Syllabus Chemistry 1B Spring 1998
General Chemistry and Qualitative Analysis J. Dekker
Kings River Community College

Chem 1B meets: MWF 11:00 am in Room SS 32

Office J. Dekker: PS 78 phone# : 209.638.3641 extension 353,
e-mail : jdekker@mail.mobynet.com
Office hours: M, T, Th 2:30-3:30 pm and by appointment

Subject Prerequisite: Chem 1A with a minimum C grade.

Course objectives: Chemistry 1B is a general course in inorganic chemistry including qualitative analysis. The course is 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.

Textbooks: 1. Radel/Navidi Chemistry (2nd ed).
2. Sackheim, Chemical Calculations Series B (16th ed).
Lab Manual: Radel/Navidi/Baker et al Laboratory Manual to accompany General Chemistry (2nd ed).
Supplements: Brisk Study Guide to Accompany Radel/Navidi Chemistry.
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.

Homework: Homework will be assigned very often, selected problems will be graded. It is essential to your success in this class that you do your homework with the emphasis on the readings in Radel/Navidi's text and the workbook problems from Sackheim. Homework and popquizzes are counting 10% towards your final grade. Please, refer to grading.

Attendance: Attendance in lecture and lab is mandatory. The student will be dropped automatically and receive a W if he/she misses two consecutive lab sessions or four consecutive lectures without prior notification of the instructor. ALWAYS inform the instructor ahead of time by phone or by email 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 or lab sessions, poor class participation are considered disruptive behavior and will be qualified as an absence.

Quizzes and exams: In lecture 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:

Fr 1/23	Quiz 1
We 2/11	Exam 1
Fr 3/6	Quiz 2
Fr 3/27	Exam 2
We 4/22	Quiz 3
Fr 5/6	Quiz 4
M 5/18	Final Exam 10:30 am in SS 32

Drop Date: The drop deadline for this semester is at the end of the ninth week. Friday March 13, 1998 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 has to appear on your transcripts. A W will only be given if you are dropped out of the class before Friday March 13, 1998.

Grading: The lowest grade obtained for a lecture quiz will be dropped if you have fulfilled all your assignments properly and submitted to your instructor in time. Additionally, to achieve this incentive your attendance in lecture has to be 90%. Fraudulent behavior during quizzes or exams is graded with a 0 (zero). Copying of homework, experimental data and lab reports is considered fraudulent behavior for the originator and the copier. The final grade in the class is determined as follows:

Average of the three lecture exams	40%
Average of the four lecture quizzes	25%
Average of the graded homework and popquizzes	10%
Lab work*	25%

General grade break-off: A > 90%, B 80-89%, C 70-79%, D 60-69% and F < 59%.

* Please, be advised that an overall F grade in lab means a F grade in the Chem 1B class.

Lecture topics.
Each topic takes approximately two weeks.
The chapters mentioned here are referring to Radel/Navidi's text.

1. Review Inorganic Nomenclature, the Naming of Compounds. Chemical Kinetics. Reaction Rates, First and Second Order Reactions. Catalysts. Ch 14.
2. Chemical Equilibrium. Le Chatelier's Principle. Ch 15.
3. Acids and Bases. Ch 16.
4. Ionization and pH Calculations. Buffer Solutions. Ch 17.
5. Solubility and Complex Ion Equilibria. Ch 18. Free Energy, Entropy, and the Second Law of Thermodynamics. Ch 19.
6. Electrochemistry. Batteries and Fuel Cells. Electrolysis. Ch 20.
7. Metals and Coordination Chemistry. Ch 21.
8. Nuclear Chemistry. Ch 22.

There will be no lectures on: M 1/19, F 2/13, M 2/16, and during Spring Recess M-F 4/6-4/10.

Suggested readings and other material available in the labs.

1. Kotz et al. Chemistry and Chemical Reactivity. Textbook with instructive CD-ROM.
2. Brown et al. Chemistry The Central Science.
3. Radel/Navidi. Chemistry. Text is available on disk.
4. General Chemistry 1B Knowledgebase Series. Tutorial Disks.

The internet is available for students who want to do any chemistry related research in Chem Lab PS 77. Please, make an appointment with your instructor to pick up the password.

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. For further information, please refer to the Lab Syllabus written by your lab instructor Mr. D. Kimball.

Lab Research. Starting April 16 interested students may work on a research project. Your lab instructor has to approve this. We have some ideas for undergraduate research, but if you come up with a feasable project and you can work this out with your lab instructor you may use the rest of the semester to work on this project during the scheduled lab sessions. Your research has to be finalized with a paper and a literature study on the subject. If your score is a C or higher you may skip Lab Quiz 4.