It is the student’s responsibility to know the policies and procedures of the Testing Center, which are listed on the testing center web page. Some highlights of the testing center policies:

- Schedule your appointments early. If you procrastinate you might find that you must schedule your exam during an inconvenient time or that the appointment spots might fill up.
- The Testing Center requires a valid student ID.
- No cell phones are allowed in the Testing Center.
- Any example of academic dishonesty (including but not limited to using non-sanctioned test aids, crib-sheets during the exam, using cell phones, observing the work of others in the testing center, etc.) will be reported and taken seriously by the department and the university. Repercussions can include a zero on the exam, an F in the course, or additional sanctions from the Office of the Dean of Students.

Missed Exams: If you have a compelling reason to miss an exam you must make arrangements with me PRIOR to the exam. If no arrangements are made prior to the exam a grade of zero will be earned.
Homework
Homework is worth 20% of your grade. All homework will be done on the Mastering Physics website (www.masteringphysics.com). The class ID is S15OLSON111002

Our Zip code is 83725.

Please make sure that the name you use on Mastering Physics is exactly the same as your name on Blackboard.

Pay attention to the due dates. Late homework may still be submitted but will lose 20% of the points for each day overdue.

Labs
Students must register for a laboratory section. There will be 14 lab activities available. Since only 13 labs are required, the 14th lab activity can be used as a make-up lab. The lowest lab score of the 14 labs will be dropped at the end of the semester. If you have to miss a lab, you can attend a different lab section that week with permission from both the lab instructors. This can be done a maximum of twice during a semester.

Participation
Participation points are primarily attendance points based on participating in Clicker questions, but may also include worksheets, quizzes, or other in-class activities. In any case, points are given for participating, not for getting the correct answer.

Student Contributions
Regular classroom attendance is expected. Changes to the syllabus, schedule and/or assignments may be announced in class. It is the student’s responsibility to be aware of any such changes. Students may be dropped from the class for excessive non-attendance.

All registered BSU students receive a Boise State email and Blackboard account. It is the student’s responsibility to access both accounts regularly to avoid missing important messages and deadlines.

All students are expected to conform to the BSU Student Code of Conduct. All persons are expected to act in such a manner as to maintain a positive and productive learning environment with respect for one another.

Academic Dishonesty
Academic integrity will be strongly enforced in this course. Any student caught cheating on any assignment or exam may fail the assignment or exam in question or fail this course. Academic Dishonesty is defined in the Student Code of Conduct (Article 2, Section 18). It is strongly suggested that you read and understand these definitions: http://osrr.boisestate.edu/scp-codeofconduct-article2/#18.

Additional disciplinary action may be pursued through the Office of the Dean of Students.
Special Accommodations
Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Disability Resource Center (DRC), http://drc.boisestate.edu/. All accommodations must be approved through the DRC. Please call 208-426-1583 or email drcinfo@boisestate.edu to make an appointment with a disability specialist.

Drop Policy
Students are responsible for adding and dropping courses. Students who stop attending a course without filing a drop request will receive a grade of F.

Disciplinary Lens Statement
Boise State’s Foundational Studies Program provides undergraduates with a broad-based education that spans the entire university experience. Phys 111: General Physics satisfies four credits of the Foundational Studies Program’s Disciplinary Lens requirement. It supports the following University Learning Outcome, along with a variety of other course-specific goals:

Apply knowledge and the methods characteristic of scientific inquiry to think critically about and solve theoretical and practical problems about physical structures and processes.

Phys 111: General Physics is designed to develop an understanding of the nature of Newton’s laws of motion, conservation laws of Momentum and Energy, Fluids, Thermodynamics, and simple harmonic motion. This course helps to achieve the goals of the Foundational Studies Program by focusing on the following course learning outcomes. After successful completion of this course, you will be able to:

- Correctly interpret and draw motion diagrams as well as plots of motion.
- Correctly interpret and solve problems involving Newton's laws of motion
- Correctly interpret and solve problems involving conservation of momentum and conservation of energy
- Correctly interpret and solve problems involving fluids, thermodynamics, and simple harmonic motion
## Schedule (subject to change)

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topic</th>
<th>Labs</th>
<th>Exams</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1/1</td>
<td>1/6</td>
<td>Chapter 1 - Concepts of Motion 1.1-1.6</td>
<td>NO LAB</td>
</tr>
</tbody>
</table>
| 2    | 1/9   | 1/9   | Monday Holiday  
Chapter 2 - Kinematics 2.1-2.7 | Lab 1: Motion |
| 3    | 1/6   | 1/3   | Chapter 3 - Motion in 2 Dimensions 3.1-3.8 | Lab 2: Motion with Constant Acceleration |
| 4    | 1/2   | 2/6   | Chapter 4 - Newton's Laws 4.1-4.7 | Lab 3: Force Table | Exam 1 (2/2-2/4) Ch 1-3 |
| 5    | 2/9   | 1/3   | Chapter 4.5 - Newton's Laws cont. | Lab 4: Friction, Acceleration, and Newton's Second Law |
| 6    | 2/6   | 2/6   | Monday Holiday  
Chapter 5 - Applying Newton's Laws 5.1-5.8 | Lab 5: Atwood's Machine |
| 7    | 2/3   | 2/7   | Chapter 6 - Circular Motion 6.1-6.6 | Lab 6: Angular Acceleration |
| 8    | 3/2   | 3/6   | Chapter 7 - Rotational Motion 7.1-7.7 | Lab 7: Torque | Exam 2 (3/2-3/4) Ch 3-5 |
| 9    | 3/9   | 3/3   | Chapter 8 - Equilibrium 8.1-8.3 | Lab 8: Impulse and Momentum 1 |
| 10   | 3/6   | 3/2   | Chapter 9 - Momentum 9.1-9.7 | Lab 9: Impulse and Momentum 2 |
|      | 3/2   | 3/2   | SPRING BREAK | |
| 11   | 3/3   | 4/3   | Chapter 10 - Energy and Work 10.1-10.8 | Lab 10: Energy of a Tossed Ball |
| 13   | 4/3   | 4/7   | Chapter 12 - Thermodynamics 12.1-12.2, 12.4-12.5, 12.8 | Lab 12: Specific Heat |
| 15   | 4/7   | 5/1   | Chapter 14 - Oscillations 14.1-14.5 | Lab 14: The Pendulum |
| 16   | 5/4   | 5/7   | Finals Week | Final (5/4-5/7) Ch 10-14 |