CHEMISTRY 115-A, Fall 2006

Instructor Dr. William Robinson, WTHR 230B, 49-45453, wrrobin@purdue.edu
Course Supervisor Dr. Susan C. Nurrenbern, BRWN 1144, 49-40823, nurrenbe@purdue.edu
Lectures Monday and Friday each week at 3:30 PM in WTHR 200
Course Web Site Address http://www.chem.purdue.edu/chm115
WebCT Address http://www.purdue.edu/ecourses
Supplemental Instruction http://www.cla.purdue.edu/asc

Additional Places for Help and Answers

General Chemistry Office, BRWN 1144, 49-45250 The staff in this office handles all the administrative details associated with the course. For example, go to this office to change your schedule (weeks 2 and 3), to get signatures on university forms such as Form 23, to report absences and complete absence forms. Staff members are there to help you but they must also abide by the professors’ and university’s rules.

TA Office Hours, WTHR 116 Each CHM 115 TA will hold a one-hour office hour each week where any CHM 115 student can go to get help with chemistry from any CHM 115 TA at no charge. This is 60-70 hours each week where free help is available from the CHM 115 staff.

Chemistry Resource Room, WTHR 117 The staff in this area can answer many of your chemistry related questions but going to a CHM 115 TA is recommended. This is also an area where you can study alone or with others.

Required Materials

- **Lab Manual:** Chemistry 115 Laboratory Manual, Purdue University, Fall 2006 Edition, Hayden-McNeil Publishing, Inc. (The required laboratory notebook is packaged with the lab manual.)
- A CPSrf response pad for lectures. These are available in the bookstores and are commonly called “clickers”.
- A simple **scientific calculator** will be necessary for exams. Alpha-numeric and programmable calculators will not be allowed for exams.
- **Approved safety goggles** are available at the bookstores, the chemistry storeroom, or outside WTHR 200 during the first two weeks of the semester.
- A **padlock** for your assigned lab drawer. (beginning Week #4)
- A **black, permanent ink Sharpie pen** to mark glassware in lab.

As a student in CHM 115, you are responsible for knowing and following the policies and procedures for CHM 115, Fall 2006, contained in this document as well as any changes that might be made as the semester progresses.

***Any necessary changes in the schedule will be announced in lectures.***
CHM 115-M and CHM 115-A Fall 2006 LECTURE (ANTICIPATED) AND EXAM SCHEDULES

