PHYS122 Fundamentals of Physics II

Summer 2010 – Evenings, July 12 Monday to August 20 Friday

0281 (19578) J. Streets (Seats=24, Open=11, Waitlist=0) Books
Meets 07/12/10-08/22/10
MTuWThF... 5:30pm-6:50pm (PHY 1201)
TuTh....... 7:00pm-9:00pm (PHY 3312) Lab
MW........ 7:00pm-8:00pm (PHY 1201) Dis

0282 (19579) J. Streets (Seats=24, Open=21, Waitlist=0) Books
Meets 07/12/10-08/22/10
MTuWThF... 5:30pm-6:50pm (PHY 1201)
MW........ 7:00pm-9:00pm (PHY 3312) Lab
TuTh....... 7:00pm-8:00pm (PHY 1201) Dis

Contact Information and Office hours
Please send email to arrange a time.

Lecturer
• Dr J. Streets Room 3102 streets@umd.edu

Teaching assistants
• 0281 Vijay Kaul Room 0220 Vijay@umd.edu (preferred time – hour after discussions)
• 0282 Nightvid Cole Room 0104 ncole1@umd.edu (preferred time M-W 4.30pm-5.30pm)

Labs – Room 3312
Nine labs, must be handed in 1 week after finished. Late labs will not contribute to the final grade.

All labs must be completed to get a passing grade.

Lab instructions are either in the PHYSICS 122 Laboratory Manual (Fall 2008 ed.), or will be on a separate handout. Note the Ray Optics handout will be distributed later in the course.

Labs will be graded by either a formal report, or an informal report and quiz. The quiz will be held in the following lab:

<table>
<thead>
<tr>
<th>Week and Day</th>
<th>Lab Practical</th>
<th>Lab Manual #</th>
<th>Quiz or Report</th>
<th>Due 5.30pm on</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 MTu</td>
<td>No Labs</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>1 WTh</td>
<td>Functions and Graphs, the Oscilloscope</td>
<td>Page 34</td>
<td>Report</td>
<td>22 July</td>
</tr>
<tr>
<td>2 MTu</td>
<td>Electrostatics</td>
<td></td>
<td>Quiz</td>
<td>27 July</td>
</tr>
<tr>
<td>2 WTh</td>
<td>Current-Voltage Relationships</td>
<td></td>
<td>Quiz</td>
<td>29 July</td>
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<tr>
<td>3 MTu</td>
<td>DC Circuits I Kirchhoff’s Law</td>
<td></td>
<td>Quiz</td>
<td>3 August</td>
</tr>
<tr>
<td>3 WTh</td>
<td>DC Circuits II Current Voltage Distribution</td>
<td></td>
<td>Quiz</td>
<td>5 August</td>
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<tr>
<td>4 MTu</td>
<td>e/m of the Electron</td>
<td>71</td>
<td>Report</td>
<td>10 August</td>
</tr>
<tr>
<td>4 WTh</td>
<td>Electromagnetic Induction</td>
<td></td>
<td>Quiz</td>
<td>12 August</td>
</tr>
<tr>
<td>5 MTu</td>
<td>Standing Waves on a Vibrating String</td>
<td>27</td>
<td>Report</td>
<td>17 August</td>
</tr>
<tr>
<td>5 WTh</td>
<td>Ray Optics</td>
<td></td>
<td>Report</td>
<td>19 August</td>
</tr>
<tr>
<td>6 MTu</td>
<td>Make Up Lab</td>
<td></td>
<td></td>
<td>19 August</td>
</tr>
<tr>
<td>6 WTh</td>
<td>No Labs</td>
<td></td>
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<td>N/A</td>
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</table>

Lecture Schedule - Room 1201

**Week 1 - 12 July**
Introduction - Schedule: lectures, labs, homework, midterms, finals.
Ch. 20 Electric Forces and Fields
Ch. 21 Electric Potential

**Week 2 - 19 July**
Ch. 22 Current and Resistance
W First Midterm 5.30pm - 6.50pm (Ch. 20,21,22)
Ch. 23 Circuits

**Week 3 - 26 July**
Ch. 24 Magnetic Fields and Forces
Ch. 25 Electromagnetic Induction and Electromagnetic Waves
F Second midterm (Ch. 23,24,25) 5.30pm - 6.50pm

**Week 4 - 2 August**
Ch. 14 Oscillations
Ch. 15 Traveling Waves and Sound
F Third midterm (Ch. 14-15) 5.30pm - 7pm

**Week 5 - 9 August**
Ch. 16 Superposition and Standing Waves
Ch. 17 Wave Optics
Ch. 18 Ray Optics

**Week 6 - 16 August**
Ch. 19 Optical Instruments
Ch. 30 Nuclear Physics – if time
Th Review
F Final exam (all Chapters) 5.30pm-7.30pm
Discussions
Room number 1201 (same as Lecture)

Homework
6-8 Problems per chapter (16-18 per week 1-5). Due on the Monday after that chapter finished. Will be marked and returned on following Friday.
No Homework given on chapters in the last week.

<table>
<thead>
<tr>
<th>Week</th>
<th>Chapters</th>
<th>Due in 5:30pm</th>
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<tbody>
<tr>
<td>1</td>
<td>20,21</td>
<td>19 July</td>
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<tr>
<td>2</td>
<td>22,23</td>
<td>26 July</td>
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<td>3</td>
<td>24,25</td>
<td>2 August</td>
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<tr>
<td>4</td>
<td>14,15</td>
<td>9 August</td>
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<td>5</td>
<td>16,17,18</td>
<td>16 August</td>
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Grading
Homework                      10%
Lab Practicals                  25%
Mid-Terms (best 2 of 3) 40% (equation sheet + calculator)
Final                            25% (equation sheet + calculator)

Grades will be submitted to UMEGS no later than 9pm August 24, 2010.

Exams
There will be three 80-minute examinations and one final 120-minute exam. Your lowest exam score on the three 80-minute exams (not the final) will be dropped. All exams are cumulative. The exam will include problems and conceptual questions. You are responsible for showing up on time with a working calculator. A separate handout containing physics constants and equations will be provided. Make up exams will be given only under extraordinary circumstances, and if arrangements are made with me ahead of time. If you miss one exam due to serious illness or other extraordinary circumstances, that will be the exam that is dropped. If you miss two exams due to serious illness or other extraordinary circumstances, please contact me so we can make arrangements.

Academic Integrity
Along with certain rights, students also have the responsibility to behave honorably in an academic environment. Academic dishonesty, including cheating, fabrication, facilitating academic dishonesty, and plagiarism will not be tolerated. Any abridgement of academic integrity standards will be referred directly to the Assistant Dean and forwarded to the University’s Office of Judicial Affairs. Confirmation of such incidents can result in expulsion from the University. Students who are uncertain as to what constitutes academic dishonesty should consult the University publication entitled Academic Dishonesty.

Of course, you must work by yourself on exams. You are allowed to work with other students, your TA
and your instructor on your homework and on the labs. However, you should not just directly copy from them. Doing so is not only dishonest, it will hurt your ability to do the problems on the exams.

You should also be aware of the University of Maryland Honor Pledge. Information can be found at http://www.inform.umd.edu/honorpledge/

The Honor Pledge is a statement undergraduate and graduate students should be asked to write by hand and sign on examinations, papers, or other academic assignments not specifically exempted by the instructor. The Pledge reads:

"I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination."