PHYS 3330: Experimental Modern Optics
Syllabus, Revision A.
July 21, 2011

Instructor:  Dr. Chad Fertig
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E-mail: cfertig@uga.edu

Times and Locations:
Lectures: Monday and Wednesday 1:25 PM to 2:15 PM (Period 6), Physics Bldg., Room 327.
Labs: Wednesday 2:30 PM to 5:30 PM (Periods 7-9), Physics Bldg., Room 324A.
     Friday 1:25 PM to 4:30 PM (Period 6-8), Physics Bldg, Room 324A.
Office hours by appointment.

Textbooks:

Course Goals:
Scientific Writing (using LaTeX)
Data analysis, model fitting, goodness of fit, and parameter confidence. (using Mathematica).
Modern optics.

Grades
Homework (constitutes 10% of your grade)
1 exercise due ~every week by Friday, 5 PM. Your solutions will be rated Excellent (3 points), Good (2 points), or Attempted (1 point). Your homework average grade will be the percentage of points earned out of 30 points. (There will be 36 possible points).

Manuscripts (constitutes 90% of your grade)
1 manuscript due every ~2 weeks by Monday 5 PM.
You may work in groups during your lab, but you must author and turn-in your own, individual manuscript. You must include a section in the manuscript that explicitly assigns credit for the activities reported in the paper (as required in the journal Nature, for example).
Late manuscripts will be penalized 10% for each day late. Manuscripts more than 5 days late may be eligible to receive a score of 50% if they are of high quality. Your lowest manuscript score will be dropped from your course average.

Manuscripts are not of the “fill-in-the-blank” type worksheets that you may be used to from introductory lab courses. They are 2-3 pages of polished text, equations, and figures that coherently communicate the background, theory, design, results, analysis and discussion of your experiment. You will model them after articles in Physical Review
Letters, and will compose them using the LaTeX mark-up language. A LaTeX template will be provided.

Your attitude in writing your manuscript must be that you do not yet know the validity of the theories you are testing. You must make limited conclusions based solely on your experimentation, not based on the fact that you “know” these theories to be correct. If your data does not match up with predictions you must positively identify (not simply speculate on) the source of the discrepancy.

Your manuscripts will be graded based on the quality of the measurements (data), the quality of the figures, and the quality of the writing.

*Course grade scale*

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<thead>
<tr>
<th>Grade</th>
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<tr>
<td>A</td>
<td>100-96.3</td>
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<tr>
<td>A-</td>
<td>96.3-91.3</td>
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<td>B+</td>
<td>91.3-87.5</td>
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<td>B</td>
<td>87.5-83.8</td>
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<tr>
<td>B-</td>
<td>83.8-78.8</td>
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<td>C+</td>
<td>78.8-75.0</td>
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<td>C-</td>
<td>71.3-62.5</td>
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**Rules concerning withdrawals and incompletes.**

We will follow the rules of the UGA Bulletin concerning withdrawals and incompletes.

**Academic Honesty**

All academic work must meet the standards contained in "A Culture of Honesty." Students are responsible for informing themselves about those standards before performing any academic work. More detailed information about academic honesty can be found at the website given above. As a UGA student, you are responsible for knowing and understanding this policy. If you have any questions about the propriety of actions relating to this course, you are obligated to ask me for clarification. See also the UGA website: [http://www.uga.edu/honesty/](http://www.uga.edu/honesty/)

***This syllabus is a general plan for the course. Deviations announced to the class by the instructor may be necessary.***