The assigned readings for each lecture are posted on your WebCT course.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Day</th>
<th>Lecture Topics</th>
<th>EXAMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/21</td>
<td>M</td>
<td>Preliminaries &amp; Information about CHM 115</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8/25</td>
<td>F</td>
<td>Review of General Chemistry Concepts from High School:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>atoms, molecules, formulas, chemical transformations, gas laws</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8/28</td>
<td>M</td>
<td>Nuclear Chemistry: power plants/energy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9/1</td>
<td>F</td>
<td>Nuclear Chemistry: fusion/radioactive waste (kinetics)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>9/4</td>
<td>M</td>
<td>no classes Monday, 9/4: LABOR DAY HOLIDAY</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9/8</td>
<td>F</td>
<td>Nuclear Chemistry: radio imaging (medical)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>9/11</td>
<td>M</td>
<td>Atomic Spectroscopy, energy level configurations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9/15</td>
<td>F</td>
<td>Periodic Trends–valency: radii, ionization energies, molecular formula trends as a prelude to bonding</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>9/18</td>
<td>M</td>
<td>Ionic vs. covalent trends (ionic vs covalent vs metallic models)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9/22</td>
<td>F</td>
<td>Conductivity of solutions; melting points/boiling points; crystalline behavior</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>9/25</td>
<td>M</td>
<td>Enthalpy and chemical change</td>
<td>EXAM I, 9/25</td>
</tr>
<tr>
<td></td>
<td>9/29</td>
<td>F</td>
<td>Stoichiometry of thermochemistry</td>
<td>6:30 pm - 7:30 pm</td>
</tr>
<tr>
<td>7</td>
<td>10/2</td>
<td>M</td>
<td>Energy in bonds as the driving force for bond formation;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lewis structure: energies of different bond types</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Violations of octet rules</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10/6</td>
<td>F</td>
<td>Formal charges/hyper valency/shapes of molecules</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>10/9</td>
<td>M</td>
<td>no classes: OCTOBER BREAK</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10/13</td>
<td>F</td>
<td>Shapes of Molecules</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td><strong>mid-semester</strong></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>10/16</td>
<td>M</td>
<td>Enzymes and enzyme poisons: shape recognition and stability of interactions; structure and function</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10/20</td>
<td>F</td>
<td>Drugs as molecules, Functional groups and functionality</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10/23</td>
<td>M</td>
<td>Functionality and functionality interconversion</td>
<td>EXAM II, 10/23</td>
</tr>
<tr>
<td></td>
<td>10/27</td>
<td>F</td>
<td>Polymers</td>
<td>7:00 pm - 8:00 pm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reaction types for polymers [oil as a course for synthesis]: distillations, cracking, etc.</td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Day</td>
<td>Lecture Topics</td>
<td>EXAMS</td>
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<td>------</td>
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<td>----------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>11</td>
<td>10/30</td>
<td>M</td>
<td>Proteins/carbohydrates/nucleic acids</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11/3</td>
<td>F</td>
<td>Proteins/carbohydrates/nucleic acids</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>11/6</td>
<td>M</td>
<td>Natural polymers; intermolecular forces</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11/10</td>
<td>F</td>
<td>Intermolecular forces: general aspects</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>11/13</td>
<td>M</td>
<td>Intermolecular forces in everyday life: fats-soaps</td>
<td>EXAM III, 11/15</td>
</tr>
<tr>
<td></td>
<td>11/17</td>
<td>F</td>
<td>Solutions and concentrations</td>
<td>6:30 pm - 7:30 pm</td>
</tr>
<tr>
<td>14</td>
<td>11/20</td>
<td>M</td>
<td>Solutions and concentrations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11/24</td>
<td>F</td>
<td>no classes: THANKSGIVING HOLIDAY</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>11/27</td>
<td>M</td>
<td>Solutions and concentrations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12/1</td>
<td>F</td>
<td>Crystal structure; “removing the solvent”</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>12/4</td>
<td>M</td>
<td>Band structure: metals, semiconductors, insulators</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12/8</td>
<td>F</td>
<td>Solar cells and solar energy</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>12/11-16</td>
<td></td>
<td>FINAL EXAM WEEK</td>
<td>FINAL EXAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Semester ends: Saturday, 12/16, 9:00 p.m.)</td>
<td>(tba)</td>
</tr>
</tbody>
</table>
Chemistry 115, Fall 2006, LABORATORY SCHEDULE

You will earn an automatic grade of “F” in CHM 115 this semester if you:

- **miss three (3) or more of the 12 scheduled laboratory sessions** (weeks 2 - 15) without excused absences
- **fail to complete three (3) or more of the 12 scheduled lab projects.** Completion of a lab project includes the following equally important components
  1. attendance in the laboratory
  2. helping with the laboratory work and the preparation of the lab project report
  3. completion and timely submission of a satisfactory laboratory project summary. Failure to submit a lab report counts as a missed lab.

You are expected to arrive on time, properly dressed and prepared for lab work when you arrive. If you arrive at lab more than 10 minutes late or improperly dressed then you will be considered unprepared to do the lab work and will be required to leave the lab for the day. You will not get a grade for that lab and it will count as a failure to complete lab. If you arrive 1 - 10 minutes late for lab, prelab answers will be considered late and not accepted for grading.

The graduate instructors must close the laboratories by the end of your scheduled lab period (that is, 10:20 AM, 2:20 PM or 5:40 PM). At that time all equipment must be cleaned and put away, lab drawers locked, and lab project summary reports turned in.

Lab project summary reports must be written in ink on the report sheets that you will get in lab. Grading criteria for lab project reports are on page 8.

