

Chem 121**General Chemistry****Winter 2004**

Instructor: G. Prody

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Office Hours: TW 2-3:30 pm or by appointment

Please feel free to come by for assistance!

e-mail: prody@chem.wvu.edu--also useful for assistance.Lecture: MTWF 1
SL 120Lab: R 11-2 or 5-8 pm
CB 210 or 220Text: D. Ebbing and Gammon, S. *General Chemistry*, 7th edition, Houghton Mifflin Company 2002.

Safety Goggles: Purchase at Bookstore or Chem Office

Lab Manual: Download directly at <http://gold.chem.wvu.edu/labs/Chem121/Default.htm>.

Exams: 3 midterm exams will be given worth 100 points each:

Friday January 23

Friday February 13

Friday March 5

Final Exam: Wednesday, March 19, 8-10 am 200 points (cumulative).

Please note: Make-up exams are not given. If you have an insurmountable problem with the exam schedule, please let me know IMMEDIATELY!! And if something unpredictable happens, please let me know **BEFORE** the exam.

Grading: Your grade will be determined by summation of your earned points. **In addition, you must satisfactorily complete all of the laboratory assignments to receive a passing grade in this course.**

midterms	300 possible points
final	200 possible points
participation	100 possible points
computer-based homework	100 points
laboratory	50 points
total	<hr/> 750 possible points

Participation in class will be evaluated as follows: On the first day of class, you will fill out an index card with some basic information. Throughout the lecture portion of the course, I will choose cards at random to answer specific questions or comment on the material. You will receive points for being present when you are called on and more points if you are able to answer correctly. I will normalize your points to 100 at the end of the quarter.

Letter grades will be based on a curve where the class average = C+. Satisfactory completion of **all** laboratory assignments is required to receive a passing grade in the course. These assignments will be graded Satisfactory/Unsatisfactory.

Homework: Reading and problem assignments from the text will be given regularly. These assignments will not be collected, but their solutions are available in the *Solutions Manual* on reserve in Wilson Library. Additionally, problem answers are listed in the back of the text. Please do the assigned problems. They will give you an idea of what to expect on the exams. Computer-based homework assignments will also be given. These will be collected and points assigned. Details to follow.

STUDYING: Students who study chemistry on a daily basis have much better success rates than those who do not. This is not the sort of subject that can be "crammed" the night before an exam. You need to make the material your own, and understand it thoroughly. Appropriate homework problems will be assigned during lecture. I encourage you to work these problems and more if you need more reinforcement. In addition, computer programs available in the chemistry department computer lab (CB 280) will offer additional assistance. Your student number allows you access there.

Recommended approach: First, study every day. Read the appropriate material for the day's lecture PRIOR to coming to class. After class, go over your notes and to related problems or computer assignments. Make sure that you understand the concepts! Group study also facilitates the learning of science. Try organizing a study group with students you know or will meet during lab.

These study practices will really pay off if you stick with them. For some students, this may require 3-4 hours a day. Ultimately, your investment will be worth your while as your understanding of chemistry solidifies.

You must also read laboratory assignments prior to coming to lab. Sometimes, there will be assignments, which must be completed ahead of time. You must wear appropriate clothing (see your lab manual) and goggles at all time in the lab. Failure to be properly prepared or properly attired will result in your ejection from the premises.

Course content:

Chemistry is the central science, allowing us a deep understanding of our physical, biological and geological world. This quarter we will focus on the properties of atoms and molecules in our world and how they interact with one another. My goal is to help you learn to THINK about chemistry, to analyze problems, and to develop informed conclusions. In other words, this course is your beginning in the process of learning to THINK like a scientist. Along the way, you will need to learn some fundamental facts, including names and formulae for elements and simple substances. Think of this NOT as rote memorization, but rather as learning a new vocabulary in this central science, which will facilitate your abilities to think and talk about scientific developments.

Lastly, I hope you learn that science, and particularly chemistry, is FUN!!!!!!!!!!

CHEMISTRY 121 – Winter 2003Tentative Lecture Schedule and Reading Assignments:
Topics and Dates May Change Without Prior Notice!

Week	M	T	W	F
1 (1/5)	No class	Intro 1.1-1.2	Mass and Matter 1.3-1.8	Measurement 1.5-1.8
2 (1/12)	Atomic Theory of Matter 2.1-2.2	Atomic Weights 2.3-2.5	Names/Formulae 2.6-2.9	Naming organic and other simple compounds 2.7-2.8
3 (1/19)	Martin Luther King Holiday	Balancing equations 2.10	Exam Review	Exam I Chapters 1-2
4 (1/26)	Exam Discussion MW and moles 3.1-3.2	Determining Formulae 3.3-3.5	Stoichiometry 3.6-3.7	Limiting Reagent 3.8
5 (2/2)	Ions in Solution 4.1-4.2	Chemical Reactions 4.3-4.4	Solution Stoichiometry 4.7-4.8	Quantitative Analysis 4.9-4.10
6 (2/9)	Light and Photons 7.1-7.2	Bohr Atom 7.3	Exam II Review	Exam II Chapters 3-4
7 (2/16)	President's Day Holiday	Exam Discussion Quantum Numbers and Orbitals 7.4-7.5	Electronic Structure of Atoms 8.1-8.2	Electron Configurations 8.3
8 (2/23)	Orbital Diagrams 8.4	Periodic Trends 8.5-8.7	Ionic Bonds 9.1-9.3	Covalent Bonding 9.4
9 (3/1)	Polarity 9.5	Other Stuff 9.6-9.8, 9.10	Exam III Review	Exam III Chapter 7-9.4
10 (3/8)	Exam Discussion	Geometry 10.1-10.2	Valence Bond Theory 10.3	REVIEW