

Chem111A General Chemistry

Contact Information:

Melvin R. Kantz, Ph.D.

Office Hours : By appointment

Email Address: drmelk@verizon.net

Course: Three hours of lecture, two hours of problem solving, 3 hours of laboratory, and 1 hour of discussion per week. Lecture includes course introduction, chemical reactions and stoichiometry, atomic structure and periodicity, chemical bonding, molecular structure, physical properties of solids, liquids & solutions, gases, thermochemistry, and calorimetry. Laboratory work supports but does not necessarily coincide with lecture topics of 111A. We meet 9 hours on campus and campus expectations suggest you study at least two hours outside of class for every unit taken. This means you should be spending roughly 20 hours per week on this course.

Course Strategy Most students are surprised at how rapidly the class progresses and how soon the first exam comes. There is simply not enough time for you to relax for a few weeks. Start working on the course material immediately. Mastering it will take time right from the start even if you have been through the material before. Don't "coast" until your scores start dropping and it becomes difficult to catch up. It is important to study chemistry and solve problems every day. Read ahead to gain an understanding of material coming up in the next class. Use the class to solidify your understanding, to clear up the things you were uncertain about, and to help you outline what are the most important things to know. Practice the material as it comes up in class using all the problems and exercises you need until you are confident. Talk to yourself and classmates about the problems and try to verbalize the concepts using scientific expressions. Never put off a thorough understanding of what you are doing. If you get stuck, come and see me or ask me about the problem in class.

Remember those who merely *passively* follow the solutions carried out by others will not master problem-solving skills and you will not receive the exam, lab, and final scores you might normally anticipate.

Entry Level Skills: The material learned in this course builds on the fundamentals you mastered in an introductory chemistry course such as Chemistry 107. Chemistry 107 is a prerequisite for this course and if you have not taken Chem 107, you need to take the proficiency exam prior to registration. If you do not take this exam and pass it, you will be dropped from the class.

Some of the material covered in this class might be a review for you. We go through the first three chapters very rapidly since it contains material covered in the prerequisite course. If the material in the first four chapters seem foreign, you might be in the wrong class. Please speak with me regarding this matter if this is indeed the case. You might need to just review some of the chemical principles in the textbook used for this course and basic math operations discussed in the Appendix of the textbook an on web site as ChemTutor.com. Some basic computer skills are expected.

Upon entering this course, the student needs to be able to:

1. Perform unit conversion problems
2. Apply chemical nomenclature
3. Illustrate basic atomic theory
4. Write and balance chemical equations
5. Propose total and net ionic equations
6. Demonstrate solving basic stoichiometric problems
7. Calculate empirical and molecular formulas from percentage composition data
8. Identify fundamental gas laws
9. Draw elementary Lewis structures
10. Calculate the molar masses of compounds
11. Express numbers in scientific notational form
12. Solve linear equations
13. Demonstrate factoring expressions, including finding the greatest common factor
14. Evaluate and solve logarithmic problems
15. Create algebraic expressions from word problems
16. Interpret linear and quadratic graphs
17. Design graphs for linear expressions
18. Follow safe practices in the laboratory

Course Content and Scope: Upon the completion of this course, you will have an acceptable knowledge of the topics in the syllabus. Mastery of this material allows you to continue in more advanced chemistry courses.

Class time: Regular attendance in class is mandatory and attendance is taken. The aim of the class is to guide you in your studies, and to clarify, emphasize, and illustrate the important (and sometimes subtle) concepts in chemistry and their applications. Discussions are designed to complement the reading of your text, however, some topics in the text may be omitted or additional topics may be discussed in class. You are responsible for all the material discussed in class and assigned as reading in the text. To participate in class, you will be required to read the textbook chapter **in advance** of the class meeting.

Required Materials: It is very important to read the textbook and use the materials supplied to you for your studies. You need to purchase or get the following textbook, materials, and on-line access no later than the end of the first week of class:

- Textbook: Chemistry, Chang, 10th Edition
- On-Line access to ARIS: Assessment, Review, and Instruction System. Go to www.mharis.com and enter the Section Enrollment code F9A-C7-E8E in the link **Join a Course**
- Problem Solving Set 2010, M.A. Ansari
- Lab Manual for Chem 111A
- Lab Notebook, 5x5 quad ruled
- Non-programmable scientific calculator
- Safety splash goggles or Visorgoggles for lab (sold in the book store).

