Physics 202: General Physics: Electricity, Magnetism, and Thermodynamics

Section T10: Tuesdays and Thursdays - 10:00 to 11:50 AM

ASRC 001

Instructor: Prof. Nicholas Kuzma
Contact: nkuzma@pdx.edu (Please include Ph202 in the beginning of your subject line).
Office: SRTC 370. Office phone: 5-8929
Office hours: Thursdays 9 to 9:50 AM

Course materials: http://web.pdx.edu/~nkuzma/Ph202_2014_wiki/ - our own class wiki
http://d2l.pdx.edu - University Blackboard site
http://masteringphysics.com - textbook and homework access

  Bundle #1 Full textbook with MasteringPhysics.com access (ISBN: 0558417086)
  Bundle #2 Full textbook but customized into three Volumes (Volume 1 PH 201/ Volume 2 for PH202, Volume 3 for PH203) with MasteringPhysics.com access. ISBN 9780558418359
  PH 201 bundle ISBN 9780558396114 includes MasteringPhysics.com access
  PH 202 bundle ISBN 9780558396060 includes MasteringPhysics.com access
  PH 203 bundle ISBN 9780558396091 includes MasteringPhysics.com access

Course Outline: Ch 19- Electric Charges, Forces, and Fields, Ch. 20- Electric Potential and Electric Potential Energy, Ch 21- Electric Current and Direct-Current Circuits, Ch 22- Magnetism, Ch. 23- Magnetic Flux and Faraday’s Law of Induction, Ch. 24- Alternating Current Circuits, Ch. 15- Fluids, Ch. 16- Temperature and Heat, Ch. 17- Phases and phase Changes, Ch. 18- The Laws of Thermodynamics

Tentative Schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture Topic</th>
<th>Problems (Note: Problems do not correspond to dates.)</th>
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<td>T 1/7</td>
<td>Intro, 19</td>
<td>19 CQ - 2,14</td>
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<tr>
<td>R 1/9</td>
<td>19-20</td>
<td>19 P - 8,10,15,18,27,35,43,47,51,61,63,67,69,101,103,104</td>
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<tr>
<td>T 1/14</td>
<td>20</td>
<td>20 CQ – 1, 4,11,12</td>
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<td>R 1/16</td>
<td>21</td>
<td>20 P - 6,2,11,14,18,21,31,32,37,39,48,49,51,55,59,62,66,71,75</td>
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<td>T 1/21</td>
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<td>21 CQ - 8,12,13</td>
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<tr>
<td>R 1/23</td>
<td>Finish material</td>
<td>21 P -5,7,13,20,32,35,41,46,49,54,61,65,68,73,81,87,88,91,92,95,96</td>
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<td>T 1/28</td>
<td>Exam 1, Ch 19-21</td>
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<td>22 P - 8,13,15,24,28,35,38,42,45,50,52,55,58,61,64,68</td>
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<td>T 2/11</td>
<td>23-24</td>
<td>23 P - 5,10,15,22,26,27,32,33,38,39,43,49,55,59,63,66,69</td>
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<td>R 2/13</td>
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<td>24 CQ - 5,7,11</td>
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<td>T 2/18</td>
<td>Finish Material</td>
<td>24 P - 6,8,14,20,23,31,39,49,53,66,72,74,75</td>
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<td>R 2/20</td>
<td>Exam 2, Ch. 22-24</td>
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<tr>
<td>T 2/25</td>
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<td>15 CQ - 14,30; 15 P - 8,11,16,24,32,47</td>
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<tr>
<td>R 2/27</td>
<td>16</td>
<td>16 CQ - 1,4,7,11,14,16,20</td>
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<td>T 3/4</td>
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<td>16 P - 3,9,17,18,24,37,41,49,51,54,59,63,64</td>
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<td>R 3/6</td>
<td>17-18</td>
<td>17 CQ - 4,7,11</td>
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<tr>
<td>T 3/11</td>
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<td>17 P - 7,13,17,28,31,38,42,46,51,52,59,62,72,74,76</td>
</tr>
<tr>
<td>R 3/13</td>
<td>Finish Material</td>
<td>18 P - 1,6,9,11,12,16,21,30,33,36,39,48,51,55,59,64,65,71,74,97</td>
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<tr>
<td>T 3/18</td>
<td>Final Exam (covers Chapters 15-18) 10:15AM to 12:05PM ASCR 001</td>
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Homework:
The homework problems are listed above and solutions are posted on the D2L site. Doing the homework should help review the material and prepare for the exams. Keeping up with the homework is essential for doing well in this class. Here are two options for the suggested homework problems:

1. Opt to not turn in any homework problems. In which case your grade will be calculated based on the three exam scores and any extra credit received.

