INTRODUCTORY PHYSICS FOR SCIENTISTS AND ENGINEERS

Physics 1212  Tu & Th  Period 5  2:00-3:15pm  Room 221  Fall Semester 2010

PHYS 1212 is the second semester of a two semester course in introductory physics. It is a four credit hour course requiring a working knowledge of calculus, trigonometry, algebra, and geometry.

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Web Page  www.physast.uga.edu/courses
Refer to this web page for general announcements, homework assignments, course schedule modifications, exam information, and syllabus updates.

Course Format

This course consists of two lectures and one laboratory per week. The lectures will be used primarily to supplement the material discussed in the book, not present it comprehensively. You will be expected to study assigned material before it is discussed in class. If you do not study the assigned material on your own or do not do the assigned reading before coming to class you will have difficulty in this course. You will be responsible for all the assigned material—it may appear in the homework or on an exam—even if it is not discussed in class.

You must also be registered for one of the laboratory sections which will meet once a week for two hours. The laboratory is required. Graduate teaching assistants will be assigned to be your lab instructors. They will assign you a laboratory grade at the end of the semester. I will include that grade in your overall grade for the course. Questions about the laboratory exercises should be directed to your lab instructor.

Office Hours  Thursdays after class
Room 251 Physics Building

Required Course Materials


Experiments for an Introductory Physics Course, by R. M. Wood and S. P. Lewis. 5th edition. Required for the laboratory section of the course. Available at the bookstore.

Mastering Physics online homework system. Access code included with the Knight text or available from www.masteringphysics.com.

Scientific calculator.

Homework
Homework will be assigned in class and graded using the *Mastering Physics* online grading system.

**Exams**

There will be three in-class midterm exams and a cumulative final exam. The two best midterm scores will be used to determine your course grade, the remaining one will be dropped. All midterm exams will be open book and open notes. Calculators are allowed, but the use of laptop or other computers is forbidden. Texting or the use of cell phones during exams is considered cheating. There will no make-up exams given: If you miss a midterm exam it will count as your dropped exam, regardless of whether or not the absence is excused and approved by the university. The in-class midterm exam schedule is provided below. The final exam will be at 3:30-6:30pm on Tuesday, December 14, at a location to be announced.

**Grading**

Your final grade will be determined according to:

- 2 best midterm exams (15% each) 30%
- homework 10%
- lab grade 15%
- final exam 45%

The grading scale is as follows (points rounded to the nearest integer):

- A 89 - 100%
- A- 86 - 88%
- B+ 83 - 85%
- B 79 - 82%
- B- 76 - 78%
- C+ 73 - 75%
- C 69 - 72%
- C- 66 - 68%
- D 60 - 65%
- F 0 - 49%

**Course Schedule**

<table>
<thead>
<tr>
<th>date</th>
<th>topic covered (tentative)</th>
<th>reading assignment</th>
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<tbody>
<tr>
<td>Tu Aug 17</td>
<td>nature of light (substitute)</td>
<td>21.1, 23.1-23.2</td>
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<tr>
<td>Th Aug 19</td>
<td>geometrical optics</td>
<td>23.3-23.4</td>
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<tr>
<td>Tu Aug 24</td>
<td>geometrical optics</td>
<td>23.6-23.8</td>
</tr>
<tr>
<td>Th Aug 26</td>
<td>optical instruments</td>
<td>24.1-24.2</td>
</tr>
<tr>
<td>Tu Aug 31</td>
<td>optical instruments</td>
<td>24.3-24.4</td>
</tr>
<tr>
<td>Th Sep 2</td>
<td>interference</td>
<td>22.2</td>
</tr>
<tr>
<td>Tu Sep 7</td>
<td>interference</td>
<td>22.3-22.4</td>
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<tr>
<td>Th Sep 9</td>
<td>diffraction</td>
<td>22.5, 24.5</td>
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<tr>
<td>Tu Sep 14</td>
<td>exam 1</td>
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<tr>
<td>Th Sep 16</td>
<td>electric charge and force</td>
<td>26.1–26.4</td>
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<tr>
<td>Th Sep 21</td>
<td>electric charge and field</td>
<td>26.5, 27.1–27.2</td>
</tr>
<tr>
<td>Th Sep 23</td>
<td>electric charge and field</td>
<td>27.3–27.6</td>
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<tr>
<td>Tu Sep 28</td>
<td>Gauss’s law</td>
<td>28.1–28.3</td>
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<tr>
<td>Th Sep 30</td>
<td>Gauss’s law</td>
<td>28.4–28.6</td>
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<tr>
<td>Tu Oct 5</td>
<td>electric potential</td>
<td>29.1–29.4</td>
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<tr>
<td>Th Oct 7</td>
<td>electric potential</td>
<td>29.5–29.7</td>
</tr>
<tr>
<td>Tu Oct 12</td>
<td>potential and field</td>
<td>30.1–30.3</td>
</tr>
<tr>
<td>Th Oct 14</td>
<td>potential and field</td>
<td>30.4–30.6</td>
</tr>
</tbody>
</table>
Tu Oct 19  exam 2  
Th Oct 21  electric current 31.1–31.5  
Tu Oct 26  dc current circuits 32.1–32.4  
Th Oct 28  dc current circuits 32.6–32.9  
Tu Nov 2  magnetic force 33.1–33.4  
Th Nov 4  magnetic force 33.6–33.8  
Tu Nov 9  Faraday induction 34.1–34.4  
Th Nov 11  Faraday induction 34.5–34.9  
Tu Nov 16  electromagnetic waves 35  
Th Nov 18  exam 3  
Tu Nov 30  failures of classical physics 38  
Th Dec 2  quantum physics 39  

Academic Honesty

All academic work must meet the standards contained in the document *A Culture of Honesty*, available at [www.uga.edu/honesty](http://www.uga.edu/honesty). Every student is responsible for knowing and understanding this policy. If you have any questions concerning this you are obligated to ask me for clarification. Anyone caught cheating will be reported to the university and will receive an F for the course.

General Information

This syllabus is a general plan for the course and deviations may be necessary. You are responsible for attending every lecture. Each student is responsible for the material discussed in class and the announcements made in class. Absence from class does not relieve one of this responsibility.

If you are *retaking* the course and are happy with the final lab grade you received previously, you do not have to attend the lab. You do have to remain registered for the lab, but you do not have to attend. Please contact Tom Barnello, the Lab Coordinator (email: tjbar@physast.uga.edu, tel: 706-542-2903) before the end of the drop/add period so that your seat may be made available to another student. If you would like to improve your lab grade, you must attend the lab and do all of the lab exercises again and take another lab final.