General Physics: Electricity and Magnetism, Modern Physics  
PHYS 11C - Sections 1, 2, & 3

Dr. William DeGraffenreid  
Office: Sequoia 434  
Phone: (916) 278-5938  
E-mail: degraff@csus.edu  
WWW: www.csus.edu/indiv/d/degraffenreidw/

Lecture: Mendocino 1015  
(All Sections)  
W 9:00 – 9:50

Discussions:  
Sec. 1: TR 8:00 – 8:50 in SQU452  
Sec. 2: TR 9:00 – 9:50 in SQU450  
Sec. 3: TR 10:30 – 11:20 in SQU450

Course Summary

Physics 11C is the third semester of the calculus based general physics sequence. This semester concentrates on electricity and magnetism in addition to modern physics.

Required Texts


Experiments in Physics 11C: Electricity and Magnetism. (For Laboratory Component – Sold in lab during first two weeks of semester - $10)

Office Hours

Monday and Wednesday: 10:00 – 11:00 SQU 434  
Tuesday and Thursday: 10:00 – 10:30 SQU 450 (Between Discussion Secs.)

Prerequisites

PHYS11A (Calculus-based Mechanics) or equivalent and MATH 31 (Calculus II) or equivalent. If I find out that you do not meet the prerequisites, I will administratively drop you from the course. If you have recently taken them at a community college, I will need documentation ASAP.

Add/Drop Policy

I have the following rules regarding adds and drops. These rules should allow me to maximize the number of students in this course. Missing two discussions in the first two weeks may result in an administrative drop. I will start a waiting list after CASPER-
PLUS closes. Highest preference for adds will be given to seniors with a graduation evaluation showing PHYS11C as a required course. Students attempting to repeat the course have the lowest priority. Everyone signing up at one time have the same probability to add, I will use random numbers to pick people. When I contact you to add (via email) you have 24 hours to get added (including a lab section), otherwise, I move down the list. You may drop during the first two weeks for any reason. After two weeks instructor permission is required and you must have a compelling reason. Not doing well is not a compelling reason because you have prevented someone else from taking that seat. I’m sorry, but this will be strictly enforced.

Modus Operandi

Physics 11C is divided into three components: lecture, discussion, and laboratory. You will have lecture and discussion with me and a separate lab instructor. Your lab instructor will provide me your laboratory grade that I will use in determining your overall course grade (Note: I have the right to re-normalize or scale your lab grade – see the grading section below).

We will usually cover one chapter per week. The material for the chapter will start on Wednesday’s lecture. We will get into more depth and go over more sample problems on the following Thursday and Tuesday discussion sections. Research has shown that if you have reviewed the information prior to lecture, you will absorb much more. Therefore, you will be required to read the chapter prior to Wednesday’s lecture. You will be given a “reading quiz” that you will turn in at the start of lecture to help motivate the reading. The reading quiz will be short and has multiple choice or short answer questions. The quiz will available on my web page for download by the Friday prior to the due date.

You will also turn in the homework from the previous week’s material at the start of lecture, if not earlier. Solutions will be posted on my web page for download on Wednesday shortly after class ends; as a result NO LATE HOMEWORK WILL BE ACCEPTED. I will drop your lowest homework and lowest reading quiz to cover illnesses. Faxed or emailed homework/quizzes are acceptable, so long as they are received by the start of lecture. I will do my best to get your homework back to you by the start of Tuesday’s discussion.

On exam weeks, the discussion sections will be dedicated to test preparation and a test “post-mortem.” During the test preparation, you have the opportunity to ask me to go over any problems, but I will not have a prepared lecture. We will go over the exam at the discussion immediately after the exam.
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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Discussion Material</th>
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<th>Lecture Material</th>
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<th>Discussion Material</th>
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<tbody>
<tr>
<td>1</td>
<td>8/30</td>
<td>Syllabus/Policies/Attendance</td>
<td>8/31</td>
<td>Chapter 21 Electric Charge</td>
<td>9/1</td>
<td>Electric Charge</td>
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<td>2</td>
<td>9/6</td>
<td>Electric Charge</td>
<td>9/7</td>
<td>Chapter 22 Electric Fields</td>
<td>9/8</td>
<td>Electric Field</td>
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<td>3</td>
<td>9/13</td>
<td>Electric Field</td>
<td>9/14</td>
<td>Chapter 23 Gauss' Law</td>
<td>9/15</td>
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<td>4</td>
<td>9/20</td>
<td>Gauss' Law</td>
<td>9/21</td>
<td>Chapter 24 Electric Potentials</td>
<td>9/22</td>
<td>Electric Potentials</td>
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<td>6</td>
<td>10/4</td>
<td>Problem Session</td>
<td>10/5</td>
<td>Exam 1 &quot;Electrostatics&quot;</td>
<td>10/6</td>
<td>Exam 1: Post-mortem</td>
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<td>7</td>
<td>10/11</td>
<td>Capacitance</td>
<td>10/12</td>
<td>Chapter 26 Current and Resistance</td>
<td>10/13</td>
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<td>8</td>
<td>10/18</td>
<td>Current and Resistance</td>
<td>10/19</td>
<td>Chapter 27 Circuits</td>
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<td>10/25</td>
<td>Circuits</td>
<td>10/26</td>
<td>Chapter 28 Magnetic Fields</td>
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<td>10</td>
<td>11/1</td>
<td>Problem Session</td>
<td>11/2</td>
<td>Exam 2 &quot;Basic Circuitry&quot;</td>
<td>11/3</td>
<td>Exam 2: Post-mortem</td>
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<td>11/8</td>
<td>Magnetic Fields</td>
<td>11/9</td>
<td>Chapter 29 Magnetic Fields due to</td>
<td>11/10</td>
<td>Mag Fields and Current</td>
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<td>12</td>
<td>11/15</td>
<td>Mag Fields and Current</td>
<td>11/16</td>
<td>Chapter 30 Induction and Inductance</td>
<td>11/17</td>
<td>Induction/Inductance</td>
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<td>14</td>
<td>11/29</td>
<td>Problem Session</td>
<td>11/30</td>
<td>Exam 3 &quot;Magnetostatics&quot;</td>
<td>12/1</td>
<td>Exam 3: Post-mortem</td>
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<td>15</td>
<td>12/6</td>
<td>AC Circuits</td>
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<td>Chapter 31 (cont) AC Circuits</td>
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<td>Review Session</td>
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Grading

