Engineering Physics II
Physics 222
Winter 2014 Syllabus

Instructor
- Frank Skorina
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- 527-4578 (w), 301-3839 (c)

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 106
- Thursdays, 12:30 pm – 2:20 pm (LABS), Room 225
- No class on Monday, January 20 (MLK's Day)
- No class on Monday, February 17 (Presidents' Day)
- No class on Tuesday, February 25 (Advising Day)
- Last class is on Tuesday, March 18
- Final exam is on Wednesday, March 19, 12:30 pm – 9:30 pm

Materials
- Physics for Scientists and Engineers, Second Edition by Randall D. Knight
- Sapling Learning 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

- Five 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 6 – January 10
   Chapter 12 – Rotation of a Rigid Body

Week #2, January 13 – January 17
   Chapter 12 – Rotation of a Rigid Body (continued)
   **Exam #1** on Friday, January 17 (Chapter 12)

Week #3, January 20 – January 24
   Chapter 13 – Newton’s Theory of Gravity
   Chapter 14 – Oscillations

Week #4, January 27 – January 31
   No class Monday, January 21
   **Exam #2** on Thursday, January 30 (Chapter 13-14)
   Chapter 15 – Fluids and Elasticity

Week #5, February 3 – February 7
   Chapter 15 – Fluids and Elasticity

Week #6, February 10 – February 14
   Chapter 16 – A Macroscopic Description of Matter
   **Exam #3** on Wednesday, February 12 (Chapters 15-16)
   Chapter 17 – Work, Heat, and the First Law of Thermodynamics

Week #7, February 17 – February 21
   No class Monday, February 17
   Chapter 17 – Work, Heat, and the First Law of Thermodynamics
   Chapter 18 – The Micro/Macro Connection

Week #8, February 24 – February 28
   No class Tuesday, February 25
   Chapter 19 – Heat Engines and Refrigerators

Week #9, March 3 – March 7
   **Exam #4** on Monday, March 3 (Chapters 17-19)
   Chapter 20 – Traveling Waves

Week #10, March 10 – March 14
   Chapter 20 – Traveling Waves
   Chapter 21 – Superposition

Week #11, March 17 – March 21
   Chapter 21 – Superposition
   Final **Exam** (Exam #5) on Wednesday, March 19 (Chapters 20-21)

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