Title: Fundamentals of Physics II

Lecture MWF 1:00 PM, Phys 1410

0101  M 3  MTH 0411
0102  Tu 9  Phys 1219
0103  Tu 11 Egr 3102
0104  Tu 1  Phys 4220
0107  Th 1  Phys 1402

Textbook:  Cutnell and Johnson
          “Physics”, 5th Edition
          John Wiley and Sons

Math Background:  As you know, this is the second semester of a two-semester course on the fundamentals of Physics. We will not use calculus. However, algebra and trigonometry are used throughout. Review again your high school knowledge thoroughly. If you need help, get it as soon as possible. As described below, I am always available. Never hesitate to let me know if you are experiencing difficulties. The only way to alleviate a problem is to address it immediately. So do me (and yourself) a favor by discussing it today. The textbook provides an excellent skeleton on which to build the course. We will, of course, stray from it quite often. I shall make it a point to hand out notes in the class to supplement the text. In any case, if you miss a class, I invite you to borrow my class notes. It is useful to remember that the Exams are based on lecture content, so please take heed. God bless you and let us look forward to an exciting time together.

Homework:  Weekly homework problems are listed on the attached schedule. Do them. Although we will not collect and grade your homework, there will be several quizzes using homework problems directly. Also, the hourly examination will have somewhat similar problems. The bottom line is: if you cannot do the homework, you cannot expect a good grade

Solutions:  Will be posted each week in glass cases outside the lecture halls and in reserved sections of the Engineering Library (Math Bldg).
Tests:  
   a) There will be three (3) examinations, each lasting a full period. Dates are in the attached schedule.
   
   b) Ten (10) 10-minute quizzes during class (Q on schedule).
   
   c) Avoid make-ups.
   
   d) The final exam is scheduled for Tues., Dec. 16, 2003, from 1:30–3:30 PM. You cannot pass without taking the final.

Laboratory: The experiments in the laboratory are an integral part of this course. Ten (10) experiments are scheduled. All must be done. You cannot pass this course unless you do every experiment, and submit a report.

Grading: Your grade is figured out as follows.

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best 8 of 10 quizzes</td>
<td>100</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>100</td>
</tr>
<tr>
<td>Best 2 of 3 “hourlies”</td>
<td>200</td>
</tr>
<tr>
<td>Final Exam</td>
<td>200</td>
</tr>
<tr>
<td>*Discussion</td>
<td>≤50 (Bonus)</td>
</tr>
</tbody>
</table>

Extra Help:

   a) The instructor is available for discussion at all times. I am usually in my office (Z-2331) or laboratory (Z2221) from about 9:00 AM to about 6:00 PM, Monday through Friday. Feel free to walk in. If you desire an especially extended visit, call 56144 or 56159 to ensure that I have a time slot free. If you have any difficulty at all, never hesitate to drop by. Also I keep a record of your visits. You can earn up to 50 points (or 10 percent of your earned grade points) by showing up with your questions.* You may call me at home (301-345-5308) but not later than 10 PM.

