Chemistry 120 Class
Syllabus and Schedule
Spring 2009

Course Instructor: Dr. Bahareh Azizi
Email: bahareh.azizi@chemistry.gatech.edu (for now)
Office Hours: Tuesdays 1:00-2:00 or by appointment
Class Times: Tuesdays and Thursdays 11:30-12:45pm
Lab Time: Thursdays 2:30-5:30pm

Course Description and Goals:
Chemistry 120 is the second course in a two- semester sequence of General Chemistry. The topics covered in CHEM 120 include acid/base chemistry, basic concepts of organic chemistry, biological molecules, and connections between chemistry and biology. The main goal of this course is to provide an introduction to the fundamental principles that define the scientific interface between chemistry and biology. Concepts that were taught in the first semester of general chemistry will be extended to explore the connection between the physical and life sciences. The successful completion of this course should help students understand how chemistry is relevant to one's life.

Materials and Resources:
•Textbook (required): General, Organic, and Biochemistry, 5th edition, Denniston/Topping/Caret **or** Introduction to General, Organic, and Biochemistry, 8th edition, Bettelheim/Brown/March
•Student study guide and solutions manual (accompaniment to Denniston or Bettelheim text; optional)
•Carbon-copy lab notebook (required)
•Safety Glasses (required)
•Non-graphing scientific calculator (required)

Attendance:
Attendance is mandatory and in-class participation/quizzes account for 5% of your entire grade. However, not every student is going to be able to attend each class. You will be allowed to miss 3 class periods without penalizing your final grade. If you miss more than 3 classes (without an excused absence), this will result in the loss of 3 points from your final grade for each class that is missed. For example: You end up with a 91/A- in the course. However, you missed 5 class periods during the semester. Since you had 2 absences over the limit, you will lose 6 points from your grade, resulting in an 85/B.

Grading:
Your grade will be broken down into the following categories:

Attendance/In-class Quizzes	*5%*
Homework	*5%*
Exam 1	*15%*
Exam 2	*15%*
Exam 3	*15%*
Exam 4	*15%*
*Laboratories**	*15%*
Final Exam (cumulative)	*15%***

* Course Reflection Statements: If you complete both course reflection writing assignments, you will get to drop your lowest lab grade. Details about these writing assignments will be given when these are assigned.
** Grade Replacement: The final exam will be a cumulative exam. The final exam will be divided into each of the exams that were previously taken. If you take EVERY scheduled exam, you will have the opportunity to replace the exam grade with the grade that you received on that portion of the final. For those students that missed an exam with an EXCUSED absence, the grade received on that portion of the exam will be the grade that they receive for the exam missed. If you do not take each exam, the grade replacement will not apply to your case.

Final letter grades will be assigned as shown below:

A	***(93-100%)***
A-	***(90-92%)***
B+	***(87-89%)***
B	***(83-86%)***
B-	***(80-82%)***
C+	***(77-79%)***
C	***(73-76%)***
C-	***(70-72%)***
D+	***(67-69%)***
D	***(60-66%)***

Homework:
Homework will be assigned each week and due the following week. No late homework assignments will be accepted.

Honor Code:
It is assumed that all Oxford College students will adhere to the highest standards of academic honesty and will uphold the Oxford College Honor Code. It is my duty, according to the Honor Code, to report any incidences of misconduct to the Honor Council. Anyone who is found guilty of violating the Honor Code may receive a grade of F for the course. It is strongly recommended that each student carefully read through the Oxford College Student Honor Code.

Laboratory:
Each week a laboratory will be performed. Some of these experiments require bench work and some will be case studies or tutorials. For each laboratory assignment, you are responsible for submitting a laboratory report. Details of the laboratory report are given below.

Prior to the lab:
Before arriving to the laboratory session, you are required to write out a complete and concise protocol in your notebook. The following sections should be included in the write-up. This write-up will be evaluated by the instructor. You must have this portion of the write-up signed by the instructor, or else you will not get credit for this work.

- *Name of the Experiment*
- *Purpose of the Experiment*
- *A concise/detailed protocol*
- *Any tables, calculations necessary*
- *Answers to pre-lab questions (if provided)*

Through the laboratory session, all data should be recorded in your notebook and labeled as "Data". This will be a place for you to record any information from the experiment that you will find necessary in writing your lab report. This should also be a place for you to write down analyses, any observations made during the experiments, and additional information that you may find useful in completing your lab report. Before leaving the lab period that day, you must have your instructor sign this section or else you will not receive credit for your work.

Post-Laboratory work:

After leaving the lab period, you will complete your laboratory notebook write-up by including a section called "Conclusions". Here you will briefly evaluate your data and answer post-laboratory questions.

You will also be submitting a SEPARATE formal report. This report will be typed and written in scientific style, allowing you to prepare for writing scientific papers in the future. The following sections need to be included in the paper:

- Abstract:
    - This section is at the beginning of your paper to give an overall summary of what you did, why you did it, what you found, and what you can conclude. This is extremely brief and should not be more than a paragraph LONG!
- Introduction
    - In this section, you will talk about the background to the experiment. If you are telling a story, this is the section where you will identify each of the characters. In this case, you will discuss the nature of the experiment, what its purpose is and how this experiment is going to be beneficial to the scientific community. This section is often referred to as the background section, and should not be more than 2-3 paragraphs long.
- Experimental Methods

    - In this section you will briefly (in paragraph form) explain how you conducted your laboratory work and how your procedure will address your hypothesis. Mention all control experiments and how these controls will help you assess what the validity of the experiment. The main point is that you do not need a detailed protocol, rather enough detail so that a person will be able to repeat your experiment and achieve the same results. Assume that your audience is/are scientist(s). Therefore, it is not necessary to say "A beaker was placed on the balance. The zero/tare button was pushed. After the zeros appeared, water was placed in the beaker until 100.234 g were obtained." You can simply say, "100.234 g of water were weighed using a digital balance."
- Results
    - In this section, you will discuss all the results that you obtained from the experiment. You will refer to any graphs, tables, data charts that you have included and basically outline what you have found. Summarize the data found.
- Discussion
    - This section can be thought of as the conclusions section. In this section, the focus is to summarize your results and discuss what your results are telling you. A good discussion tries to tie all the previous sections together, by showing what the hypothesis was, how the results confirm/deny the hypothesis, and what we have learned that can be useful in the future.
- Tables, graphs, data charts, pictures
    - You must use at least ONE chart, table, picture or graph in each Lab report.
- References (if used during introduction)

In summary, in the lab session for that week, your pre-lab work in your notebook will be checked and a signature is required from the instructor. At the end of the lab session, your notebook will be checked again for data collection and a signature will also be required. At the beginning of the next lab session, your notebook write-up will be collected, as well as your formal lab report. Failure to turn in any part of the experimental data and write-up will result in a zero for that lab.

Specific things to keep in mind for CHEM 120:

1. You are expected to do your own work when taking an exam
2. Only a non-programmable calculator, pencil, and other pre-approved items are permitted in the exam
3. No cell phones are allowed in class during an exam period
4. All work handed in for lab must be done as an individual unless otherwise stated by the lab instructor
5. Any idea or thought used in a laboratory assignment must be properly referenced
6. Even though you may collect data in groups, you are not to collaborate with other students when completing lab report sheets/formal summaries