



CHEM 201-01

General Chemistry

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Syllabus • Fall 2000

COURSE OBJECTIVES

The basic principles of chemistry provide fundamental insight into the macroscopic world of materials and organisms. The purpose of this course is to acquaint students with these basic principles and to help students learn to apply these principles broadly and effectively.

COURSE FORMAT

There will be three lectures (MWF, 8:00 a.m.) per week. In addition, each student has been assigned to one three-hour lab section. There will also be two recitation sections at time to be arranged. These sections will be used to discuss problems and answer questions.

TEXTBOOK

Brady, Russell and Holum, *Chemistry: Matter and Its Changes*

LECTURES AND READINGS

In reading the textbook you should keep in mind that the primary objective of the course is to develop a working knowledge of important chemical principles. These principles will be discussed in class and they will also be presented in the text, sometimes in a different manner. You will probably understand the principles more thoroughly if you strive to understand **both** the explanation presented in class and that presented in the text.

Both the lectures and the textbook will provide many examples in which chemical principles are used to solve problems. The examples presented in lecture will be selected to complement those presented in the text. It is recommended that you study carefully all of these examples and then test and extend your understanding by solving problems on your own.

PROBLEMS

Since the objective of the course is for students to develop a *working* knowledge of chemical principles, there will be heavy emphasis on problem solving. Problems will be assigned with every lecture, and it is recommended that you do these problems as soon as possible. These assignments will not be collected, but you should make a determined effort to solve them, since most of the questions on quizzes and exams will involve problem solving. Answers to many of the problems will be placed on reserve in the Bertrand Library, and the problems will be discussed at Recitation Sections. If you have difficulty with the problems, you are urged to consult the instructor.

EXAMS

There will be three hour exams and a final. The hour exams will be given during class hour on the following days:

1. Monday, 2 October
2. Monday 6 November
3. Monday 4 December

Short (10–15 min) quizzes will be given in class on the following days:

1. Monday 11 September
2. Monday 25 September
3. Monday 16 October
4. Monday 30 October
5. Monday 20 November

All of the exams and quizzes have been scheduled for Monday, since that is the day that the administration has recommended for exams in classes meeting in this hour in order to avoid back-to-back exams.

GRADING

Hour Exams45%
Quizzes15%
Laboratory20%
Final20%

OFFICE HOURS

You are encouraged to consult the instructor if you have difficulty understanding the material in the course. My scheduled office hours are:

Monday 4–5 p.m.
Wednesdays 3–4 p.m.
Friday 1–2 p.m.

If these times are inconvenient, you can see me after class or contact me by e-mail to make an appointment. You are also welcome to come to my office without an appointment—if I am there and not busy with something else, I will be happy to talk with you.

TENTATIVE COURSE OUTLINE

DATE	TOPIC	TEXTBOOK CHAPTER
8/30	Introduction— Matter, atoms, molecules and ions	1
9/1	Calculations—Dimensional Analysis	1
9/4, 9/6	Elements, Compounds and the Periodic Table	2
9/8, 9/11, 9/13	Stoichiometry	3
9/15, 9/18, 9/20	Reactions in Solution	4
9/22, 9/25	Redox Reactions	5
9/27, 9/29	Equilibrium	14
10/2	Exam I (thru Redox Reactions)	
10/4	Equilibrium	14
10/6, 10/11, 10/13	Atomic Structure	7
10/16, 10/18, 10/20	Chemical Bonding	8
10/23, 10/25, 10/27, 10/30	Bonding and Molecular Structure	9
11/1, 11/3	Gases	10
11/6	Exam II (Equilibrium thru Molecular Structure)	
11/8	Gases	10
11/10, 11/13, 11/15, 11/17	Liquids and Solids	11
11/20, 11/27, 11/29	Electrochemistry	19
12/1	Nuclear Chemistry	22
12/4	Exam III (Gases thru Electrochemistry)	
12/6	Nuclear Chemistry	22
12/8, 12/11	Special Topics, Wrap-up.	