George Mason University
Department of Chemistry and Biochemistry
Chem 211 Syllabus

Course: General Chemistry I (Chem 211)

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Textbook: Silberberg Amateis, CHEMISTRY, The Molecular Nature of Matter and Change, 7th. Ed, Vol. 1, George Mason University, 2015.

General Remarks:

This is the first of a two-semester freshman chemistry course for science majors. **Chem 211** is a prerequisite for **Chem 212** and a minimum grade of "**C**" in Chem 211 is required to be admitted to Chem 212. Although you have already been told most of the following points, I think that they are important enough to be re-emphasized. A serious student will read the textbook and work problems at the end of each chapter. Problem solving is a very important part of learning in any science course. If a student intends to pass this course, (s)he will spend a lot of time solving problems at the end of each chapter. The serious student will also work all of these with the goal of trying to understand the intent of each problem. When the student finds that (s)he cannot work certain problems or understand certain concepts, the student is urged to contact me during office hours or schedule an appointment to meet with me. Since the roll of the instructor is to ***assist*** the student in the learning process, please make sure that you have read and attempted the problems before coming for assistance.

If you are unable to attend office hours due to time conflicts, make sure you attend posted office hours of your lab instructor or you Learning Assistant (LA). An additional aid provided by the Chemistry Department is the tutoring center (basement level of Planetary Hall), which is open during the week and staffed by students who have been successful in the subject matter. Students enrolled in CHEM 212 are not required to pay additional costs to utilize the resources provided by the tutoring center; this is a cost free aid provided to students enrolled in the General Chemistry courses. Periodically announcements concerning the tutoring center and all General Chemistry sections will be posted electronically. **Attendance on the first day of class is critical if you intend to get started on the right track (students not present when the roll is called will be dropped from the class---lecture and lab simultaneously).** Honestly, if you do not have time to attend **ALL** of the scheduled classes, **DROP NOW** and save the tuition.

The most successful student will make use of the many learning aids in addition to lecture. Such person will ***discuss difficulties*** with fellow students, will read the ***reference books***, will ***work problems*** at the end of the chapter and be ***active in class- asking*** and ***answering questions***. The student must take

responsibility for the learning process and work at finding every possible way to learn the concepts. The lecture is nothing more than a learning aid and does not control how much you learn – you do. Instead, it is the instructor's duty to clarify concepts that students do not understand and to provide a fair way to evaluate the student's progress. The course is outlined in the lecture syllabus. Anything in those chapters may be on the tests.

Successful Studying Strategy

A student, who really wants successfully complete this course should design a well-thought out studying strategy. This should include ***reading the chapters***, ***studying worked problems***, and ***working other problems*** at the end of the chapter prior to finishing the homework, quizzes or exams. If you are concerned that your problem solving skills are not satisfactory, consider studying the concepts of proportionality discussed at: http://genchem.cos.gmu.edu/tutorials/default.htm. More specifically try the following:

1. Spend about a half-hour skimming the contents of the chapter to familiarize yourself with very general concepts.
2. Read the chapter through completely, but do not spend much time working problems.
3. Study how the worked problems are solved.
4. Work problems at the end of the chapter until you can solve most of the ones you encounter. Make sure you focus on concepts. You should go back to the section from which the problem is derived and look at worked problems to help learn how to solve these.
5. Work the homework problems.
6. Ask for help from the tutors at the tutoring center, which is next door to the testing center. Ask for help from the LA. Ask for help from the instructor. Hours for the tutoring center will be available through the genchem web page.

Grading

Midterm and Final Examinations:

- The final grade in this course will be based on a percentage of points earned relative to total possible points. Listed below is the tentative point distribution for examinations, quizzes/homework and assignments. However, **an absolute grading scale cannot be determined until all scores have been compiled and evaluated.** In order to optimize your overall performance use the following scale as a rule of thumb, keeping in mind that the scale is subject to change during the course of the semester: 100-90% (A); 89-80% (B); 79-70% (C); <69% (D or F). **DO NOT RELY UPON A "CURVE"**; MAXIMIZE YOUR OVERALL PERFORMANCE IRRESPECTIVE OF A "CURVE"
- True letter grades cannot be assigned to exams during the course of the semester because students at the bottom tend to drop or withdraw from the class, thereby resulting in a shift of the average for the exam. ***Students that withdrew from the course, as well as those that stopped attending, will not be considered in the calculation of the overall average for the course at the end of the semester.***

- Extra credit work and/or assignments will not be entertained at the end of the semester because students failed to properly manage their time.