**The scheduled lab projects are in a different order than printed in the lab manual.** Be sure to check the schedule each week to identify the lab work you will be completing.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lab Projects</th>
<th>In Lab Manual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/23,24,25</td>
<td>Check-in, Safety Review, Features of the Lab, WebCT (H00)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10/30,31;9/1</td>
<td>Analyzing a Solid Using Conservation of Mass</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>3</td>
<td>9/6,7,8</td>
<td>Sodium Carbonate and the Amount of HCl in Hydrochloric Acid</td>
<td>Chapter 8</td>
</tr>
<tr>
<td>4</td>
<td>9/13,14,15</td>
<td>From Element to Salt</td>
<td>Chapter 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>(Lock lab drawers with personal padlocks.)</em></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>9/20,21,22</td>
<td>Concentration and Spectroscopy</td>
<td>Chapter 19</td>
</tr>
<tr>
<td>6</td>
<td>9/27,28,29</td>
<td>Hess’s Law and Enthalpy Changes</td>
<td>Chapter 16</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>(Individual lab reports due at end of lab.)</em></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>10/4,5,6</td>
<td>Where’s the Iron?</td>
<td>Chapter 21</td>
</tr>
<tr>
<td>8</td>
<td>10/11,12,13</td>
<td>Molecular Geometry</td>
<td>Chapter 22</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>mid-semester</em></td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Lab Projects</td>
<td>In Lab Manual</td>
</tr>
<tr>
<td>------</td>
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<td>------------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>9</td>
<td>10/18,19,20</td>
<td><em>no lab (Compensation for Evening Exam Times)</em></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10/25,26,27</td>
<td>Preparation of Luminol</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>11</td>
<td>11/1,2,3</td>
<td>Organic Reactions: Aspirin, Nylon &amp; Cross-linked PVA</td>
<td>handout</td>
</tr>
<tr>
<td>12</td>
<td>11/8,9,10</td>
<td>Preparing and Standardizing a NaOH Solution</td>
<td>Chapter 9</td>
</tr>
<tr>
<td>13</td>
<td>11/15,16,17</td>
<td>The Acid in Your Beverage</td>
<td>Chapter 13</td>
</tr>
<tr>
<td>14</td>
<td>11/22,23,24</td>
<td><em>no lab (Thanksgiving Holiday)</em></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>11/29,30;12/1</td>
<td>Models of the Solid State</td>
<td>Chapter 23</td>
</tr>
<tr>
<td>16</td>
<td>12/6,7,8</td>
<td>Clean-up and check-out</td>
<td></td>
</tr>
</tbody>
</table>

**Wearing goggles and proper lab attire are required.**

**Safety Policies For Chemistry Labs**

Compliance With the Safety Regulations is NOT a Matter of Personal Choice or Opinion!!

Complying with safety regulations is simply a minimum requirement for being allowed to work and learn in a chemistry lab.

The safety of everyone in the active learning environment of a lab is taken seriously and your failure to comply with the safety regulations could affect your grade.

**Safety Goggles** You must wear appropriate and approved safety goggles (not safety glasses) in the laboratory at all times, including the day of check-out. You will be dismissed from lab and lose all credit for an experiment or lose your opportunity to check out if you do not wear your goggles as required. Safety goggles may be purchased at the local bookstores, the chemistry storeroom, or outside of WTHR 200 during the first week of the semester.

**Appropriate Clothing** Chemistry department regulations state that you must wear clothing in the laboratory that protects your skin from neck to your ankles, feet, and toes when you are sitting, standing or reaching. You are expected to arrive at lab properly dressed for lab work. You will be dismissed from lab and lose all credit for an experiment or lose your opportunity to check out if you do not wear acceptable clothing. Unacceptable clothing includes, but it not limited to: sleeveless or bare midriff tops, clothes that are ripped or have holes in the fabric that expose your skin, shorts, short skirts, open-toed and/or open-heeled shoes and sandals (with or without socks).

**Gloves** Gloves serve two purposes: they protect your skin from potential contaminants and keep any potential contaminants inside the lab. You will be required to wear protective gloves for many lab activities. When you leave a lab, take the gloves off and throw them away. Get new gloves when you return to lab.

**Contact Lenses** Wearing contact lenses in the laboratory is not a wise idea: you are encouraged to wear glasses instead. If you wear contact lenses in the laboratory, you must inform your graduate instructor of this at the beginning of the semester.

**Hair** If your hair is longer than shoulder length you must tie it behind your head in order to avoid accidental contact with open flames or chemicals that might be on the lab bench. Rubber bands are available in the laboratory.