   b) T. A’s will post their office hours

   c) Slawsky Clinic is an excellent (free) tutoring service. It is staffed by very dedicated physicists who can help you improve your problem solving skills. Do take advantage of this highly acclaimed feature of the physics department.
<table>
<thead>
<tr>
<th>Date</th>
<th>Chapter</th>
<th>Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk 1</td>
<td>Sept. W 3</td>
<td>Review 121</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 Mech. Waves</td>
</tr>
<tr>
<td>F 5</td>
<td></td>
<td>16-5, 9, 13, 16, 19</td>
</tr>
<tr>
<td>Wk 2</td>
<td>M 8</td>
<td>16 Mech. Waves</td>
</tr>
<tr>
<td></td>
<td>W 10</td>
<td>16 Mech. Waves</td>
</tr>
<tr>
<td></td>
<td>F 12 (Q)</td>
<td>17 Sound</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16-21, 23, 31, 36, 40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16-47, 55, 60, 71, 80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17-4, 9, 11, 15, 17</td>
</tr>
<tr>
<td>Wk 3</td>
<td>M 15</td>
<td>17 Sound</td>
</tr>
<tr>
<td></td>
<td>W 17</td>
<td>17 Sound</td>
</tr>
<tr>
<td></td>
<td>F 19 (Q)</td>
<td>18 E-field</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17-18, 21, 22, 25, 30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17-33, 35, 36, 40, 43</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18-2, 5, 8, 12, 15</td>
</tr>
<tr>
<td>Wk 4</td>
<td>M 22</td>
<td>18 E-field</td>
</tr>
<tr>
<td></td>
<td>W 24</td>
<td>18 E-field</td>
</tr>
<tr>
<td></td>
<td>F 26 (Q)</td>
<td>19 Electric Potential</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18-19, 21, 23, 28, 32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18-33, 42, 44, 46, 53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19-5, 10, 12, 17, 23</td>
</tr>
<tr>
<td>Wk 5</td>
<td>M 29</td>
<td>19 Electric Potential</td>
</tr>
<tr>
<td>Oct W 1</td>
<td>19 Electric Potential</td>
<td></td>
</tr>
<tr>
<td>F 3 (Q)</td>
<td>20 Electric Circuits</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>19-27, 31, 34, 35, 37</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19-39, 41, 44, 45, 47</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20-2, 8, 13, 19, 24</td>
</tr>
<tr>
<td>Wk 6</td>
<td>M 6</td>
<td>20 Electric Circuits</td>
</tr>
<tr>
<td></td>
<td>W 8</td>
<td>20 Electric Circuits</td>
</tr>
<tr>
<td></td>
<td>F 10</td>
<td>EXAM I, Chap 16-19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20-29, 33, 37, 41, 47</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20-60, 70, 79, 87, 90, 95, 99</td>
</tr>
<tr>
<td>Wk 7</td>
<td>M 13</td>
<td>21 Magnetic Filed</td>
</tr>
<tr>
<td></td>
<td>W 15</td>
<td>21 Magnetic Field</td>
</tr>
<tr>
<td></td>
<td>F 17 (Q)</td>
<td>21 Magnetic Field</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21-2, 6, 11, 18, 21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21-24, 29, 33, 35, 41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21-48, 54, 58, 61, 62, 63</td>
</tr>
<tr>
<td>Wk 8</td>
<td>M 20</td>
<td>22 EM Induction</td>
</tr>
<tr>
<td></td>
<td>W 22</td>
<td>22 EM Induction</td>
</tr>
<tr>
<td></td>
<td>F 24 (Q)</td>
<td>22 EM Induction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22-3, 6, 12, 16, 18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22-21, 26, 27, 30, 33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22-38, 42, 47, 54, 58</td>
</tr>
<tr>
<td>Wk 9</td>
<td>M 27</td>
<td>23 A.C. Circuits</td>
</tr>
<tr>
<td></td>
<td>W 29</td>
<td>23 A.C. Circuits</td>
</tr>
<tr>
<td></td>
<td>F 31 (Q)</td>
<td>23 A.C. Circuits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23-4, 7, 10, 13, 14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23-16, 19, 22, 25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23-27, 31, 34, 35</td>
</tr>
<tr>
<td>Wk 10</td>
<td>Nov. M 3</td>
<td>24 EM Waves</td>
</tr>
<tr>
<td></td>
<td>W 5</td>
<td>24 EM Waves</td>
</tr>
<tr>
<td></td>
<td>F 7</td>
<td>EXAM II Chap. 20-23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24-2, 5, 9, 13, 14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24-15, 19, 23, 26, 28</td>
</tr>
<tr>
<td>Wk 11</td>
<td>M 10</td>
<td>24 EM Waves</td>
</tr>
<tr>
<td></td>
<td>W 12</td>
<td>24 EM Waves</td>
</tr>
<tr>
<td></td>
<td>F 14 (Q)</td>
<td>24-33, 36, 39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25-2, 5, 7, 9, 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25-13, 17, 19, 21, 23</td>
</tr>
<tr>
<td>Week</td>
<td>Day</td>
<td>Topic</td>
</tr>
<tr>
<td>------</td>
<td>-----</td>
<td>----------------</td>
</tr>
<tr>
<td>Wk 12</td>
<td>M 17</td>
<td>25 Mirrors</td>
</tr>
<tr>
<td></td>
<td>W 19</td>
<td>26 Refraction</td>
</tr>
<tr>
<td></td>
<td>F 21 (Q)</td>
<td>26 Lenses</td>
</tr>
<tr>
<td>Wk 13</td>
<td>M 24</td>
<td>26 Lenses</td>
</tr>
<tr>
<td></td>
<td>W 26</td>
<td>27 Interference</td>
</tr>
<tr>
<td></td>
<td>F 28</td>
<td>Thanksgiving</td>
</tr>
<tr>
<td>Wk 14</td>
<td>Dec M 1</td>
<td>27 Interference</td>
</tr>
<tr>
<td></td>
<td>W 3</td>
<td>27 Diffraction</td>
</tr>
<tr>
<td></td>
<td>F 5</td>
<td>Exam III Chap. 24-26</td>
</tr>
<tr>
<td>Wk 15</td>
<td>M 8</td>
<td>27 Diffraction</td>
</tr>
<tr>
<td></td>
<td>W 10</td>
<td>Review</td>
</tr>
<tr>
<td></td>
<td>F 12 (Q)</td>
<td>Review</td>
</tr>
</tbody>
</table>

FINAL EXAM: Dec 16, 2003: 1:30-3:30 PM