Overview of Experimental Physics 2 (PHY 300) Fall Semester 2012

<table>
<thead>
<tr>
<th>Lab session</th>
<th>Date</th>
<th>Venue</th>
<th>Time</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>23/8/13</td>
<td>Conference room Physics Deptt. - Freshmen lab</td>
<td>10 am</td>
<td>Lecture: Uncertainties I Lab: Exp. 1.2A, 1.6A, 2.1A, 2.1B</td>
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<tr>
<td>2</td>
<td>30/8/13</td>
<td>Conference room Physics Deptt. - Freshmen lab</td>
<td>10 am</td>
<td>Lecture: Uncertainties II Lab: Exp. 1.2A, 1.6A, 2.1A, 2.1B</td>
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<tr>
<td>3</td>
<td>6/9/13</td>
<td>Conference room Physics Deptt. - Freshmen lab</td>
<td>10 am</td>
<td>Deadline: Submission of uncertainties homework - Lecture: Introduction to LabVIEW</td>
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<tr>
<td>4</td>
<td>13/9/13</td>
<td>Mechanical workshop, Physics Deptt.</td>
<td>10 am</td>
<td>- Deadline: LabVIEW HW submission - Lecture/Demo: Introduction to safety and mechanical workshop</td>
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<tr>
<td>5</td>
<td>20/9/13</td>
<td>Advanced Physics Lab</td>
<td>10 am</td>
<td>Regular experiments start</td>
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<td></td>
<td>11/10/13</td>
<td></td>
<td>10 am</td>
<td>Deadline: first report on advance experiments</td>
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<tr>
<td></td>
<td>Sunday</td>
<td></td>
<td>11:59 pm</td>
<td>Deadline: second report on advance experiments</td>
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General rules and guidelines:

- Every student will be designated possibly a different number of experiments. These include 2 experiments out of (2.1A, 2.1B, 1.2A, 1.6A) and the rest out of (2.2-2.18). The experiments will be assigned by the instructor.
- You are not allowed to roam about in the lab and must be sited on designated stations.
- You are not allowed to borrow equipment from other stations. Ask the instructor or the lab attendant if something is missing.
- Safety rules must be followed at all times. Do not be adventurous with lasers, electricity, and hot objects. Follow prescribed safety procedures.
- You are encouraged to work on Fridays during the stipulated hours. Labs will be closed on weekends. For weekdays, we have provided you 24 hours access to the labs. Coming late on Fridays is not allowed and will result in deduction of marks.
- At no costs are friends or unregistered students allowed access to the labs.
- Instructors have the right to penalize anyone who does not follow these rules which are essential to comply with in the collaborative environment of our lab where other students and researchers are performing research or other duties.
Marks will be deducted for:

- Not complying with rules of the lab: **one must bring a lab notebook which is defined as a hard bound diary**; one must leave the lab on Friday with all the apparatus in neat and orderly fashion so that it is ready for the next group; one must not leave cluttered pages and personal belongings in the lab.
- Missing a lab session: there will be no make-up labs.

Grading

**Weekly progress=10 marks each week.**

This assessment will be based on the quality of your lab diaries and logging of scientific activity, experimental expertise, understanding of the experiment, and correlation with theory, quantification and presentation of data. An oral examination will be conducted between 6 and 7 pm each Friday. If a pair of students is assigned an experiment, each student will be assessed individually.

**Two lab reports have to be submitted in total. Each report carries 25 marks.** Reports have to be about any of the two advanced experiments. The report must be typed in LaTeX and pdf’s must be submitted. All images should be transferred into *.eps format. The reports will be assessed based on the quality of writing, presentation of data and results, the organization and internal consistency of the report, its formatting and description of the experimental narrative. A detailed theoretical background is not required. No copying or consultation with your peers or even with your lab partner is allowed. You can choose which experiment to write a report on. The deadlines for submission of reports are indicated in the schedule. The rough break-up of the assessment of lab reports is:

- 10% **Organization** of the text: the report must have a title, abstract, general introduction, experimental procedure, presentation of results and a detailed discussion.
- 10% **Accuracy** of description, scientific correctness
- 20% **Readability** and clarity of the text
- 20% **Presentation** of results in the form of **suitable** graphs, plots and illustrations with most appropriate labeling, choice of axes, forms of graphs
- 20% Evaluation of uncertainties

**One home work on uncertainties** = 25 marks.
**One home work on LabVIEW programming** = 25 marks.

Total marks = 200 (100 + 4x25).

Grading will be absolute according to the instructor’s judgment: A+: exceptional, A: excellent, A-: very good, B: above average, C: average, D: poor, F: fail.