**Food and Beverages** You may not eat, drink, or bring food into the laboratory.

**Electronics** The only electronic equipment allowed in the lab will be calculators and equipment being used for instruction and learning.
Handling and Disposal of Hazardous Materials
You will be required to follow the instructions printed in your lab manual or given to you by the graduate instructor or others for appropriate handling and disposal of any hazardous materials.
Each CHM 115 professor is aware that chemistry can be difficult material for some people to learn. At the same time each professor understands that learning chemistry is not impossible and that a variety of different teaching and learning methods may assist with the learning process. In CHM 115 you will have the opportunity to learn individually, with partners and in groups in lectures, recitations, labs and outside of class study time. Experts indicate that to adequately learn new material in college, two (2) hours of effective study outside regularly scheduled class time each week per one (1) credit hour is required. CHM 115 is a 4-credit course so this suggests that eight (8) hours per week of effective study outside of regular class time is necessary to learn what the professors want you to learn. The department provides several sources of help for you in this process at no cost. These include the professors, the CHM 115 TAs and the Chemistry Resource Room. Purdue supports and provides Supplemental Instruction sessions.

Because each professor is aware of the diversity of skills and personal issues within this large course we are concerned that each individual be treated as fairly as possible in all aspects of the course. Consequently, we have established rules and policies that apply to all students in CHM 115.

Disability Accommodations

If you require accommodations to access course activities or materials, the accommodations must be described and approved by Adaptive Programs, Room 830, Young Hall, 302 Wood Street. To implement accommodations you must follow the instructions listed as “Responsibilities of the Student” in the letter prepared by Adaptive Programs. Give one copy of the accommodation letter to your professor, not your TA. Take another copy to the CHM 115 course supervisor in BRWN 1144 within the first three (3) weeks of the semester to discuss your accommodations. If you have accommodations identified and approved during the semester, you are encouraged to initiate a meeting with the CHM 115 course supervisor to discuss the accommodations within one (1) week of the date of the letter. Timely notification of the CHM 115 course supervisor is critical for timely implementation.

Academic Integrity/Cheating

The CHM 115 professors view academic dishonesty as a serious offense, so we hope that cheating never arises as a problem in this course. The Office of the Dean of Students publication, Academic Integrity: A Guide for Students, is available at http://www.purdue.edu/ADOS/publications.htm and is an excellent summary of expectations for Purdue students.

Consequences of Academic Dishonesty  (that is, cheating.)
For any cheating on an exam, the student(s) involved will
► receive an "F" for the course.
► be reported to the Dean of Students Office.

For dishonesty issues involving CPS response pads in lectures, for example, using multiple pads to enter answers for a classmate, the student(s) will not receive any of the CPS points allotted in the grading scheme.

For a first offense involving a laboratory, student(s) will
► receive a grade of zero for that lab.
► lose any benefit of the doubt for a borderline grade at the end of the semester.
► be reported to the Dean of Students Office.
For a second offense involving a laboratory, the student(s) will
› receive a grade of "F" for the course.
› be reported to the Dean of Students Office.

If one student forfeits the responsibility of preparing a lab project summary to the other student in the pair and that student changes or falsifies data or plagiarizes any or all parts of the report, then BOTH students share the negative consequences associated with academic dishonesty, that is, cheating.

**Examples of Academic Dishonesty** (cheating) While the following list of examples of academic dishonesty is not complete, the examples are provided for your information. If you have any questions at all about permissible behavior, save yourself some heartache and ask before acting.

1. Copying or possessing an unauthorized crib (written or electronic) during an exam.
2. Copying from another student’s exam; allowing another student to copy your work on an exam.
3. Using a classmate’s response pad in lecture to enter answers for the absent classmate.
4. Copying lab data or a lab project summary; giving your data or project summary to someone else to copy. This includes files on computer disks as well as paper copies.
5. Changing data for a lab project to fit the perceived answer (that is, what you think the answer should be).
6. Using someone else's data in a lab project summary as if it were your own.
7. Submitting a lab project summary or other work that you did not do.

**Attendance/Absences**

We do NOT give make-up exams or labs. **Absence forms are to be completed in BRWN 1144 for a lab or exam absence due to one of the reasons listed below.**

The following will be the only acceptable reasons for missing a lab or exam.
› You have a serious, major medical illness that requires immediate, emergency medical attention. The course supervisor must be able to verify that you received medical attention for this serious illness.

› Death of an immediate family member. The course supervisor must be able to verify the death and your attendance at funeral services from the Dean of Students Office or other source. Complete an absence form in BRWN 1144 before leaving campus. Return with a memorial card or other verification for the date and location of the funeral or memorial services.

