**General Chemistry I - ACHM 111**

Fall 2008, 4 credit hours  
Department of Chemistry and Physics  
University of South Carolina Aiken  
Dr. C. L. Leverette  
SBDG 305, 803-641-3291  
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**Lecture and Lab:** MWF 12:00 PM—1:50 PM, SBDG 301

**Office Hours:** T 9:30-11:00 AM and WF 8:15 AM—9:00 AM and by appointment.*

*Please feel free to call or e-mail me when needed. In addition, my appointment schedule is flexible. Therefore, if the office hours stated above do not fit into your schedule, we can set up a time that is convenient for you.

**Prerequisite or Corequisite:** AMTH 111  
* Placement above, successful completion of, or concurrent registration in AMTH 111.  
* It is also expected that the student has had a prior classroom chemistry experience either at the high school level (one year) or the college level (one semester).

**Text and Required Materials:**

- *Preparing for your ACS Exam in General Chemistry: The Official Guide* by Eubanks and Eubanks.  
- Laboratory notebook with carbonless copy (available in the bookstore).  
- Scientific calculator (capable of log, scientific notation, square root, n\(^{th}\) root, and exponents)  
- Safety Goggles (provided by the Department)  
- Access to the internet and access to WebAssign to do online homework and to check e-mails.

**Course Objectives:** The goals of this course are to introduce you to foundational chemical topics such as 1) qualitative understanding of chemical reactions, 2) stoichiometry (chemical algebra) of molecules, reactions, and titrations, 3) atomic and molecular structure and properties, 4) atomic periodicity, and 5) properties of solids and liquids.

The principles covered in this class provide an introduction to the material covered in advanced chemistry courses. In addition, the material presented in this course represents basic chemical principles that span many scientific disciplines, which is why pre-med, pre-pharm, and biology students are required to take this class.

It is my hope that you will learn these principles, appreciate the role chemistry plays in our world, and enjoy this class.

The text will be followed closely and a tentative course outline/schedule is provided. I will provide systematic, straight-forward ways of solving the problems encountered in this class. I highly encourage you to read each chapter at least twice as we study the material. The book may at times work problems slightly different than I do. It does not matter to me which technique you follow. Each person learns differently and the techniques of the book may better suit your
approach to problem solving. You will find that you will understand the material even more if you understand the different ways to solve the problem.

Class Requirements:

1) Be in class.
2) Be on time.
3) Turn off cell phones. (unless you ask for me for special permission before class)
4) BRING YOUR CALCULATOR. You cannot share calculators.
5) Come to me when you need help.

Classroom Conduct: There is little tolerance for talking or disrupting this class. This type of behavior disturbs the students around you and prevents the classroom from being an effective learning environment. If someone engages in this type of behavior, his or her name will be called out by me to answer questions on the material that is currently being covered. If this behavior continues, that student will be asked to speak with me after class about his or her behavior (This will be your last warning!). Future attempts to disrupt this class as observed by the instructor will lead to that student being dismissed from that particular session and that student will receive an absence for his/her attendance and a 0 for any assignments given during that class meeting. This is totally at my discretion. If you have any questions, refer to the USCA deportment policy, which is found in the USCA Student Handbook, or please see me so that we can discuss this issue.

Portable Electronic Devices: The use of any portable electronic devices, including cell phones, pagers, MP3 players, iPods, etc., during class is not allowed for any reason unless prior approval has been given to a student from the instructor or unless required for the course. If you are planning to have any of these devices in class, they must be turned off and stowed away for the duration of the class period. If a student is seen touching, holding, or using any portable electronic device during a test period without the prior consent of the instructor, the instructor will assume that the student is cheating and the test will be recovered and a 0 will be given to that student for the assignment.

Required Dress and Conduct in Lab:

- No shorts
- Closed top shoes (absolutely no sandals or flip-flops)
- Must always wear safety goggles when in the lab.
- Long hair should be pulled back completely away from the face.
- Turn off all cell phones while in lab.
- No food or drink allowed in the lab.
- No horseplay.

Student Performance Evaluation:

Examinations (3) at 120 pts each       360
Quizzes (10 of 12) at 15 pts each     150
Final Exam (ACS)                      150
Homework                              40
Labs (17) at 6 pts each               102

Total Points for the Course          802
**Quizzes:** There will be a quiz given almost every Friday class meeting during the Fall semester (12 total). Each quiz will take between 15-20 minutes to complete. Each quiz is worth 15 points. The 2 lowest quiz scores will be dropped. Therefore, only 10 quizzes will count in the overall determination of your grade.

