IMPORTANT LABORATORY INFORMATION

PLEASE READ
AND KEEP FOR FUTURE REFERENCE

Labs start the week of 9/22

<table>
<thead>
<tr>
<th>Section Number</th>
<th>Laboraory Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday afternoon 2</td>
<td>2:00 – 6:00 p.m.</td>
</tr>
<tr>
<td>Tuesday afternoon 3</td>
<td>2:00 – 6:00 p.m.</td>
</tr>
<tr>
<td>Wednesday afternoon 4</td>
<td>2:00 – 6:00 p.m.</td>
</tr>
</tbody>
</table>

Dr. Milde (121 Burke) is the faculty member in overall charge of the laboratory and is the laboratory instructor for each lab section listed above.

Lab Section Assignments

Initial lab sections are assigned by the Registrar’s office and are indicated on your banner schedules.

The registrar is responsible for your initial placement in a section of lab. Dr. Milde is in overall charge of permanent lab section changes until a deadline of 2 p.m. on Friday, September 19th. YOU CANNOT CHANGE YOUR LAB SECTION AFTER THIS DEADLINE. First preference for permanent changes will be given in cases of a clear-cut academic conflict. If you cannot find a lab section that fits your current academic schedule, you may have to rearrange your schedule to accommodate a CHEM 5 laboratory section.

If you were not assigned a lab section by the registrar or you register late for the course, please contact Dr. Milde (121) ASAP.

Lab Logistics

Eye Protection: You will wear goggles to protect your eyes from splashes. These must be purchased in the Chemistry stockroom in 017 Burke. The cost is $6. Please try and bring exact change. Checks are also accepted. Everyone must wear safety goggles for every experiment. Failure to wear goggles at all time in the laboratory will result in a zero for the complete experiment. The hours for the chemistry stockroom are: 7:30 a.m. – 4:30 p.m. (closed from 12 – 1 p.m.).

Lab Meeting Places: Each week, you will meet in 006 Steele at the beginning of the laboratory period (2 p.m.) for announcements and a short laboratory lecture or quiz before moving to the lab, on the third floor of Steele. This is not the time you should be reading the experiment for the first time or working on your prelab problems. If you
are late for lab lecture, permission to proceed with the experiment is at the discretion of
the laboratory instructor. You will lose at least 20% off your prelab score or receive a
zero for the complete experiment and will not be offered a make up lab session.

**More Lab Logistics**

**Lab TA’s:** During the first week of labs, you will be assigned to a Teaching Assistant
who will supervise your lab work, grade your notebook, and grade prelab problems
and quizzes. Office hours for your section’s TAs will be announced at your first lab
lecture.

**Lab Lecture and Prelab Problems:** You must attend lab lecture and you must
complete the assigned pre-lab problems and notebook preparation before you come
to lab lecture. You will not be permitted to continue the lab assignment and you will not be
permitted to make up the lab if you are not completely prepared. As previously mentioned, **if you are late to a lab lecture,** you may not be permitted to do the lab assignment and
will be given a zero for that week’s experiment.

**Laboratory Charges:** A fee for your lab notebook and for incidental laboratory supplies
will be charged to your college bill. Additional charges will be made for excessive
damage.

**Laboratory Manual:** Please read the introductory part of the manual, as well as the first
experiment **before** the first day of lab. The approximate cost of the manual is $12 and it
is available at Wheelock Books. The introductory material, prelab problems and data
sheets from the manual, as well as the complete first experiment, are available on the
blackboard site for this course.

**Laboratory Notebooks:** Please pick up a composition notebook before or after lecture
during the first week of class. More on the notebook (format, proper use, due dates,
etc…) can be found in the Lab Manual Introductions. Further instructions will be given
by your TA and in lab lecture. Write your name, the name of your TA, and your lab
section on the cover. Be sure to read “Notebooks: What Happens When” in the
Manual.

**First Assignment**

**Before your section’s first meeting:**
- Obtain a pair of goggles from the Chemistry Department Stockroom. The
stockroom is in 017 Burke, and is open from 7:30 am to 4:30 p.m. Monday through
Friday, except from 12-1 p.m. The cost of goggles is $6 and you can pay by check or
cash. **(Exact change is appreciated)**
- **If you so choose to,** obtain a lab coat from the **Biology Stockroom.** This is **optional** but
recommended if you intend to major in a science. There are also lab coats available
in the lab for your use. If you are not dressed properly for lab (i.e. covered from
neck to knees with closed toe shoes, i.e. no sandals, no crocs) you will be asked to
leave and will receive a zero for the experiment.
• Read the lab manual through the end of Lab 1 “Determination of Avogadro’s Number.”

• Pay careful attention to the sections on Laboratory Safety and the Honor Principle. Lab safety regulations will be enforced from your first meeting on. You will complete, sign and turn in the Safety agreement (page 3-4) agreeing to abide by the safety regulations and the Honor Principle at your first lab meeting. The back of this form has a map of safety equipment that serves as a "quiz" for the first week.

• Prepare your lab notebook by completing sections 1-4 as described in the manual. This includes completing the Objective, Reference, Procedure Flowchart or Outline, and/or Sample Calculations or Analysis Flowchart/Outline.

• Complete the prelab problems before your lab section meets. If you have difficulty with the problems, do what you can and come prepared to ask questions at TA office hours or of your TA. Prelab problems are designed to give you added understanding of the week’s work before you come to the lab.

