

# Physics 34000 (34200 lab) - Modern Physics Lab

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- Instructor:** Jones  
**Email:** [mjones@physics.purdue.edu](mailto:mjones@physics.purdue.edu)  
**Phone:** 765-496-2464  
**Title:** Modern Physics Lab  
**URL:** <http://www.physics.purdue.edu/~mjones/phys34000>  
**Offering:** Fall 2010, 1 credit.  
**Prerequisites:** Phys 24100, Phys 24200  
**Text:** Lab manual, available from BoilerCopyMaker, PLU: 6143  
**Description:** Students will conduct some of the most important experiments that have guided our understanding of physics over the past century. In doing so they will develop their ability to collect and analyse experimental data, to interpret their results and to present their findings and conclusions drawn from them in a clear, concise and convincing way.
- Grading:** 15% –  $e/m$  lab report  
15% – First lab notebook reading  
15% – Photoelectric effect lab report  
15% – Second notebook reading  
20% – Compton scattering lab report  
20% – Final notebook reading
- Disclaimer:** In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Information about this course can be obtained from the web page or by contacting the instructor.

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### Proposed schedule:

Week 1	Week of Aug 23	Introduction, propagation of errors, uncertainty
2	Week of Aug 30	Start $e/m$ experiment
3	Week of Sep 6	Finish $e/m$
4	<b>Week of Sep 13</b>	<i>Hand in <math>e/m</math> lab report</i>
		Start Stefan-Boltzmann experiment
5	Week of Sep 20	Finish Stefan-Boltzmann experiment
6	Week of Sep 27	Start photoelectric effect experiment
7	Week of Oct 4	Finish photoelectric effect experiment
	<b>Oct 8, 5:00 PM</b>	<i>Hand in lab notebooks</i>
8	Week of Oct 11	October break - no labs
9	<b>Oct 18, 12:00 PM</b>	<i>Hand in Photoelectric effect lab report</i>
	Week of Oct 18	Start Franck-Hertz experiment
10	Week of Oct 25	Finish Franck-Hertz experiment
11	Week of Nov 1	Start Compton scattering experiment
12	Week of Nov 8	Finish Compton scattering experiment
	<b>Nov 12, 5:00 PM</b>	<i>Hand in lab notebooks</i>
13	Week of Nov 15	Start experiment of your choice
14	Week of Nov 22	Thanksgiving break - no labs
16	Week of Nov 28	Finish experiment of your choice
17	<b>Week of Dec 6</b>	<i>Hand in lab notebooks</i>
		<i>Hand in Compton scattering report</i>