**Homework:** Problem solving is an integral part of learning the concepts in chemistry. Many sample problems will be solved in class. Additional problems will be assigned using Webassign, a web-based technology for assigning, completing and grading homework. Each of you will sign up for homework using Webassign. In order to sign up, you have to follow the procedure below:

1. Using internet explorer, type in [www.webassign.net](http://www.webassign.net)
2. Click on **Log In** which is in the left margin.
3. Click on **"I Have A Class Key"**
4. You will see 3 boxes. Type the following in the boxes.
   
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5. Follow the on-screen instructions to enter your name into the roster for the class. You will need to purchase an access code to access webassign.

I expect to assign at least 1 online homework assignment each week. Each homework assignment will have a starting date and time, usually after the lecture, and a deadline, usually before the next class meeting. **You are responsible for knowing the deadlines on each HW assignment.** This is structured to provide you with practice for the quizzes and exams. Since the homework will be based on lecture material, you should be able to work the problems if you are up to date with your studies in the course. Obviously, the purpose of assigning the homework is to improve your understanding of chemistry and therefore your grade. If you are able to successfully complete all the assigned work, including the homework assignments, correctly without external help, you should earn a good grade in the course.

The total points achievable for all of the homework assignments will be divided by a number that will make the total points for the homework equal 40 points. This represents 5% of your overall grade.

**Laboratory Exercises:** Each lab activity should take 20 minutes to an hour and each will be related to a topic covered in the lecture. You will work with a partner who will work with you for the entire semester (unless, of course, your partner drops the course or is absent on a given day). Both Room 315 and Room 319 will be used for lab experiments.

Since efficiency in the lab is essential to avoid wasting other people's time, you are asked to read and prepare for the lab before coming to class, and **submit (before the lecture begins) a one page summary of the day's experimental procedure from your laboratory notebook.** This way, you will have turned in one copy for grading and have the carbon copy in your notebook as a reference for your review during the actual completion of the lab. **This pre-lab write-up should consist of the following:**

- Your name
- Date
- Experiment Title
- Lab Manual page number
- Objective: Restate in your own words. What was the purpose of the lab?
- Abbreviated procedure stated in your own words.
The pre-lab write-up is worth 3 points. Points will be deducted if any of these items are missing from your report. 1 point will be given for the stated objective, 1 point given for the procedure, and 1 point given for writing your name, date, experiment title, and lab page number. If you leave off any of the following (your name, date, exp. title or lab page number), you will be deducted 1 full point from the pre-lab. Likewise, if the objective or procedure is missing from the pre-lab or these items are incomplete or poorly done, a point will be deducted for each item. Again, you should turn in your pre-lab before the start of the lecture at the beginning of each class period. 2 points will be deducted from the pre-lab if it is turned in late. Late includes turning it in at the end of the class period. The goal is to have you do it before you come to class so that you are prepared for the lab. No matter how late you turn the pre-lab in, you will still receive 1 point for turning it in assuming it is done correctly.

You are to write all the experimental data in your lab notebook. Results of the experiments will be discussed in the lecture room and all the information related to your lab work data and calculations should be written in the lab book. You will turn in each Friday the written data and calculations for each lab performed during the week from your lab notebook. This follow-up write-up should include:

- Your name
- Experiment title
- Data
- Calculations
- Graphs (if applicable)

One sentence conclusion stating your results. (If your number is wrong, state the possible source of the error.)

This completed lab report is worth 3 points. Points will be deducted if any of these items are missing from your report. 1 point will be given for the conclusion, 1 point given for the data, written calculations, and appropriate graphs, and 1 point given for writing your name and the experiment title. If you leave off any of the following (your name, exp. name, or conclusion sentence), you will be deducted 1 full point from the completed lab write-up. You should turn in your completed lab write-ups for the week each Friday before the start of the lecture at the beginning of each class period. 2 points will be deducted from the completed lab write-up if it is turned in late. Late includes turning it in after the Friday class period. No matter how late you turn in the completed lab write-up, you will still receive 1 point for turning it in assuming it is done correctly.

Do not tear the data sheets out of your lab manual. You must draw the data tables in your lab notebook. You may write in your lab manual, but this will not be turned in. There will be at least 17 laboratory exercises this semester. If for some reason, we are unable to complete 17 labs, I will adjust the total points for the lab section accordingly. Each lab is worth a maximum of 6 points.