› A direct conflict with another exam, class, or required university activity. An absence form for this type of conflict must be completed with an attached verification letter at least one week (7 calendar days) before the conflict. Do this in BRWN 1144. We will try to accommodate legitimate conflicts but you will need to take care of the paperwork before the conflict. The excuses and paperwork will not be handled or considered after the conflict has occurred.
Club activities will not be excused unless the activity is a professional activity directly associated with your major.

If you will miss more than two (2) labs due to NCAA athletics, PMO, band, or religious activities, you must provide documentation to the staff in BRWN 1144 and change your lab section by the end of week 3 of the semester. Otherwise you will receive no credit for lab absences that are associated with these activities although with documentation, these zeros will not count as “failure to complete” labs.

If you miss an exam or lab for some reason that is not on the list above, that is, an unexcused absence, that score will not be prorated.

Reporting Absences  Telling your graduate instructor that you have missed or will miss a lab or an exam is not sufficient. Absence forms must be completed in BRWN 1144.

- **Conflicts You Know About Before a Lab or Exam.** An absence form for this type of conflict must be completed with an attached verification letter at least one week (7 calendar days) before the conflict in BRWN 1144. We will try to accommodate legitimate conflicts as stated in the previous paragraphs but the excuses and paper work will not be handled after the conflict has occurred.

- **Emergencies.** If you miss a lab or exam due to a major medical emergency or death in your immediate family, then report your situation immediately to the General Chemistry Office, 49-45252. Go to the General Chemistry Office, BRWN 1144, and complete an absence form with verifying documentation within two weeks after the absence so that arrangements can be made to possibly prorate that lab or exam.

### Course Activities

#### Readings

Reading assignments will be given for each lecture. These assignments will be announced in lectures and posted on WebCT courses. During each lecture, CPS questions will be given about the reading material assigned the previous lecture.

#### Lectures

You will be responsible for any announcements or course changes that are made in all lectures. Lecture notes taken by a graduate instructor will be available in the Resource Room, WTHR 117. Audiotapes of lectures will be available at the BoilerCast website [http://www.itap.purdue.edu/boilercast].

CPS response pads will be used to get your responses to a variety of questions and problems during lectures. The professors believe this process helps students learn and you will be allowed to use only the pad that belongs to you. CPS participation for the first lecture of the semester will not be considered in the determination of your course grade.

Cell phones, pagers, ipods or other electronic devices not being used for instruction purposes are distracting for all. Please respect your colleagues and turn off this equipment in lectures as well as in recitations and labs.
Exams

Attendance is required. We do not give make-up exams in CHM 115.

Before Exam I, you will receive an exam seat assignment for the entire semester. It will be posted on the CHM 115: Exam Seating WebCT course. Take your seat assignment, simple scientific calculator with exponential, logarithm and square root functions, and a #2 lead pencil with you to the exam. Cell phones and programmable or alpha-numeric calculators may not be used during an exam. You may not share a calculator with another student.

- If you are absent for an exam, follow the procedures for reporting absences.
- Students will not be allowed to leave the examination area during the first 15 minutes of the scheduled exam period. Students may arrive late for the exam in this 15-minute window. After the first 15 minutes, no one will be allowed to enter the examination area.
- If you arrive late for an exam (within the 15-minute window) you will not receive additional time to complete the exam or scan sheet.

Hour Exams  Three 60-minute, multiple choice evening exams will be in the Elliott Hall of Music.

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam I</td>
<td>Sept 25 (M)</td>
<td>6:30 PM - 7:30 PM</td>
</tr>
<tr>
<td>Exam II</td>
<td>Oct 23 (M)</td>
<td>7:00 PM - 8:00 PM</td>
</tr>
<tr>
<td>Exam III</td>
<td>Nov 15 (W)</td>
<td>6:30 PM - 7:30 PM</td>
</tr>
<tr>
<td>Final Exam</td>
<td>to be announced</td>
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</tr>
</tbody>
</table>

Wait until you know the date of the final exam before you make travel plans that might conflict with the exam. Early exams will not be given to accommodate your travel plans.

The final exam will be a two-hour exam. University policy on Final Exams states: “Students scheduled for more than two (final) examinations in one calendar day are entitled to reschedule any examinations in excess of two. . . . It is the responsibility of the student to make necessary arrangements before the last week of regularly scheduled classes.”