2. Turn in the homework problems through Mastering Physics, http://www.masteringphysics.com. Homework grades greater that 80% will receive a homework grade of 100% with lower scores adjusted accordingly (by adding 20%). Your grade will then be calculated based on 80% for exams, 20% for your homework score, and extra credit. Course ID: PH202KUZMAWINTER2014 - you'll need that to log in to the website.

The assignments labeled “Homework” on Mastering Physics will be graded.

The assignments labeled “Exercises” are just as important but are not graded.

The “Practice Material” contains all problems that are available on Mastering Physics and is for those of you who want additional material to work on.

Exams:
The exams will have both conceptual questions and problems: multiple-choice questions (Scantron Required) and 4 show-your-work problems (partial credit will be given and you will only be required to answer 3 of your choosing). The exams are not comprehensive, but exam 2 and the final exam may include general concepts already covered in previous exams.

Your three exam grades will be weighted as follows:

20% (worst exam grade), 35% (middle exam grade), 45% (best exam grade)

You will need a simple calculator and you can bring one piece of paper (8.5” x 11”) with handwritten notes. Use of cell phones / computers (other than a calculator) / texting devices, during exams is strictly prohibited, and will not be tolerated.

For a low scoring exam a curve may be applied.

Missed Exam Policy:
You are required to take all three exams, missing an exam will result in a zero for that exam (preventing any possibility for an A or B+ in the class). To be excused from an exam you must e-mail me in the beginning of the term explaining the scheduling conflict (job-related or family-related). In case of an illness I expect a doctor’s note to excuse the absence. If you miss two of the exams, you will be given a grade of “F” for the course. I do not give make-up exams.

Grading:
Grades will be determined using the following scale:

90% or better is an A/A-
80% to 89% is a B/B+
70% to 79% is a C/C+
60% to 69% is a D

I will calculate your grade with both options of turning in homework or not and choose the better of the two grades.

Extra credit:
1. Quizzes: (maximum of 5 percentage points extra credit)
   a. There will be five short in-class multiple choice quizzes throughout the term. You will receive a point for each quiz turned in up to four points. Therefore you can miss one quiz and still receive full (extra) credit.
   b. There will be information on PSU Blackboard and sent via email at the end of the term about a CLASS survey quiz. If you complete the survey you will receive one additional extra credit point.

2. Workshop or Term paper (5 points extra credit - choose either Workshop or Term paper. Based on past classes, Workshop is the preferred option as it helps students improve their exam scores.)
   a. Workshop
      Complete the class “Workshop for Ph202” successfully. The workshops meet weekly for 1h 50min sessions. It is a one credit class and you need to sign-up for it. To pass the workshop students must attend all workshops and participate actively. You will work under the guidance of a workshop leader in small groups on problems sets corresponding to the material of the general physics lecture.
      Information on the Workshop can be found here:
      http://www.physics.pdx.edu/~ralfw/physics/Workshop/index.html
b. Term paper

Write a term paper on a topic which is relevant to this course. Some possible topics are listed below, but you are free to choose another subject that relates the physics discussed in class and that sparks your interest. You need to submit an outline of your paper, with a list of references by **Tuesday, February 25th**. The paper should be 6-8 pages long (double spaced, font size 12) plus pages with figures and references. The paper is due at the time of the final exam. **I only accept papers of people that have submitted the outline. No late work will be accepted for the outline and the paper submission.**

Examples of topics for the term paper:

- Electric signals from the body - heart, head, muscles
- The electrocardiogram (EKG)
- Heat transfer in building design
- Thermodynamics of sports
- Nobel Prize winner in physics and their research
- Physics mistakes in movies

**PSU Tutoring Services:**
The skills enhancement and Tutoring Center offers physics tutoring sessions: Second floor of the University Library, (503) 725-4448, web: http://www.pdx.edu/tutoring/

**General Physics lab:** You are required to concurrently (or previously have taken) the general physics lab. Experimentation in physics (and science in general) is critical to understanding.
web: http://www.physics.pdx.edu/~ralfw/physics/lab/index.htm

**Academic Misconduct:**
Academic dishonesty is the act of knowingly or intentionally seeking to claim credit for the work or effort of another person or participation in such acts. This includes, but is not limited to: (a) cheating, (b) fraud, (c) plagiarism, such as word for word copying, using borrowed words or phrases from original text into new patterns without attribution, or paraphrasing another writer's ideas; (d) The buying or selling of all or any portion of course assignments and research papers; (e) Performing academic assignments (including tests and examinations) for other persons; (f) Unauthorized disclosure or receipt of academic information; (g) Falsification of research data; and (h) Unauthorized collaboration.

Adapted from: PSU Student Code of Conduct (http://www.pdx.edu/dos/codeofconduct)

Cheating during an exam will result in a zero grade in the course and referral to the office of student affairs. A no tolerance policy will be enforced.