Chemistry 108
Syllabus
Department of Chemistry and Biochemistry
Term II 2001-2002

Instructor: Dr. Jonathan Stevens
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Office Hours: Monday, Wednesday, 1-4 p.m.

Other hours to meet with me are readily available by appointment. Additionally, feel free to drop by the office any time. If I am there, I will do what I can to help you.

Objective: This course follows CHM 107 and completes the study of the general principles of chemistry. Topics include thermodynamics, kinetics, equilibria and electrochemistry. This course will begin with a review of Chapter 11 and addresses topics in Chapters 12-20.

Text: "Chemistry: The Study of Matter and Its Changes" Third Edition, James E. Brady and John R. Holum, Wiley and Sons, New York, 2000.

Other things you need for this course: You will need and electronic calculator capable of performing exponential, square root, and logarithmic (log and ln) functions. **Note that graphing/programmable calculators will not be permitted to be used during quizzes or exams.**

The student solutions manual and study guide may be helpful. Copies will be placed on reserve at the library. Copies of the student solutions manual may be purchased in the bookstore. Note that the study guide is from an older edition of the text.

Class Meeting times:
Lecture: MWF 12-12:50 p.m.
Recitation: Monday, 8:00 a.m.
3 credits

All class meetings will be in Chemistry 114 unless announced otherwise.

Recitation has two purposes. The first is to address any questions about homework, lecture, or anything else that concerns the course. Various practice exercises will also be performed in recitation. Note that attendance in recitation is mandatory (see"Grading").

Tentative Lecture Schedule:

Date	Text Chapter and Topic
Jan 7-11	Chapter 11 (review)

Jan 14-18	Chapter 12-solutions
Jan 21	Martin Luther King Jr. Day
Jan 23-30	Chapter 13-kinetics
Feb 1 -Feb 6	Begin Chapter 14-equilibria
Feb 8	Exam I
Feb 11-15	Chapter 15-acids and bases
Feb 18-22	Chapter 15 continues, begin Chapter 16
Feb 25-27	Chapter 16 continues
March 1	Exam II
March 4-8	Spring Break
March 11-15	Chapter 17
March 18-22	Chapter 18-thermodynamics
March 25	Chapter 18 continues, begin Chapter 19-electrochemistry
March 27	Exam III
April 1-5	Chapter 19-electrochemistry
April 8-12	Chapter 20-complex ions
April 15-19	Chapter 22 nuclear chemistry
April 25th	Final Exam 11-12:50 p.m.

Important Dates:
Last day to withdraw without a "W": Feb. 1
Mid-term Grades due: Feb. 26
Last day to withdraw (with a "W"): March 28

The final exam is comprehensive (cumulative) and will be held on Thursday April 25 at, 11:00 a.m.-12:50 p.m.

Grading:

4 Quizzes, given in class, worth 20 points each, for a total of 80 points.

Quizzes will largely be of a multiple choice, true or false format, though some problems in which you show your work and receive partial credit will be given. Quizzes will be announced at least one class period in advance.

3 Exams, worth 100 points each
Tentative dates for exams:
Exam I: Friday, Feb 8
Exam II: Friday, March 1
Exam III: Wednesday, March 27

1 Final Exam, worth 150 points. (See above for date and time of final.)

Exams will primarily be the sort in which you work problems and show your work.

Homework:
Homework problems will be assigned periodically, approximately one homework set being assigned a week. A key to the homework problems will be posted approximately one week after problems are assigned. Homework problems will not be collected or graded; you are responsible for seeing that you do the homework problems. Time will be made available in each class period for questions concerning the homework.

Recitation attendance: Attending recitation is mandatory, and attendance will be taken at each recitation. Each recitation is worth 3 points. There are 12 recitation periods in the semester, for a total of 36 points. Note that no exemptions from the recitation attendance policy will be granted.

Out of class project: (See below) 50 points

Total points possible: 616

No tests, quizzes, or homework assignment grades will be dropped.