On-Line Homework

Assignments will be made and answers submitted on-line from the appropriate CHM 115 WebCT course at http://www.purdue.edu/ecourses/. You will need your Purdue User Name and password to access your WebCT courses. You will have a maximum of two (2) attempts to complete each homework assignment before the listed submission deadline. The higher score of the two attempts will be recorded as your score for that homework.

Deadlines for completing the on-line assignments will be listed next to the homework link on the WebCT page.

If you miss the posted homework deadline, you will NOT be given a time extension or exception.

Homework will be scored and recorded on-line so there will be no hand grading or regrading of homework.
Recitation

You will be responsible for any information given or problems done in these scheduled weekly sessions. These sessions provide you with the opportunity to ask questions and work with your classmates and graduate instructor in small groups. Recitation is not a time to begin your homework assignments.

You will have some time to ask questions and check your homework so take your WebCT homework printouts with you to recitation. However, 50 minutes is not sufficient time to answer all the questions that all students may have. If you have difficulties or have questions about certain problems, you should go to the CHM 115 graduate instructors office hours in WTHR 116G/H and ask for help.

Laboratory

Attendance is required since CHM 115 is a laboratory course. You will not be able to make-up a missed lab, but you will be responsible for the material covered in any lab you miss since questions based on the lab projects may appear on exams. You will fail CHM 115 if you fail to complete three (3) or more of the twelve (12) scheduled lab projects without excused absences. If you miss a lab, follow the procedures for reporting absences.

You and a partner or group will complete each lab project including the project summary report during the regularly scheduled laboratory time unless otherwise noted in the lab schedule.

You are expected to arrive on time, properly dressed and prepared for lab work when you arrive. If you arrive at lab more than 10 minutes late or improperly dressed, then you will be considered unprepared to do the lab work and will be required to leave the lab for the day. You will not get a grade for that lab and it will count as a failure to complete lab. If you arrive 1-10 minutes late for lab, prelab answers will be considered late and not accepted for grading.

If you are dismissed from lab for violation of safety regulations or department lab dress code, you will not get a grade for that lab and it will be considered as an unexcused absence and as a failure to complete lab.

Lab Reports

Lab project summaries will be due before leaving lab the day lab work is completed and the lab is closed, that is, 10:20 AM, 2:20 PM, or 5:40 PM. Graduate instructors do not have authority to change the date or time when work is due.

Late Lab Reports

Fifty percent (50%) of the maximum points, will be deducted from the score of both students for any lab project summary that is up to 24 hours late. No laboratory report will be accepted and graded beyond 24 hours after the report is due and both students (or the entire group) will receive a score of zero for that lab and it will count as a failure to complete.

Caution about Working With a Lab Partner

You will be working with a partner for most of the laboratory projects. Each pair will turn in a single lab project summary unless otherwise stated. While we encourage you to discuss concepts with other members of your class, the lab project summaries are to be unique efforts by you and your partner. You and your partner share the responsibility for writing lab reports that honestly reflect your work. It is also your responsibility as a team to ensure that everyone whose name is on the report participated in preparing it.
Grading Criteria for Lab Reports Your reports will be graded primarily on correctness and completeness.

- The report is complete.
- The report is organized correctly.
- The presentation is legible and logical. Headings and subheadings are used to identify or describe the contents of a particular section. Graphs and tables have titles to describe the contents. Sentences are complete.
- The data analysis and calculations have been done with the data your team collected during the lab period.
- The data analysis, including units of measurements and significant figures, are correct.
- Chemical terms and concepts have been used correctly throughout the report.
- Your conclusions and results are consistent with your data and calculations.

Grading Questions If you have a question about the score on any of your lab work, first ask your graduate instructor for clarification. If the graduate instructor cannot answer your questions, you may take the graded paper to the course supervisor in BRWN 1144 for possible regrading. You will need to do this within one (1) week (that is, 7 calendar days) after the graded paper has been returned to you. Your work will have to have been typewritten or written in ink for a possible regrade. The course supervisor will regrade the entire paper, not just the part where you think an error has been made.

Saving Graded Papers Save all returned graded papers and your exams until after you have received your course letter grade for CHM 115. If you claim that an incorrect grade has been recorded for you, we will need to see your paper(s) before we can change the grade.