Your course grade will be determined based on the following breakdown:

Homework / Reading Quizzes 20%

Each week you will be assigned 10 – 15 problems from the textbook. Three of these problems will be graded in detail, each worth 5 points. There will also be 10 “effort” points available (i.e. 10 for all the problems reasonably tried, 8 for good effort, 5 for minimal, etc.). You will also turn in a reading quiz each week that is worth a total of 10 points. Therefore, a total of 35 (15+10+10) points will be available each week. There will not be homework or quizzes due on exam weeks. I am not so naive as to think that many of you won’t have the solutions manual, but copying solutions won’t prepare you for the exam – so don’t do it – if it is obvious that you are copying, you will get no points for your homework. Copying is a violation of the CSUS Academic Dishonesty Policy (www.csus.edu/admbus/umanual/UMA00150.htm) and the Department of Physics and Astronomy’s Academic Dishonesty Policy (see below).

Laboratory 15%

Grade from laboratory instructor will be normalized to adjust for grading differences between laboratory instructors. I may also rescale this portion of your grade based on your performance on the laboratory practical. If you fail the practical (<60%), you also fail the laboratory portion of the class.

Exams (3 exams) 15 % each

There will be three exams this semester. The tentative dates are 10/5, 11/2, and 11/30. Exam 1 will cover chapters 21-24, Exam 2 covers chapters 25-27, and Exam 3 covers chapters 28-30. Laboratory experiments performed by the date of the exam are also fair game for questions on the exam.

You may use programmable calculators (i.e. TI-83, TI-84, TI-89, HP48G, etc) on exams, but I reserve the right to inspect them to make sure that no unauthorized material is stored on it. There are plenty of very good scientific calculators available for under $15 (i.e. TI-30, TI-36, Casio 260, among others) and the exams will not require any calculations that will require anything more complex than these can handle. PDAs and PHONES are forbidden to use during exams. If I see you use one, without
prior approval for expecting child birth or something similar, you will fail the exam on the spot.

The exams will have numeric problems, short answer questions, and multiple-choice questions. You will be provided a crib sheet with the exam that contains constants and equations that are difficult to remember. This sheet will also be posted on my webpage on the Friday prior to the exam so you know which equations will be given to you.

**Final Exam 20%**

The final exam is comprehensive, including all chapter previously tested plus any new material introduced after Exam 3 (likely only chapter 31). The same calculator and crib sheet rules apply. Per the university schedule, this final for this course is scheduled for Friday December 16 @ 9:00AM. The final will most likely be in another classroom. You will be informed ahead of time.

I generally assign grades according to the: A = 85-100%; B = 75-85%, etc. However, I will probably curve the distribution based on the final course numbers. I do not generally give +’s and −’s.

**Academic Dishonesty Policy**

The Department of Physics and Astronomy has adopted the following policy statement:

“The faculty of the Department of Physics and Astronomy will not tolerate academic dishonesty. Falsification of data, copying, unauthorized collaboration, plagiarism, alteration of graded materials, or other actions (as described in, but not necessarily limited to the CSUS Policy Manual) will be promptly reported to the Office of Student Affairs. The offending student will be penalized on the assignment in question. Serious infractions will result in course failure and a recommendation for administrative sanctions.”

Not only am I supportive of this statement, I co-wrote it.

**Other Resources**

Halliday/Resnick/Walker 7th Ed. Website: [www.wiley.com/college/halliday](http://www.wiley.com/college/halliday)

Physlets from Boston Univ. Website: [physics.bu.edu/~duffy/classroom.html](http://physics.bu.edu/~duffy/classroom.html) (2nd Semester Physlets)

Physics Education Technology, University of Colorado (Click on Simulations) [www.colorado.edu/physics/phet](http://www.colorado.edu/physics/phet)
Odds and Ends

I encourage you to work together on homework problems. That said, sitting in a study group and just copying solutions will not likely enable you to get good results on the exams. Getting 100% on the homework and 40% on the exams will not earn you a good course grade.

Please indicate your discussion section on all things that you turn in. It is much faster to hand things back to you in discussion and this will help me separate them.

While attendance is not mandatory for lecture and discussion (aside from first two weeks as noted in add/drop policy), keep in mind that I may emphasize material in lecture that the text does not. I also might give hints and tips. This attendance policy does not absolve one of turning in homework and quizzes.

Your laboratory instructor sets the policies in the laboratory portion of the class, with the exception of the grading issues noted above. In that room, he/she’s the boss.

Per department policy (effective Fall 2004), no laboratory exemptions will be given. Please don’t waste either of our times explaining why you deserve an exception to a policy that explicitly says “no exceptions.”

Please respect your classmates by turning off your cell phone during class. If you are expecting an emergency call (i.e. pregnant wife), please let me know. I was in that boat a couple of years ago and understand. Repeated disturbances might cause me to change my policy and consider adding a “–” to your grade.

I check my email very regularly during the week and at least a couple of times on the weekend. This is a good way to reach me. I am also often available in my office outside of office hours.