General Physics II
Physics 222
Winter 2013 Syllabus

Instructor

- Frank Skorina
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Course Description
This course is the second in a three part series that introduces basic physics concepts. This course will use mathematics to model physical behaviors so algebra and trigonometry will be used heavily. Knowledge of calculus is required.

Specifically, this course will cover gravity, rotation, oscillations, fluids, thermodynamics, and waves. This course lays the foundation for engineering courses in dynamics, mechanics of materials, fluid mechanics, thermodynamics, heat transfer, and wave mechanics.

Class Schedule

- Mondays, Wednesdays, and Fridays, 12:30 pm – 1:20 pm, Room 225
- Tuesdays, 12:30 pm – 1:20 pm, Room 220
- Thursdays, 12:30 pm – **2:20 pm** (LABS), Room 225
- No class on Monday, January 21 (MLK’s Day)
- No class on Monday, February 18 (Presidents’ Day)
- No class on Wednesday, February 27 (Advising Day)
- Last class is on Friday, March 15
- Final exam is on Monday, March 18, 12:30 pm – 2:20 pm

Materials

- Physics for Scientists and Engineers, Second Edition by Randall D. Knight
- Mastering Physics on-line homework system
- Scientific calculator

Accommodations
If you have a disability and need accommodations, please see the instructor after class or contact Claudia Angus, the Disabilities Coordinator at claudia.angus@wwcc.edu or 509-527-4543.
Grading

- Homework, 1/12th
- Labs, 1/6th
- Exams, 3/4th
- Grade Table where x is the percent of points earned:

<table>
<thead>
<tr>
<th>Grade</th>
<th>x range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$\infty \geq x \geq 93$</td>
</tr>
<tr>
<td>B</td>
<td>$90 &gt; x \geq 87$</td>
</tr>
<tr>
<td>C</td>
<td>$80 &gt; x \geq 77$</td>
</tr>
<tr>
<td>D</td>
<td>$70 &gt; x \geq 67$</td>
</tr>
<tr>
<td>B-</td>
<td>$87 &gt; x \geq 83$</td>
</tr>
<tr>
<td>C-</td>
<td>$77 &gt; x \geq 73$</td>
</tr>
<tr>
<td>D+</td>
<td>$67 &gt; x \geq 60$</td>
</tr>
<tr>
<td>A-</td>
<td>$93 &gt; x \geq 90$</td>
</tr>
<tr>
<td>B-</td>
<td>$83 &gt; x \geq 80$</td>
</tr>
<tr>
<td>C-</td>
<td>$73 &gt; x \geq 70$</td>
</tr>
<tr>
<td>F</td>
<td>$60 &gt; x \geq -\infty$</td>
</tr>
</tbody>
</table>

Homework

- On-line homework given per chapter.
- Some written homework, usually due next class period.
- Questions on the homework will be answered at the beginning of class.
- Homework grade depends much on effort.

Quizzes

- A few quizzes may be given during the quarter.
- The quizzes will be announced, unless I don’t.
- Quizzes will count as a homework assignment.

Labs

- Most Thursdays
- Required participation

Exams

- Four exams during the quarter
- Lowest exam weighted at 50% of the other exams.
- Exam during finals week is not comprehensive.

Expectations

- Keep up with the material
- If you do not understand the material, take steps to understand it by
  1. Rereading the text and your notes
  2. Working with classmates
  3. Visiting the Science Learning Center
  4. Asking the instructor
Weekly Schedule

Week #1, January 2 – January 4
  Chapter 12 – Rotation of a Rigid Body (Sec. 12-8 to 12-11)

Week #2, January 7 – January 11
  Chapter 13 – Newton’s Theory of Gravity

Week #3, January 14 – January 18
  Exam #1 on Tuesday, January 15 (Chapters 12-13)
  Chapter 14 – Oscillations

Week #4, January 21 – January 25
  No class Monday, January 21
  Chapter 15 – Fluids and Elasticity

Week #5, January 28 – February 1
  Exam #2 on Friday, February 1 (Chapters 14-15)

Week #6, February 4 – February 8
  Chapter 16 – A Macroscopic Description of Matter
  Chapter 17 – Work, Heat, and the First Law of Thermodynamics

Week #7, February 11 – February 15
  Chapter 17 – Work, Heat, and the First Law of Thermodynamics
  Chapter 18 – The Micro/Macro Connection

Week #8, February 18 – February 22
  No class Monday, February 18
  Chapter 19 – Heat Engines and Refrigerators

Week #9, February 25 – March 1
  Chapter 19 – Heat Engines and Refrigerators
  No class Wednesday, February 27
  Exam #3 on Thursday, February 28 (Chapters 16-19)
  Chapter 20 – Traveling Waves

Week #10, March 4 – March 8
  Chapter 20 – Traveling Waves
  Chapter 21 – Superposition

Week #11, March 11 – March 15
  Chapter 21 – Superposition

Week #12, March 18 – March 20
  Final Exam on Monday, March 18 (Chapters 20-21)

Disclaimer
Instructor reserves the right to make changes to this syllabus at any time.