Checking Your Scores Shortly after each of the first three exams and shortly before the final exam, all your scores to date will be available to you at the WebCT course site. (Your graduate instructor will have a paper copy of all the scores as well.) You are expected to check your scores when they are posted. You must report any errors to your graduate instructor or to the course supervisor within two weeks of the time they were posted. All disputed scores must be resolved with your graduate instructor or Dr. Nurrenbern, the course supervisor, before the final exam. There will be no score correction considerations after the final exam.

Changing Sections A change in section requires the approval of the course supervisor in BRWN 1144. Because of high enrollment and the processes associated with assigned lab drawers as well as WebCT course enrollment, we will NOT make a section change for students after week #3 of the semester. If you change sections after you check into a locker drawer, you must check out of your old locker drawer before checking into a drawer in your new section.

Lab Check-out

Dropping the Course If you drop CHM 115 after having checked into a locker drawer, it is your responsibility to check-out of your locker drawer during the next regularly scheduled lab. If you do not check out immediately, then you must go to lab at the regularly scheduled starting time during week #16 and check out of your locker drawer.
**Week #16 Lab Check-Out**  Lab check-out will start at the regularly scheduled lab time and continue during the regularly scheduled lab time until the graduate instructor has checked equipment in each lab drawer of those students who are present. If this process takes less than the full three (3) hours, then the graduate instructor will close lab and the deadline for that lab’s checkout will be declared. We will not be able to accommodate a check-out process for any student who arrives after the scheduled/designated check-out period.

**Failure to Check-Out of Lab**  For anyone who does not check out of a locker drawer by the scheduled or designated time:
- his/her padlock will be cut (this may also happen for students who arrive late for lab in Week #16)
- he/she will be charged a $45 fee and
- he/she forfeits the right to determine the acceptability of all locker drawer equipment.

**At the End of the Semester: Determining Your Course Grade**

Each of the activities will be assigned a given number of points as shown below. Before final grades are assigned at the end of the semester, your lowest homework score and lowest lab score will not be included in your total score. The five (5) lowest CPS scores will be dropped before the total points are scaled. The total number of points (1000) for the course is distributed as follows.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams (3 at 130 pts each)</td>
<td>390 pts</td>
</tr>
<tr>
<td>Final Exam (comprehensive)</td>
<td>210 pts</td>
</tr>
<tr>
<td>Labs (best 11 of 12 at 20 pts each)</td>
<td>220 pts</td>
</tr>
<tr>
<td>Homework Assignments (scaled)</td>
<td>104 pts</td>
</tr>
<tr>
<td>CPS points (scaled)</td>
<td>76 pts</td>
</tr>
</tbody>
</table>

At the End of the Semester: Determining Your Course Grade

Exams (3 at 130 pts each) 390 pts
Final Exam (comprehensive) 210 pts
Labs (best 11 of 12 at 20 pts each) 220 pts
Homework Assignments (scaled) 104 pts
(lowest to be dropped)
CPS points (scaled) 76 pts
(lecture #1 not counted; 5 lowest to be dropped)

After the Final Exam your course grade will be based on the 99th percentile score of total points as follows.

A: 0.90 x (99th percentile score)
B: 0.80 x (99th percentile score)
C: 0.70 x (99th percentile score)
D: 0.60 x (99th percentile score)
F: < 0.60 x (99th percentile score) OR if you miss or fail to complete three (3) or more of the 12 scheduled lab projects without excused absences.

**University Deadlines**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 1</td>
<td>5:00 PM</td>
<td>Last day to cancel (drop) a course assignment without it appearing on record.</td>
</tr>
<tr>
<td>September 18</td>
<td>5:00 PM</td>
<td>Last day to cancel a course without a grade.</td>
</tr>
<tr>
<td>October 25</td>
<td>5:00 PM</td>
<td>Last day to cancel a course (with a passing or failing grade).</td>
</tr>
</tbody>
</table>
SOURCES OF HELP FOR STUDENTS IN CHEMISTRY 115

Professor
You can make an appointment with the course professor. E-mail addresses (the best way) and phone numbers are on the cover page of this packet of information.

Graduate Instructors
Your graduate instructor is the person who has the closest contact with you in this very large course. The graduate instructors in the Department of Chemistry are not just "a bunch of grad students." They are graduate students, all of whom have been through a training program in teaching and tutoring skills and some of them have several years' experience in teaching. If you are having a problem with some aspect(s) of the course, go first to your graduate instructor. He/she wants to help you and is available for consultation both at specific hours and by appointment. However, he/she is not going to "spoon-feed" chemistry to you.