The Toledo Exam: The Toledo Exam (a diagnostic test intended to discover your knowledge of math, physical science, and chemistry relevant to this course) will be administered on the first day of class. While this test will not count toward your overall grade, very poor performance on the Toledo Exam may suggest that you should take another introductory course in chemistry before attempting ACHM 111.

Final Exam: The final exam is a comprehensive, standardized ACS (American Chemical Society) multiple choice exam. It will be administered Friday, December 10, 2007 at 5 PM in SBDG 301.
Questions? Please ask questions anytime, especially during an exam. Often, the wording of the problems on the exam may be confusing or the problem may contain an error; therefore, your question will help clarify these issues for everyone in the class. I will let you know if I cannot answer your question because it would divulge too much information.

Partial Credit and the Grading Scale: Giving partial credit for problems on exams is based solely on my discretion. My giving partial credit is to help you achieve the best possible grade for a given exam based on the effort you provide for a given problem. **Write out your calculations or I cannot give you any credit.** I promise each of you that my desire is for you to succeed and to be fair to each person in the class. **Because I will strive to be fair, partial credit will be assigned based on the amount and quality of detail provided for a given problem.** I decide if the effort warrants partial credit. I will not argue the amount of partial credit given for one student compared to the next. If this becomes a problem throughout the semester, I reserve the right to stop giving partial credit to everyone. I also reserve the right to curve the scores of each exam for the class as a whole when needed. No partial credit will be provided for the final exam.

Final letter grades will be based on the percentage of the total points earned and the scale below.

- $\geq 90\%$  A
- $\geq 85\%$  B+
- $\geq 80\%$  B
- $\geq 75\%$  C+
- $\geq 70\%$  C
- $\geq 65\%$  D+
- $\geq 60\%$  D
- $\leq 59\%$  F

Graded assignments will be returned to you in a timely manner.

**Academic Honesty:** For all quizzes, exams, and homework assignments, The USC Aiken Honor Code is in full effect. If the instructor has evidence that a student has violated this honor code for a particular assignment, that student will receive a 0 for that assignment. If that student is caught in violation of the USCA Honor Code subsequently on a future assignment, that student will receive a failing grade for the course and a letter detailing and documenting the student’s actions will be sent by the instructor to the Vice Chancellor for Student Life and Services. Further information about violations of Academic Integrity can be in the 2005-2006 USCA Student Handbook. You will be asked to sign the Honor Pledge on each examination.

October 16, 2008 is the last day to drop a course or withdraw without receiving a “WF” for Fall 2007.

**Attendance:** Attendance of all class meetings is expected, though excused absences are understandable. However, regular attendance will be looked upon favorably at the end of the semester for people with borderline grades. An attendance sheet will be passed around each class period for you to sign. Any student who has more than 10% unexcused absences will be assessed a one letter grade penalty off the final course grade. Any student who has been absent (excused and unexcused) more than 25% of all class meetings will receive a failing grade for the class. Unexcused absences on exam days will result in a grade of 0 for the exam. Unexcused absences on lab days or quiz days will result in a 0 for that assignment. Exams for people with excused absences must be made up as soon as possible at a time convenient to the
student and the instructor. If you have an excused absence on lab or quiz days, these assignments do not have to be completed. The maximum achievable points possible for the labs and quizzes will be altered to reflect this change for a given student. The catch is that an excused quiz will count towards one of the 2 lowest quiz grades that I will drop for a student. This particularly applies to student athletes that might have to miss a quiz due to a tournament or game. You may miss the quiz, but it will count as one of your free drops. Therefore, it benefits you to try and take the quiz if possible. For student athletes: If you know that you are going to miss a quiz due to a tournament or game, I will allow you to take the quiz Friday morning before you leave town. Student athletes must provide me with a calendar at the beginning of the semester showing the team’s travel schedule and it should be signed by his or her coach. See me with questions. For all students: Excused absences require a doctor’s note, a note from a family member that includes a telephone number to check, a business note, or a receipt (in the case of car problems). Please contact me with any questions.

Disability Statement: If you have a physical, psychological, and/or learning disability which might affect your performance in this class, please contact the Office of Disability Services, 126A B&E, (803) 641-3609, as soon as possible. The Disability Services Office will determine appropriate accommodations based on medical documentation.