Syllabus, Physics 214L, Electricity & Magnetism Laboratory, 3 credits

Designation: Required for most undergraduate Engineering majors.

Course Description: Elementary laboratory in physics principles, which supports the subject matter in PHYS 214.

Corequisite: Physics 214.

Required Text: McDermott, Shaffer, et al., Tutorials in Introductory Physics, Prentice Hall, 2002. Additional materials will be provided as needed.

Class Web Page: A class webpage with the syllabus and other information maintained at http://www.physics.nmsu.edu/~kanani/PHYS214.html

Course Objectives: Students perform a series of experiments, which apply the principles and concepts highlighting the main objectives covered in the coursework for PHYS 214.

Topics Covered: Experiments performed, data collected and analyzed encompassing: electrostatics, electric circuits, magnetism, and electromagnetism.

Class Schedule: One 150-minute class per week; two-hour final exam during last scheduled lab session.

Contribution of Course to Professional Component: Together with PHYS 214, this course sets the foundation for undergraduate physics and engineering curriculum. Students perform experiments that illustrate basic physics concepts.

Relationship of Course to Program Outcomes: This course teaches students to:
Design and conduct experiments, as well as to analyze and interpret data (Program Outcome b)

PHYSICS 214L  
Electricity & Magnetism Laboratory  
Spring 2007

Lab: Wednesdays, 2:30-5:00 PM, Gardiner Hall, Room 108  
Lab TA: Karunakar Kothapalli, also known as “K. K.”  
Instructor: Kanani Lee, kanani@physics.nmsu.edu, (505) 646-1811  
Office: Gardiner Hall, Room 153  
Office hours: Tuesdays, Wednesdays 1:30-2:30 pm or by appointment  
Course website: http://www.physics.nmsu.edu/~kanani/PHYS214.html

Text: McDermott, Shaffer, et al., Tutorials in Introductory Physics, Prentice Hall, 2002. Additional materials will be provided as needed.

Attendance: Attendance is mandatory to each lab class.

Lab participation: As you are training to be scientists, it is important for you to learn to express your thoughts in an open forum. Ask questions — chances are good that there are a number of other students with the same question.

Homework: Besides the lab work completed during the lab session, there will also be homework assignments that will also be required to be turned in at the beginning of the following lab session, usually 1 week. There are 12 homework assignments in all.

Exams: There will be one exam and will be comprehensive. The lab final will be held during lab time on Wednesday, May 2nd, 2007.

Course grade: I base my grades on your performance as compared to the overall class performance. The grades will be updated and posted on my office door each week. Your course grade will be based on attendance, lab participation, homework assignments and the final exam, weighted as follows:

Attendance: 10%  
Lab participation: 25%  
Homework: 40%  
Final exam: 25%  
TOTAL: 100%

Ground rules: In general, late homework will not be accepted for a grade and makeup exams will not be given. Students who are passing the course and absent on university business have an automatic right to make up missing work; please inform me of this absence in advance. If you miss the exam due to illness, please bring a note from the student infirmary or a physician. If you miss the exam without a valid excuse, you will be given a zero for that exam.

Withdrawals: You will not be automatically dropped from the course. If you are
worried about your grade, I encourage you to speak with me, particularly as the last day to drop (March 12th) approaches. I will give you some indication of your standing in the course before this date.

**Additional University Policies**

**Plagiarism:** Any student found guilty of academic misconduct, either intentional or unintentional, shall be subject to disciplinary action. Please see the following websites for details:
- [http://www.nmsu.edu/~evpsa/SCOC/misconduct.html](http://www.nmsu.edu/~evpsa/SCOC/misconduct.html)
- [http://lib.nmsu.edu/instruction/plagiarismforstudents.htm](http://lib.nmsu.edu/instruction/plagiarismforstudents.htm)

**Students with disabilities:** If you have or believe you have a disability, you may wish to self identify. Feel free to call Michael Armendariz, Coordinator of Services for Students with Disabilities, at 505-646-6840 with any questions you may have on student issues related to the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act of 1973. All medical information will be treated confidentially.

**Discrimination policies:** Feel free to call Jerry Nevarez, Director of Institutional Equity, at 505-646-3635 with any questions you may have about NMSU's Non-Discrimination Policy and complaints of discrimination, including sexual harassment.

**PHYS 214L Spring 2007 Schedule (tentative, as of January 23, 2007)**

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<thead>
<tr>
<th>Lab</th>
<th>Date (all Wednesdays)</th>
<th>Lab Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td>January 24</td>
<td>Charge</td>
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<tr>
<td>2</td>
<td>January 31</td>
<td>Electric Field &amp; Flux</td>
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<td>3</td>
<td>February 7</td>
<td>Gauss’ Law</td>
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<td>4</td>
<td>February 14</td>
<td>Electric Potential Difference</td>
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<td>February 21</td>
<td>No Lab: Lecture Catch-up/Review</td>
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<td>5</td>
<td>February 28</td>
<td>Capacitance</td>
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<td>6</td>
<td>March 7</td>
<td>Circuits I</td>
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<tr>
<td>7</td>
<td>March 14</td>
<td>Circuits II</td>
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<tr>
<td></td>
<td>March 21</td>
<td>Spring Break</td>
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<td>8</td>
<td>March 28</td>
<td>RC Circuits</td>
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<tr>
<td>9</td>
<td>April 4</td>
<td>Magnets &amp; Magnetic Fields</td>
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<td>10</td>
<td>April 11</td>
<td>Magnetic Interactions</td>
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<td>11</td>
<td>April 18</td>
<td>Lenz’ Law</td>
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<td>12</td>
<td>April 25</td>
<td>Faraday’s Law</td>
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<td><strong>FINAL</strong></td>
<td><strong>May 2</strong></td>
<td><strong>LAB FINAL</strong></td>
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