PHYSICS 452 – Solid State Physics Laboratory (Winter 2013)

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Lab: 452-01 Thursday 3:10 - 6:00 pm, Bldg: Science (52), Room E-10  
Office Hours: M 1:10-2pm, T 12:10-1pm, W 1:10-3pm, F 1:10-2pm in Bldg. 25 Rm. 224.

TEXT/MATERIALS:  
a) Lab manual: Physics 452 Solid State Physics Laboratory by Physics Department faculty,  
b) A bound lab notebook and pen for making entries, c) a solid-state physics textbook for reference.

GRADING:  
<table>
<thead>
<tr>
<th>Lab performance check off</th>
<th>Weekly Lab reports</th>
<th>2 Formal Reports (required)*</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9 \times 2 = 18%$</td>
<td>$9 \times 5 = 45%$</td>
<td>$17 + 20 = 37%$</td>
<td>$100%$</td>
</tr>
</tbody>
</table>

*Course requirement: If you do not turn in 2 formal lab reports you will fail the course.

LABORATORY EXPERIMENTS  
There are 8 experiments broken into two sets of 4 and you will do each experiment as part of a group.  
Set 1: # 11-14, in weeks 2-6; Set 2: # 15, 17, 25, 27, in weeks 7-10.

See the schedule on the reverse of this sheet. You must do each of the scheduled labs and keep your own individual lab notebook in ink. Read the background discussion and procedure for each experiment prior to lab to make the best use of your time. Particulars will be discussed at the start of each lab period. There will be some helpful links on the course webpage.

WEEKLY LAB REPORTS  
At the start of the lab period the following week each group must turn in a brief report showing your data, any graphs, and the main result you obtained. This will be about a page or so of word-processed text beyond the data and graphs focusing on the physics with little about the procedure/set-up.

FORMAL LAB REPORTS  
Each group must submit two formal reports. See the Formal Lab Report Guidelines in the front of the lab manual. Choose any one from the first set (Exps. # 11-14) of experiments and any one from the second set (Exps. # 15, 17, 25, 27).

Set 1 Formal Report due: Friday, February 15, 2011 by 5 PM in box outside my office  
Set 2 Formal Report due: Friday, March 15, 2011 by 5 PM in box outside my office

GENERAL REQUIREMENTS and LOGISTICS  
• You will be assigned to a group for doing the experiments. The weekly report can be a group effort. However, for the formal reports you must do your own work.  
• Work submitted for credit must be word-processed and on time. Late or messy work will receive less than full credit.  
• If there is a problem (illness, car trouble, course conflict, game, performance, etc.) let me know as soon as possible and we might be able to make other arrangements.  
• Check the appropriate university documents for details and deadlines concerning academic honesty, adding, dropping, grading, withdrawal, incomplete, etc.
## Physics 452 – Winter 2013
### Experiment Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Thurs</th>
<th>Experiment</th>
</tr>
</thead>
</table>
| 1    | 1/10  | Introduction, handouts  
Assignments  
Safety Review (x-rays), orientation |
| 2    | 1/17  | Group: Exp #  
A: 11, B: 12, C: 13, D: 14 |
| 3    | 1/24  | A: 12, B: 13, C: 14, D: 11 |
| 4    | 1/31  | A: 13, B: 14, C: 11, D: 12 |
| 5    | 2/7   | A: 14, B: 11, C: 12, D: 13 |
| 6    | 2/14  | Introduce experiments set 2 |
| 7    | 2/21  | A: 15, B: 17, C: 25, D: 27  
**--First Formal Report (from Exp. Set 1: #11-14) is due Friday, February 22, 2013 at 5 PM.** |
| 8    | 2/28  | A: 17, B: 25, C: 27, D: 15 |
| 9    | 3/27  | A: 25, B: 27, C: 15, D: 17 |
| 10   | 3/14  | A: 27, B: 15, C: 17, D: 25  
**--Second Formal Report (from Exp. Set 2: # 15, 17, 25, 27) is due Friday, March 15, 2013 at 5 PM.** |
| 11   | 3/18-22 | **FINALS WEEK** |