Office Hours
Graduate instructors will hold office hours in WTHR 116. There will be graduate instructors available 65 - 70 hours each week to answer questions and provide help in learning chemistry. A schedule of these office hours will be announced and posted during Week 2 of the semester on the CHM 115 WebCT courses.

Supplemental Instruction (SI) Sessions
http://www.cla.purdue.edu/asc

These sessions are conducted by the staff and student leaders through the Academic Success Center in Beering Hall. Announcements about these sessions will be made at the beginning of the semester in lectures. The schedule of SI sessions can be found by clicking on the SI link on the Academic Success Center website.

Course Supervisor
The course supervisor, located in the General Chemistry Office (BRWN 1144) will handle policy issues or problems in the course and sign university forms. The course supervisor is also responsible for maintaining student grade records.

CHM 115 WebSite
http://www.chem.purdue.edu/chm115/

CHM 115 WebCT Courses
Up-to-date course information will be posted on the CHM 115 WebCT courses. Links to other websites that provide useful information for learning chemistry will be posted on the WebCT courses. You will find links to the:
- TA Office Hour Schedule
- Purdue Academic Success Center
- Supplemental Instruction Information
- Purdue General Chemistry Help Site

Chemistry Resource Room
The Chemistry Resource Room (WTHR 117) provides a place to study and various kinds of help for all general chemistry students. The resources include:

- Free help and tutoring from the staff assigned to this area
- A variety of course materials (lecture notes, previous exams, the course text, and lab manuals)
- Numerous audiovisual and autotutorial programs on chemistry

A student ID card is required to check out most of the materials in the Chemistry Resource Room.

Times when the Chemistry Resource Room is scheduled to be open will be posted outside WTHR 117.
Hints and Facts About Using WebCT Vista for On-Line Homework

1. Use Internet Explorer as your browser; log on to Purdue’s WebCT server: http://www.purdue.edu/ecourses

2. Click Log on to WebCT Vista and enter your Purdue User Name and password to access your course listing. (If you do not have a password, take your Purdue student ID to STEW G65 and get one.)

3. Click on the appropriate CHM 115 course.

4. Click on the icon labeled Homework in the window of the home page or on the word Assessments that is to the far right in the gray toolbar and select the appropriate homework set when the new page opens.

   If you want to print the homework assignment before working on-line, right click on the screen and choose Print. It might be easiest to print out the assignment, discuss the problems in recitation, work the problems on paper, then return to WebCT to enter your answers. The program remembers exactly which problems you were assigned.

5. Answer the questions in the spaces provided then click Save Answer. If you do not click Save Answer, your answer will be lost and cannot be graded.

6. You can do some or all of the homework at any one time. If you only want to do some of the homework:
   (a) click on Save Answer.
   (b) DO NOT click Finish.
   (c) Click on the ☐ in the top right of the screen to close. You can return to a homework set provided you do not go past the time deadline.

7. When you are finished with the entire homework assignment, click Finish, then OK and View Results.

8. As described, if you are not happy with your homework score, you can repeat it, provided you do so before the submission deadline.

9. Other Information About WebCT

   (a) All button functions on WebCT are single click functions. Do NOT double click or you might cancel the command from the first click.

   (b) Terminology: WebCT does not understand homework. It spite of the fact that we call the assignments “homework”, we are using the quiz function of WebCT. All of the help and comments provided on the WebCT course refer to quizzes but, in fact, this is your homework.

   (c) Close the Internet Explorer browser when you are finished with a homework session. If you don’t, the next computer user can access your WebCT course and homework account.

   (d) Make sure that you open a new browser window when you access WebCT. If you access WebCT from another student’s open browser window after they have used WebCT, you will get their assignment and no grade will be recorded for you.

   (e) As with any electronic communication, the WebCT server may get overloaded and have a slow response time when everyone tries to finish their homework an hour or two before a deadline.

   (f) If you work from a personal computer, you may experience difficulties with information transmission, viruses on your computer, browser incompatibility, etc.

   (g) Instructions for entering answers are available via the “Answer Format” icon on your CHM 115 WebCT course home page.

Answers will be released a day or two after the deadline has passed. Go to the Homework page and click on Completed. Click on the trial results you wish to see. The answer you entered and the correct answer will be displayed with each question.