**Grading**

Your lecture instructor will tell you how the lab grade will count toward your final Chem 5 course grade. In general, the eight weeks will contribute toward a total of approximately 15% of your lecture grade. **Please note you cannot pass the lecture portion of the course without successfully completing the laboratory portion.** If you get three zeros, you have automatically failed the laboratory portion and therefore the course. Three zeros includes any unexcused absences, coming to a lab day that is not your own without permission or failure to turn in a data sheet by 7 days of the due date.

We anticipate an average acceptable week’s work will consist of part of the following elements: successful assigned pre-lab problems, notebook style, content and format, and quantitative agreement with known analytical results.

Not all of these criteria will apply each week, as some experiments are qualitative and some are quantitative. Although you will in some cases be graded on your quantitative results, an important goal of the lab is to learn how to cope (and how to redo or rescue your experiment) if you do something wrong. You should be familiar with each experiment before you go to the lab; ideally, you will then be able to carry out each experiment smoothly. The more prepared you are for the experiment, the easier it will be to understand and execute. If you do make a mistake, you will not be harshly penalized if your show understanding of the problem.

Late reports will suffer the following credit penalties:

<table>
<thead>
<tr>
<th>Days Late</th>
<th>Percentage Deduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>2</td>
<td>40%</td>
</tr>
<tr>
<td>3</td>
<td>60%</td>
</tr>
<tr>
<td>4</td>
<td>80%</td>
</tr>
<tr>
<td>5</td>
<td><strong>Write-up will not be graded and given a zero</strong></td>
</tr>
</tbody>
</table>

3
Temporary Lab Section Changes

The laboratory section to which you are finally assigned is a regularly scheduled academic event and as such takes precedence over non-academic activities and even some academic activities. Thus, if another class schedules an exam during your lab time, the lab takes precedence and you must arrange in advance for the exam to be given to you some other time. Attached to this document is statement of the policy for temporary lab section changes, including examples of situations for which requests will or will not be considered.

All other unresolved absences will be considered unexcused and will result in a grade of zero for that week’s lab. Three zeros constitute automatic failure of the lab and the entire course.

To request temporary transfer to another section:
• Contact Dr. Milde.
• Fill out the request form on the ChemLab website http://www.dartmouth.edu/~chemlab/info/logistics/switches.html
• The response to your request will appear in your Blitzmail within 48 hours. You will need to supply written or electronic documentation of authorized travel or illness. If the request is granted, you will receive an authorization blitz that you should print out and bring to your temporary lab section.
• To make up work missed due to excused illnesses, etc…prepare for the experiment using the same procedures as soon as possible after the missed Lab Section
• Requests to make up an unexcused absence will not be allowed. All unexcused absences count as zeros.

Prelab problems
Every lab has associated weekly problems in the Manual. You are to work these problems independently and bring your answers to lab lecture along with your prelab write up in your notebook. Note the TAs have office hours to give you a chance to ask questions before your lab section. Prelab problems will be collected and graded each week and they must reflect your own work and independent thought. See the Academic Honor Principle statement in the lab manual. PLEASE NOTE: If you do not turn in your prelab problems BEFORE lab lecture starts, it will be automatically marked late and assessed a 20% point penalty.

Lab Schedule

<table>
<thead>
<tr>
<th>Week of</th>
<th>Experiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/22</td>
<td>Check in, Safety and Determination of Avogadro’s #</td>
</tr>
<tr>
<td>9/29</td>
<td>Analysis of Cations</td>
</tr>
<tr>
<td>10/6</td>
<td>Ion Exchange – Part I</td>
</tr>
<tr>
<td>10/13</td>
<td>Analysis of Sea Water</td>
</tr>
<tr>
<td>10/20</td>
<td>Determination of an Equilibrium Constant and Le Chatelier’s Principle</td>
</tr>
<tr>
<td>10/27</td>
<td>Acids, Bases and Buffers</td>
</tr>
<tr>
<td>11/3</td>
<td>Calorimetry – Part I</td>
</tr>
<tr>
<td>11/10</td>
<td>Calorimetry – Part II</td>
</tr>
</tbody>
</table>
Policy on Temporary Lab Section Changes

Chemistry laboratory is a regularly scheduled academic event and takes precedence over all other activities.

Situations that MAY justify a temporary lab section change:

• Illness or personal emergency severe enough to keep your from attending classes. You must submit a note from Dick’s house or a Dean. If the illness has lasted a week or more, see your chemistry laboratory instructor or Dr. Milde about possible special arrangements.

• College approved travel. Intercollegiate athletic competition and class field trips are the most common examples. A note must accompany a request for a change because of “official” extracurricular activities from a coach, professor, or Dean. No student will be allowed more than one temporary change for extracurricular activities, even if the request is strongly supported by a coach or professor.

Situations that NEVER justify a temporary lab section change:

• An exam scheduled in another course outside that course’s regular class time. You must arrange with the instructor of the course in question to take the exam at another time. This is Dartmouth College Policy! If that instructor refuses to reschedule your exam, please contact Dr. Milde.

• Upcoming exams, papers, problems sets, or other academic work. Such pressures justify neither a lab section change nor an extension of the due date for chemistry laboratory reports. Plan ahead, schedule your time carefully, and keep up with your course work.

• Any and all social events conflict. These include intramural athletic events, athletic banquets, fraternity or sorority affairs, etc.

• Athletic practices. You will not be excused for regularly scheduled or special practices.