

Lecture Syllabus Chemistry 1A J. Dekker  
Reedley College Fall 1999

MWF 11:00 am Room PHY 76

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Office hours: M 2:00-3:00, T and Th 9:00-10:00, F 12:00-1:00

Chemistry Department website:

<http://www.angelfire.com/sk/jandekker/index.html>

Course objectives: Chemistry 1A is a general course in inorganic chemistry designed not only for chemistry majors, but also for biology, physics, chemical engineering, pre-medical and pre-pharmacy professional majors. The course requires a considerable amount of time outside the classroom for studying, reading and homework assignments. The main course objective is to provide the students with a strong background in general chemistry. As a prerequisite students need to have passed the Chem 10 course with at least a C grade or an equivalent High School chemistry course with at least a C grade. Basic scientific math such as Math 20, is the bare minimum you will need to be successful in the Chem 1A class.

Textbooks: -Ebbing/Gammon, General Chemistry (6th ed).  
-Sackheim, Chemical Calculations Series B (16th ed).  
-Radel/Navidi/Baker (et al), Laboratory Manual to accompany General Chemistry (2nd ed).

Lecture notes: The ability to listen effectively and to take good lecture notes represents an essential college skill. Taking good notes in this class is not only mandatory but also very essential, because most questions on quizzes and exams are derived from the lecture notes.

Laboratory work: The lab will consist of experiments as close and parallel as possible to the material covered in lecture. The student will have to perform all the assigned experiments. 25% of your final grade in this class will come from your lab work. An F grade in the lab means an F in the class. For details please refer to the lab syllabus.

Homework: Homework will be assigned very often and selected problems will be graded. It is crucial to your success in this class that you do your homework with the emphasis on the readings in Ebbing's text and the workbook problems from Sackheim. Homework and popquizzes are counting for 10% towards your final grade.

Attendance: Attendance in lecture and lab is mandatory. The student will be dropped automatically if he/she misses four consecutive lectures without prior notification of the instructor. ALWAYS inform the instructor ahead of time if you have to miss a quiz or exam. Without prior notification your grade is a zero for a no show. Tardiness, leaving early, sleeping during class, poor class participation are considered disruptive behavior and will be qualified as an absence.

Quizzes and exams: There will be four quizzes covering the material of previous lectures. These quizzes will be equally weighted and the average will count towards 25% of your final grade. There will be three exams, two plus a final, each covering more material than a quiz. The exams will be equally weighted and the average will count towards 40% of your final grade.

LECTURE QUIZZES AND EXAMS:

Friday	8/27	Quiz 1
Friday	9/17	Exam 1
Friday	10/8	Quiz 2
Friday	10/29	Exam 2
Friday	11/19	Quiz 3
Friday	12/3	Quiz 4
Wednesday	12/15	Final Exam 10:30 am in PHY 76.

Drop Date: The drop deadline for this semester is at the end of the ninth week. Friday October 15, 1999 is the last day for you to notify admissions and your lab and lecture instructor, that you want to drop the class, otherwise a letter grade will be assigned and it will have to appear on your transcripts. In case you drop the class be advised to turn in your lab inventory, otherwise your grades will be blocked and the college cannot give you your transcripts.

Grading: The lowest grade obtained for a lecture quiz will be dropped if you have fulfilled all your homework assignments properly and submitted in time. Additionally, to achieve this incentive your attendance has to be 90%.

Fraudulent behavior during quizzes or exams is graded with a zero. Copying of homework is considered fraudulent behavior for the originator and the copier and thus graded with a zero.

The final grade in the class is determined as follows:

Average of lecture exams	40%
Average of lecture quizzes	25%
Average of homework and popquizzes	10%
Lab work	25%

General grade break-off: A  $\geq$  90%, B 80-89%, C 70-79%, D 60-69% and F  $\leq$  59%

Lecture topics. Please turn over.

Lecture topics: Each topic takes approximately two weeks. The chapters mentioned here are referring to the sixth edition of Ebbing and Gammon's General Chemistry textbook.

1. Chemistry and Measurement. Atoms, Molecules and Ions. The Periodic Table. Naming Compounds. Chapters 1 and 2.
2. Calculations with Chemical Formulas and Equations. Chapter 3.
3. Chemical Reactions: an Introduction. Types of Chemical Equations. Chapter 4.
4. The Gaseous State. Chapter 5.
5. Thermochemistry. Chapter 6.
6. Quantum Theory of the Atom. Electron Configurations and The Periodic Table. Chapters 7 and 8.
7. The Chemical Bond, Ionic and Covalent Bonding. Lewis Structures, Dipole Moments and Molecular Geometry and Directional Bonding. Chapters 9 and 10.
8. States of Matter; Liquids and Solids. Chapter 11.

There will be no lectures on: M 9/6 (Labor Day), and F 11/27 (Thanksgiving Day).

Recommended readings and Computer programs.

1. Krannich and Senyk, Study Guide for Ebbing, General Chemistry.
2. Kotz and Treichel, Chemistry.
3. Falcon General Chemistry. Installed on the computers in the lab, PHY 82. An excellent program to review the basic concepts of general chemistry.
4. Inorganic nomenclature. Flashcards available in the bookstore.
5. Lewis Structures and Molecules 3-D. Two excellent programs available in the lab, that help you find the geometrical shape of simple and complex molecules.