Optional Materials: Lab: lab coat or apron, latex gloves, sponge

Homework: Homework assignments are assigned at the beginning of each chapter. It is essential that you do the homework problems, and that you work out many other problems as well. The homework assignments due dates will be announced in class and/or listed on the syllabus. Usually, homework is due the day of the exam.

Any homework assignments will be graded for completeness. Assignments must be **turned in at the beginning of the class period on the date due. No late assignments are accepted in this course.** Your homework assignments must be legible and handed in on stapled, smooth-edged 8.5 x 11 in paper or you will receive a zero. Make sure you place a box around final numerical answers and always include units where appropriate. You must always show your work when conducting any calculations in order to receive any credit. Throughout this course, partial credit may given for partial solutions, but no credit is given for answers only. You will receive less credit if the approach is incorrect. If you are not sure about a solution or an answer on your homework, see me during office hours before you hand in the assignment.

Quizzes: Announced and pop quizzes will be provided and taken on the Web. The URL for quizzes will be provided. You must receive at least 70% on any assigned portion to receive credit at the quiz site. Details will be discussed further in class. You can self-register at using the login information that will be provided in class.

Attendance: Attendance in each three hour laboratory section and the course section is required. Part of the evaluation of your work in this course is based on participation in both the lab and lecture section. After enrollment has stabilized, each class or lab section missed without a **verifiable and documented** excuse will be noted and considered in my evaluation of your performance at the end of the semester. If you cannot attend lab or lecture, you must notify me **in advance. At my discretion, if you miss three or more lab periods and/or class periods, you can be dropped from the course regardless of your excuse.** The best way to notify me is by email or telephone at drmelk@verizon.net or drmelk@fullcoll.edu or 714(992-7138). If you do not notify me **in advance**, you will receive a zero for any work missed. After the missed day, you must bring in some form of documentation (note from doctor, bill for car repair, copy of legal documents, etc.) by the next class meeting. If you do not bring in some form of documentation, you will receive a zero for any work done and will lose all participation and attendance points for that day. **Any work completed without documentation of illness will receive a zero.** If you are sick, go to the Student Health Center on campus or a doctor and get a release note. **If you miss the equivalent of a total of one and one half weeks of work in either lab, or lecture, or both lab and lecture, you may be dropped from the course at the discretion of the instructor. Please see the instructor if you did not attend a lab or lecture period so you are not dropped from the course.**

Student Wait Time: If, due to unforeseen emergencies, the instructor does not arrive at the scheduled start time for a class, students should remain in class for fifteen minutes (unless otherwise notified by the Division). If you do not receive notification from someone to wait for me to arrive, after fifteen minutes you may leave with no penalty for absence or assigned work due for that class meeting.

Activities: Activities consist of both group and individual work such as worksheets, computer assignments, problems at the board, and solving conceptual problems. The activities will be assigned by the instructor in both class and lab and they will vary in point value. Since many of these assignments will be conducted in class and lab, it is

important to attend both on a regular basis or you will lose valuable points. Many activities used in this particular section will require use of a computer on campus or at home. You should have some knowledge of word processing and use of email to be successful in this course.

Lab: Eye protection (goggles or visorgogs) must be worn in all laboratories whenever any laboratory work is in progress. All data must be recorded in your laboratory notebook in **black INK**. The use of pencils to enter data, and an eraser or correction fluid or tape to alter data is not allowed. Further details regarding the lab is contained in a separate document, and will be discussed in the lab.

Examinations: There will be four during term examinations at regular scheduled lecture times, and a two hour comprehensive final examination during the final examination week. Only three of the four midterms will count towards your grade, the lowest score midterm will be dropped. Any changes in the examination schedule will be announced well in advance. On examinations, you will be responsible for anything covered in the reading assignments in the textbook, and anything discussed during class time. In general, material from the textbook discussed in class is what the instructor believes is most important, and is most likely to be stressed on exams. Tentative dates for the exams are given in the Lecture Schedule. The final exam is comprehensive and will include all the material covered during the semester.

There are no make-up exams under any conditions. If you miss a midterm exam for good reason, this will count as the dropped midterm. Lack of preparation, oversleeping, hang-overs, and two examinations in one day are not appropriate excuses to miss an exam; you should study daily for this course. The final must be taken during the assigned time in order to pass this course.

