

GENERAL CHEMISTRY
CHEM 1010
Autumn, 2005

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Text: Chemistry, 4th Edition, Silberberg, 2006, McGraw-Hill

Lectures: 9-9:50 a.m., MWF, Olin 105

Discussion: 9-9:50 a.m., T, Olin 105

Help Sessions: 9-9:50 a.m., Th, Olin 105

Exams: There are three one-hour exams during the quarter, plus a two-hour cumulative final exam. Each exam counts 200 points. Exam problems will be similar to the problems assigned as homework and the problems worked in class.

If you miss an hour exam, then your final exam will be counted twice and replace the missed hour exam. With one exception, **THERE WILL BE NO MAKEUP EXAMS**. The only exception to the no-makeup policy will be for members of a University team or group, e.g. athletic team or music group, scheduled to be away from campus at the time of the exam. You must inform your instructor of this prior to the exam and make arrangements at that time for a makeup exam.

If you take all three hour exams and your grade on the final exam is better than an hour exam grade, **then your final exam will be counted twice and replace your lowest hour exam grade.**

Discussion: Discussion is an additional class meeting each week. It gives you an extra opportunity to ask questions about homework and the lectures. Each Discussion will include a ten minute quiz, except during the weeks immediately following the hour exams. The four best quizzes will count towards an overall discussion grade.

Help Sessions: Students who have not had chemistry in high school, or who are having difficulty in the course, are strongly encouraged to come to the help sessions. There you will have the opportunity to develop essential skills in an informal setting with a smaller group of students.

Homework: Each lecture has a group of homework problems assigned to it. The problems are taken from the Problems section at the end of each chapter, and are chosen to prepare you for the hour exams. If you understand and can do all the homework, you probably will do well on the exams. There are many additional problems at the end of each chapter, grouped according to subject area. It is a good idea to work some of these extra problems in the areas where you are

having difficulties. To get the most benefit from homework, you should do the assignments on schedule.

The homework assignments are to be turned in at discussion.

Grading: Your final grade is based on a maximum of 1040 points, distributed as follows:

Hour exams (200 points each): 600 points

Final exam: 200 points

Discussion Quizzes (four highest): 120 points

Homework: 120 points

The assignment of a letter grade (A, B, C, etc.) to a given numerical grade is a somewhat flexible procedure and depends on the overall class performance. Grades, however, will not be fitted to a statistical bell-shaped normal distribution. If the overall class performance is high, it is possible to have a distribution with predominantly A's and B's and relatively few lower grades.

LECTURE AND HOMEWORK SCHEDULE

DATE	TOPIC	READING	HOMEWORK
Sep 12	Introduction to the Course		
13	No Discussion this Week		
14	The Nature of Light	7.1	8, 9, 10, 16
15	Help Session		
16	Atomic Spectra, Wave-Particle Duality	7.2-7.3	23, 27, 30, 32
19	Quantum-Mechanical Model	7.4	49, 54, 56, 57
20	Discussion, Quiz		
21	Many-Electron Atoms	8.1-8.2	9, 10, 11, 14
22	Help Session		
23	Periodic Table	8.3	25, 31, 34, 42
26	Atomic Properties	8.4	53, 54, 55, 56
27	Discussion, Quiz		
28	Chemical Reactivity	8.5	74, 83, 84, 87
29	Help Session		
30	HOURLY EXAM I (Covers Sep. 12 - 28)		
Oct 3	Ionic Bonding	9.1-9.2	13, 20, 26, 29
4	Discussion, No Quiz		
5	Covalent Bonding	9.3	34, 38, 39, 40
6	Help Session		
7	Heats of Reaction, Bond Polarity	9.4-9.5	48, 49, 57, 62
10	Lewis Structures	10.1	9: 66, 67 10: 7, 8
11	Discussion, Quiz		
12	Lewis Structures (continued)		16, 17, 21, 22
13	Help Session		
14	VSEPR Theory	10.2	34, 37, 38, 39
17	Molecular Polarity	10.3	40, 41, 56, 57
18	Discussion, Quiz		
19	Valence Bond Theory	11.1	7, 8, 12, 13
20	Help Session		
21	HOURLY EXAM II (Covers Oct. 3 - 19) Last day for Automatic Withdraw		

24	Types of Covalent Bonds	11.2	16, 17, 21, 24
25	Discussion, No Quiz		
26	Molecular Orbital Theory	11.3	33, 34, 35, 36
27	Help Session		
28	Water as a Solvent	4.1	16, 21, 29, 30
31	Precipitation and Acid-Base Reactions	4.2-4.4	32, 35, 36, 49
Nov 1	Discussion, Quiz		
2	Oxidation-Reduction Reactions	4.5-4.6	67, 70, 71, 76
3	Help Session		
4	Balancing Redox Reactions	21.1	4: 95, 96 21: 14, 15
7	Enthalpy	6.1-6.2	10, 17, 21, 25
8	Discussion, Quiz		
9	Calorimetry	6.3-6.4	35, 36, 50, 51
10	Help Session		
11	HOURLY EXAM III (Covers Oct. 24 - Nov. 9)		
14	Hess's Law, Standard Heats of Reaction	6.5-6.6	63, 64, 75, 76
15	Discussion, No Quiz		
16	Entropy	20.1	12, 16, 17, 25
17	Help Session		
18	Free Energy	20.3	
21	FINAL EXAM (Cumulative) Monday, 8:00 - 9:45 a.m.		