Physics 489C: Experimental Physics 2 — Spring 2015

Course description and prerequisites: Laboratory experiments in modern physics and physical optics with an introduction to current, state-of-the-art recording techniques. This is a communication and writing intensive course. Prerequisites: PHYS 225; PHYS 309, PHYS 489W.

Credit Hours: 1

Learning outcome: Students will be able apply tools and techniques learned in the advanced laboratory. Students will be able to perform statistical analysis. Students will be able to present their results in writing and oral formats. Each student will choose one of the experiments to produce a formal paper written in the style of a PRL paper, as well as a presentation in the style of an APS talk. Students will be provided with example papers and talks and given feedback on initial drafts.

Instructor: Dr. Rupak Mahapatra, MIST 417, Phone: 229-4196. Email: mahapatra@physics.tamu.edu

Office Hours: TBA

Text: Experiments in Modern Physics, by Melissinos and Napolitano (optional).

Laboratory Notebook: Computation Book, Ampad #22-157. This exact model is absolutely required. No substitutions.

Grade Assignment:

A: 90% ≤ total < 100%
B: 80% ≤ total < 90%
C: 70% ≤ total < 80%
D: 60% ≤ total < 70%
F: total < 60%

Course Topics and Calendar:

There will be 4 labs to be completed. Students will rotate through the labs, doing one each week. Lab notebooks will be due two days after the lab. Monday labs will be due on Wednesday, and Wednesday labs will be due on Friday. Notebooks will be returned before the next lab, with written feedback and grades.

Poster presentations will be done, as a group, towards the end of the semester. The final draft of the formal written paper will be due the last week of the class.

Approximate schedule:
<table>
<thead>
<tr>
<th>Week of</th>
<th>Activity</th>
<th>Percent Grade</th>
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</thead>
<tbody>
<tr>
<td>Mar 30</td>
<td>Overview and Lab 1</td>
<td>3%</td>
</tr>
<tr>
<td>April 6</td>
<td>Lab 2</td>
<td>3%</td>
</tr>
<tr>
<td>April 13</td>
<td>Lab 3</td>
<td>3%</td>
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<tr>
<td>April 20</td>
<td>Lab 4</td>
<td>3%</td>
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<tr>
<td>April 27</td>
<td>Poster Presentation</td>
<td>33%</td>
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<tr>
<td>May 4</td>
<td>Final Paper Due</td>
<td>35%</td>
</tr>
<tr>
<td>May 4</td>
<td>Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
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**Attendance and Make-up Policy** Students will need to have an attendance of at least 70% of the classes to pass the course. Students will be allowed to make up labs, for university approved excuses (http://student-rules.tamu.edu/rule07).

**ADA statement:**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Room B118 of Cain Hall, 979-845-1637.

**Academic integrity statement:**

The Aggie Honor Code is “An Aggie does not lie, cheat, or steal or tolerate those who do.” For more information, refer to the Honor Council Rules and Procedures on the web at http://aggiehonor.tamu.edu/.

The Executive Committee of the Faculty Senate recommends that instructors, particularly of lectures and labs at the freshman and sophomore levels, should include the following paragraphs in their first-day handout materials:

The handouts used in this course are copyrighted. By “handouts,” I mean all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission.

As commonly defined, plagiarism consists of passing off as one’s own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated.

If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules, under the section “Scholastic Dishonesty.”