Late Work: I do not accept late work. Please don't ask me to make exceptions as it is unfair to the rest of the students. Make sure you complete your work in advance and don't wait till the last minute to complete any lab/lecture work or assignments and you won't be late.

Grading: Chemistry 111A is graded on a mastery basis. Letter grades are based on percentage scores. Grades are assigned only at the end of the semester when all items have been graded; the percentage on a *portion* of the course is not a meaningful measure of your total performance. However, please note that *at the discretion of the instructor, if you fail a portion of this course you will not pass the entire course.* **A failing grade is considered receiving less than 55% of the score in the final, midterm total, activities total (both lab and lecture), or lab section total scores. You can receive a failing grade if you do not attend and participate in lecture and in lab. In this event, you will have to take all components of this course again in order to receive credit for the entire course.** You are required to complete all of the lab experiments (or be excused by the instructor with documentation) receive 60% on the lecture final, and receive at least 60% on the lab practical to receive a passing score in this course. At the discretion of the instructor, you can receive a failing grade for not completing major components of the course and/or not participating in the course. The breakdown of grades and scores will be provided in a separate document.

Withdrawal Policy: The official college withdrawal policy will be adhered to for this class. Ultimately, it is the RESPONSIBILITY OF THE STUDENT to withdraw from the class on time. The INSTRUCTOR WILL NOT BE RESPONSIBLE FOR DROPPING A STUDENT from

the course based on attendance or participation. NOTE: A grade of "W" cannot be assigned after the 14th week of the semester. (See class schedule.) YOU ARE RESPONSIBLE FOR DROPPING THE COURSE ON TIME!

Cheating, Plagiarism, Dishonesty: All cases of cheating, plagiarism, or academic dishonesty will be reported to the appropriate authorities and may result in an F in the work as the *very least form of penalty*. An act in cheating, plagiarism, or dishonesty, may result in an F in the course or dismissal from this college. You must complete and turn in your own work.

Any collaboration on laboratory experiments or research reports is not allowed *unless* announced by the instructor. In other words, don't copy from other students. I often see students comparing pre-lab, post-lab, and worksheet answers before and during lab. Often the student changes their answer if they think they are wrong. This is considered a form of cheating. If I am grading your work and you have copied the work from someone else, both will receive a zero for the work. You must hand-in your own work. This applies to group work as well. You should not copy a classmate's work unless it is data collected together.

Any work that is not your own that is submitted for grading constitutes plagiarism. Plagiarism is defined as stealing or passing off as one's own ideas or words of another or using a creative production without crediting the source. Plagiarism consists of:

1. Copying homework, lab reports, research reports, and any quizzes or tests not made available to all students in the course.
2. Paraphrasing published material without acknowledging the source.
3. Making significant use of an idea or arrangement of ideas, e.g., outlines.
4. Writing a paper after consulting persons who provide suitable ideas and incorporating these ideas into the paper without acknowledgement.
5. Submitting under one's own name term papers, or other reports which have been prepared partially or fully by others.

Cheating is defined as:

1. Using notes, aids, mobile phone messaging, hidden programs and files in PDAs and calculators, or the help of other students on tests or exams in ways other than those expressly permitted by the instructor.
2. Misreporting, dry-lab, or altering the data in laboratory or research projects involving the collection of data.

Papers or projects used for another course cannot be used in this course. Any material previously submitted for this course will not be accepted in this course.

Emergency Response Message: Please take note of the safety features in and close to your classroom, as well as study the posted evacuation route. The most direct route of egress may not be the safest because of the existence of roofing tiles or other potentially hazardous conditions. Similarly, running out of the building also is dangerous during severe earthquakes. During strong quakes the recommended response is to duck – cover- and hold until the shaking stops. However, if you are in a laboratory, do not duck and put yourself in the position of being eye level with glassware containing chemicals. Follow the guidance of your instructor. You will be asked to go to the designated assembly area. Your cooperation during emergencies is essential and expected. I can minimize the possibility of injury to yourself and to others.

Note: During a strong earthquake in a chemistry laboratory, it might not be best to duck and cover. Why do you think this might be the case? What should you do in a chemistry laboratory setting?

Disability Students: Fullerton College is committed to providing reasonable accommodations for students with disabilities *upon request of the student* (in a timely fashion) and upon verification of disability.