

**Course Syllabus: Chemistry 141**  
**Oxford College of Emory University**  
**Spring 2009**

**Course Instructor: Dr. Bahareh Azizi**

**Contact Information:**

**Office Hours: Tuesdays 9:00-10:00am or by appointment**

**Office Location: TBD**

**Email: [bahareh.azizi@chemistry.gatech.edu](mailto:bahareh.azizi@chemistry.gatech.edu) (for now)**

**Class Times: Tuesdays and Thursdays 10:00-11:15am**

**Lab Times: Wednesdays 2:00-5:00pm**

**Course Description/Goals:**

Chemistry 141 is the first course in a two-semester sequence for General Chemistry at Emory University. The overall goal of this course is to provide a basic understanding of the underlying principles of chemistry. The topics that will be covered in this course will allow a better understanding of experimental design and measurement, fundamental properties of matter, properties of gases, liquids, and solids, and the basics of chemical reactions and aqueous solutions. At the same time, this course will allow students to understand the importance of simple chemical principles in their everyday lives.

**Materials and Resources:**

- Textbook: Chemistry, by Darrel Ebbing (required)
- Student study guide and solutions manual (accompaniment to textbook; optional)
- Carbon-copy lab notebook (required)
- Safety Glasses (required)
- Non-graphing scientific calculator (required)
- PRS Interwrite Remote (required)
- Blackboard Class Conference – General Chemistry with Lab (<https://classes.emory.edu>)

**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), 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:

<i>Homework Assignments</i>	5%
<i>Attendance/Participation/In-class Quizzes</i>	5%
<i>Semester Project</i>	5%
<i>Exam 1</i>	15%
<i>Exam 2</i>	15%
<i>Exam 3</i>	15%
<i>Final Exam (cumulative)<sup>1</sup></i>	25%
<i>Laboratories*</i>	15%

<sup>1</sup>*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.*

*\*Note: If you complete all of the assigned SALG surveys and submit a course reflective statement at the end of the semester, your lowest lab grade will be dropped. Missed labs due to absence CANNOT be made up and will result in a grade of 0 (if you miss class during a laboratory experiment, you will not receive credit for the formal report or problem sheet assigned for that lab).*

**Final Grades**

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 assignments will be assigned each week on Tuesday and will be due the following Tuesday during lecture. Occasionally, additional homework assignments and problems may be assigned in lecture.

**Semester Project:**

A semester project will be announced in the month of February. This project will account for 5% of your total grade.

## **Laboratory**

There are two types of laboratory write-ups that will be collected throughout the semester. Both of these laboratory write-ups are different in nature and will be due at different times throughout the semester. Please MAKE SURE you understand what type of lab report is expected for the laboratory experiment that week and make sure you understand when the report is due.

The two types of lab reports are:

### **Lab Reports (notebook lab reports)**

These are carbon copies from your notebook that you will hand to the instructor at the due date.

#### ***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:***

You will add two additional sections. These sections will be called “Results” and “Discussion/Conclusions”. In the Results sections, you will basically outline the data that you collected in tables, graphs, etc and indicate how these results were collected. In the Discussion/Conclusions section, you will need to evaluate your data, state whether the hypothesis was proven, and what your results have taught you about the experiment. This should not be longer than 3 or 4 paragraphs, so make sure that you are concise and that you summarize your findings. Questions must also be answered.

***The points will be distributed in the following way:***

<b><i>Pre-Lab Write up</i></b>	<b><i>10 points</i></b>
<b><i>Calculations</i></b>	<b><i>25 points</i></b>

<i>Data</i>	<i>25 points</i>
<i>Post-Lab Write up (Results/Discussion)</i>	<i>15 points</i>
<i>Questions</i>	<i>25 points</i>

## **Formal Reports**

Throughout the semester, you will be responsible for turning in formal reports for a few of the laboratory experiments that you will perform. For these formal reports, all the text should be double-spaced and typed with 12 point font. **Groups will hand in ONE lab report representing the group, but EACH member will submit the carbon copies of their notebooks.** When writing these formal reports or any scientific formal report, it is generally accepted that the first person narrative should be minimized (e.g., instead of writing, “We found the temperature of the water to be 26°C,” you should write, “The temperature of the water was found to be 26°C.”)

The following sections need to be included in the formal reports:

- 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 1 paragraph 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. Not MORE THAN A PARAGRAPH or TWO LONG.

- 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)
- Group Self- Evaluations
  - The primary author for the report must submit an evaluation for each of the other group members and provide a score of 0-10. These can be short evaluations (one paragraph for each of the contributing authors). If the primary author fails to submit this evaluation, s/he will automatically be given a score of 0 for the evaluation.
  - Each group member submits a 0.5-1 page evaluation of the primary author, noting specifically all of the changes that were recommended for the report upon proof reading. Each member will give an overall score of 0-10 for the primary author. If a contributing author fails to submit a complete evaluation for the primary author, the contributing author will automatically be given a score of 0 for the evaluation.
- Carbon-notebook copies: EVERY MEMBER OF THE GROUP MUST ATTACH THEIR INDIVIDUAL NOTEBOOK PAGES TO THE FORMAL REPORT. See above for details of write-up.

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.

*The points will be distributed in the following way:*

<i>Carbon- notebook write-ups</i>	<i>15 points</i>
<i>Abstract</i>	<i>10 points</i>
<i>Introduction</i>	<i>10 points</i>
<i>Experimental Methods</i>	<i>10 points</i>
<i>Results</i>	<i>15 points</i>
<i>Discussion</i>	<i>15 points</i>
<i>Data (Tables, graphs, etc.)</i>	<i>10 points</i>
<i>References</i>	<i>5 points</i>
<i>Group Evaluations</i>	<i>10 points</i>

### **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.

*Specific things to keep in mind for CHEM 141:*

- you are expected to do your own work when taking an exam.*
- only a non-programmable calculator, pencil, and other pre-approved documents are permitted in the exam.*
- no cell phones are allowed in class during an exam period.*
- all work handed in for lab is done as a group, however there is to be NO collaboration between lab groups for any formal report or problem sheet.*
- any unoriginal idea or thought used in a laboratory assignment must be properly referenced.*