Chemistry 343  Spring 2003
Physical Chemistry Laboratory

Instructor: Yoshitaka Ishii  E-mail: yishii@uic.edu
5414SES

Monday 1:30-2:30 PM (Appointment by e-mail is required)
Every other Friday  10:00-10:50 AM A6 LC

Bound note book to be used as a laboratory notebook, pair of safety goggles,
high-density 3.5” floppy disk

MW  8:00-10:50  TA  Chimon, Sandra  schimo1@uic.edu
TR  8:00-10:45  TA  Wickramasinghe, Nalinda  dwickr1@uic.edu
TR 11:00-1:45   TA  Kottegoda, Sumith  skotte1@uic.edu

While Chem. 342 is the only prerequisite it is generally presumed that
students have completed or are currently enrolled in either Chem. 344 or Chem. 346.
Additional background relevant to the experiments can be found in the textbook by Peter
Atkins, Physical Chemistry, 6th edition. Half of the lectures will be devoted to materials
to understand the experiments.

Please make sure you are registered for the course and the proper section
of the course you are attending. The Department does not allow students to register for
one laboratory section and do their work in a different section. Teaching assistants
have the authority to waive this policy.

Accommodations: Students with disabilities who require accommodations for
access and participation in this course must be registered with the Office of Disability
Services (ODS). Please contact OSD at 312-413-2103 (voice ) or 312-413-0123 (TTY).

Deadline of Friday, September 24, the last day on which you
can drop courses without penalty. Between Week 3 and Friday of Week 9, LAS
undergraduate students are entitled to a total of two optional late drop during their
enrollment in LAS. Students must see an LAS advisor on the 3rd floor of UH by
appointment (996-3366).

There is a final exam (date to be Announced). No midterm exam will be
given.

At a minimum, you must perform all the Labworks experiments and all of
other six experiments using instruments. You are not allowed to be absent at more than
two classes. In case you need to be absent for compelling reasons, advance notices to
your TA and your lab partner are required. You need to obtain permission from your TA
to be absent. A laboratory report for each of the six experiments must be turned in, in a
timely manner (Total 6 reports). In addition, you are required to attend all pre-lab
discussion and lab sessions. Failure to comply any of the above items will result in a
grade E. Any laboratory works cannot be started until all the lab partners are present.
Hence, a late arrival is subject to strict deduction of your points. Lab reports up to one
week late will receive a maximum grade of C unless there is a compelling reason such as
an emergency case (a proof may be requested). No lab report will be accepted beyond
one week.

You must read all background and lab handouts before
coming to the lab. You will be orally quizzed on the material to check your preparedness
(10 point for each lab session). If you are not prepared you will not be allowed to
continue with the experiment. If you apparently fail to read background or lab handouts
more than two times, your grade will be E.

Copies of all handouts will be available at Chemistry Department web page
(web address to be announced by Week 2).

Academic dishonesty in any form will not be tolerated in this
course. Plagiarism and submission of laboratory data and reports obtained or written by
others is academic dishonesty. Any students caught cheating will be immediately
assigned a grade of E. Further disciplinary action will be discussed with the Department
and the Dean.

Your grade will be based upon the following:

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<th>Component</th>
<th>Points</th>
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<tr>
<td>Oral presentation of Lab Works experiments</td>
<td>50</td>
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<tr>
<td>Lab reports (six at 100 points each)</td>
<td>600</td>
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<tr>
<td>Home work including lab quiz (10 at 10 points each)</td>
<td>100</td>
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<tr>
<td>Laboratory Performance</td>
<td>150</td>
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<td>(preparedness, adherence to safety rules, cleanliness of working environment, lab notebook, general performance in lab)</td>
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<td>Final exam</td>
<td>200</td>
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<tr>
<td>Late arrival to the lab</td>
<td>–5 points within 10 minute delay –N*0.5 points for being N minute late after that</td>
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<tr>
<td>Total</td>
<td>1100 points</td>
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You and your lab partner are required to individually each have a bound laboratory
notebook in which you keep a record of all of you lab activities. You should record the
pertinent information for each experiment in the notebook. For some experiments all
data acquired will be entered directly into a computer file. For such experiments it will
suffice to record the file name along with a brief description of the file contents. These
files should be stored on your laboratory floppy disk (Do not forget to have a backup
regularly). Your lab notebook will be turned in for grading at your last laboratory session. The notebook must follow this format.

1. It must have a table of contents.
2. All pages must be dated and numbered.
3. No pages can be torn out.
4. All data, analyses, and comments must be written legibly in blue or black ink.
5. All data must be entered directly into the lab notebook. TA’s will confiscate data written on loose sheets.
6. All data pages must be signed by your TA on the date the data is recorded.
7. All analysis of your data and results must be recorded in the notebook.
8. All plots must be computer generated. Fitting of data to lines must be done by linear least squares analysis with slope, intercept, and correlation quoted.
9. Any additional plots or other computer-generated material must be neatly typed or glued into the notebook.

Typed (computer generated) laboratory reports are due one week after the experiment is concluded using the format given in the Laboratory Reports handout. All graphs must be computer generated. The report must be turned into your section TA. Late lab reports are accepted up to seven days after the due date but will have a maximum grade of C. Lab reports will not be accepted when they are more than one week late. In case that your report is not submitted within 1 week after the due date, you will receive a grade of E for the course.

This course fulfill the “writing-in-the-discipline” requirement. As such, by the end of the course you are expected to be able to report scientific results from your experiments in a literate and scientifically rigorous manner. This not only involves a concise style of prose but proper error analysis and adequate graphical representation of data. Thus an important factor in grading the lab reports will be the quality of the writing – grammar, spelling, clarity, organization – and the proper employment of tables, graphs, and error analyses.
You are required to wear safety goggles while doing the experiments. Safety considerations also demand the proper use of equipment, suitable disposal of leftover chemicals (never down the sink!), and appropriate attire (i.e., avoid short clothing and open-toed shoes). In a laboratory area, drinking, eating, chewing, and smoking are strictly prohibited. Keeping your working area clean is an absolute must. These requirements cannot be overstated and violations will have serious repercussions. You will be asked to leave the laboratory if you are exposing yourself or your fellow classmates to dangerous lab practices.

Bring a floppy to every class to store your data. Do not assume that the files you created in one session will still be there in the next. Our computers are “virus” free. Make sure they stay that way by only inserting your floppies into our computers. If you wish to process your data outside of lab use another floppy which you clearly label as “foreign.” Never insert a foreign floppy into our computers! In addition to the software required to run several of the experiments, Excel has been installed on most of the computers in 2013A SEL. Sigmaplot is available to us on the computers in the Varian NMR room (2032 SEL). Your may use any software you wish to graph data.