Grading Scale:

% of points earned	Grade
> 92.5 %	A
90.0 –92.4	A-
87.5-89.9	B+
82.5-87.4	B
80.0-82.4	B-
77.5-79.9	C+
72.5-77.4	C
70.0-72.4	C-
67.5-69.9	D+
60-67.4	D
<60.0	F

Regrading: If a student is dissatisfied with the grading of any quiz, test, or homework question, the question can be regraded. This must be brought to my attention within 1 week after the exam or quiz has been returned.

Make-up Policy: No make-up exams or quizzes will be given.

Academic Integrity: Cheating is not permitted and will not be tolerated. Anyone found cheating on any quiz, test or assignment will be given a zero for that assignment and will be referred to the Dean's office for additional penalties. (Refer to the University Catalog and E&S Student Handbook for further explanation of academic integrity.)

Answer Keys for all tests, quizzes, and homeworks will be kept on file at the Circulation Desk of the library.

Out of class project: Biography of a Scientist

The objective of the out of class project is to provide expanded knowledge of a particular topic in chemistry, and of the process through which the body of scientific knowledge is established, as well as the history of science.

Directions:

1) Pick a scientist whose work made some contribution of our knowledge of chemistry. Many are mentioned in the text. If you know of someone not mentioned in the text, (s)he may also be a suitable candidate for your project. This scientist will most probably, but not necessarily, be a chemist. (For example, Niels Bohr was a physicist, and James Watson was a biologist.)

2) Check with me. All biography candidates must be approved by me.

3) Accumulate information on the candidate scientist. The Internet of course is a likely source. The project requires that you use at least two non-internet sources. The textbook may not be used as a reference.

4) Write a biography of the selected scientist, on a word processor, double-spaced with 12-point font. Your biography should include:

a) The period in which the scientist lived (date of birth and death)

b) The education of this person (schools attended, if any, apprenticeships, training, discipline(whether chemistry or some other), etc.)

c) The interests of this person (what sort of chemistry was this person interested in? In what field did (s)he do research?)

d) Significant discoveries made by this person, and how they were made.

In part d) the discoveries should be discussed in detail, at a level appropriate to one who has had CHM 107 and CHM 108. The process of making the discoveries, should also be discussed in detail; experiments or the development of theories should be described. You should also discuss in what way these discoveries were significant, i.e., how they changed the way chemists do research or think about nature.

e) A summary of the person's career (where (s)he worked, how long, etc.)

f) Any other factual information you find interesting

g) On a separate page, a complete bibliography of all the references used. Note **TWO** (at least) non-internet sources must be consulted. AS many intenet sources as you like may be cited.

Format:
For texts, give authors, title, publishing company, city of location, and copyright date.

For papers or articles, give author(s), title of article, journal or magazine of publication, issue number, pages, and year of publciation

For internet sources, give complete URL (http://, etc.), title of page, organization, company or individual supporting the site.

There is no set number of pages for this. However, I anticipate that properly covering parts a-e will take a minimum of 2-3 pages.

The out-of-class project is worth 50 points and is due on April 19th, in class.

How to survive Chemistry 108:

1. Attend class regularly. The classroom lectures are when new material will be introduced and explained. Additionally, example problems and homework problems will be discussed. While in class, ask questions. A question asked in class may help make a difficult idea easy to understand, or a complex problem into a simple one.

2. Do the homework problems. It is a good study habit to do several homework problems each day. More specifically, **don't wait until the night before the exam to do the homework problems**. This practice may lead to disaster.

3. Work other problems. The ability to solve problems is the key to success in chemistry, and working problems is typically much more helpful than trying to study by memorization.

4. Study in groups: Find several other students in the class and study consistently with them. Again, while studying in your group, work problems. Test each other; for example, one tactic is to take a homework problem or an example problem and change some of the numbers. This makes a new problem, and two people then both work the new problem. The goal of course is that both people should get the same (correct) answer. If you get different answers, you can work together to find the mistakes.

5. Use available tutoring and see the professor in his office hours.