Midterm Exams (3)	**45**%
Quizzes &Homeworks	**30**%
Final Exam	**25**%
Total	**100**%

- **A valid GMU ID is required for all exams. Other forms of ID <u>will not</u> be accepted. GMU ID cards that do not clearly show the face and identification number <u>will not</u> be accepted**.

Midterm Examinations

- Midterm examinations are computerized and will be taken at the testing center. For each exam, there are about 20 questions and 80 minutes are allotted to complete the exam. Students are responsible for bringing their own calculator (**non programmable**) for examinations. CALCULATOR SHARING WILL NOT BE ALLOWED DURING TESTING PERIODS. Small computers are also not allowed during examination periods. Use of such will be considered as an **honor code violation** and dealt with accordingly. Link of old exam samples will be available at http://osf1.gmu.edu/~jschreif/211.htm

Final Exam

- The **final exam** is a **<u>cumulative</u>** exam and nationally standardized examination produced by the American Chemical Society (ACS). ACS study guides for the final exam can be purchased from the GMU Bookstore or ordered online from the ACS. All exam scores will be used in determining the final grade. A student, who finds it necessary to miss an examination, **must** notify me as soon as possible before or **immediately after** the examination and bring in **documented proof** of the problem. Otherwise the student will receive a zero for the missed examination.
- Cell phones must be turned off and stored in backpacks BEFORE the exams begin. If a student is seen using cell phone either for communication or for calculation during an exam, the student will receive an automatic "F" for the exam, since this is an honor code violation and the matter referred to the Office of Academic Integrity. The recommendation will be for the student to receive a grade of "F" for the entire course. Keep in mind at all times that GMU is an Honor Code university.
- Any form of cheating during the exam period will result in an automatic "F" for the course.
- The standard recommendation for honor code violations will be prosecution to the fullest extent.

- Recommendations regarding honor code violations (HCV) on midterm exams.....first time offenders---a grade of "F" for that exam; repeat offenders--a grade of "F" for the course and suspension/expulsion from George Mason University.
- Recommendations regarding honor code violations (HCV) on the final exam.....first time offenders---a grade of "F" for the course and suspension/expulsion from George Mason University.
- The final examination can only be rescheduled by the COS Assistant Dean.

Quizzes:

- Quizzes will be administered during the semester using CONNECT. Computer generated quizzes will be taken by logging in to the CONNECT program using your **CONNECT CODE**. The codes should be purchased, if you did not purchase one when the textbook was purchased, prior to the first meeting of lecture. Deadlines will be posted on the Blackboard. Follow these steps to register: http://highered.mheducation.com/olc2/dl/866234/Connect_Blackboard_First_Day_Of_Class_0714.pdf

- Once you have registered, log in: http://connect.mheducation.com/class/m-fayissa-fall-2016-tr-9am to be connected to CONNECT.

Homework:

- The problems at the end of the chapters are provided *for your benefit* in order to develop critical problem solving skills necessary in this course. Do not quit after working the easier problems. The more challenging problems incorporate several concepts and will better prepare you for quizzes and exams. Selected problems will be worked in class on a "time permitting basis." Do not get discouraged and spend excessive amounts of time on a single problem. Move on to those you can solve and budget your time wisely.
- **Homeworks** will be taken by logging in to the **CONNECT** program using your **CONNECT CODE**. The codes should be purchased, if you did not purchase one when the textbook was purchased, prior to the first meeting of lecture. Deadlines will be posted on the Blackboard. You have to log in using the above link in order to be connected to CONNECT for homework as well.

- **Dates to be remembered:** For important dates to be remembered refer to the link below. http://registrar.gmu.edu/calendars/fall-2016/

Online homework is accessed using CONNECT. Deadlines will be posted on CONNECT.

Tentative Lecture Schedule

Week	Chapter	Topic
1	1	**Keys to the Study of Chemistry**
2	1, 2	
3	2	**The Components of Matter**
4	3	**Stoichiometry of Formulas and Equations**
5	3	
6	4	**Three Major Classes of Chemical Reactions**
	Exam I	**Chapter 1, 2, 3, 4 (TBD)**
7	4, 5	**Gases and The Kinetic Molecular Theory**
8	5	
9	6	**Thermochemistry**
10	7	**Quantum Theory and Atomic Structure**
11	8	**Electron Configuration and Chemical Periodicity**
	Exam II	**5, 6, 7, 8 (TBD)**
12	9	**Models of Chemical Bonding (9)**
13	10	**The Shapes of molecules (10)**
14	11	**Theories of Covalent Bonding**
	Exam III	**Chap. 8, 9, 10, 11 (TBD)**
15	11	
	Final Exam	**ACS Comprehensive Exam**