CHEMISTRY 142 Dr. Saadein

Spring 2014

Learning Goals

The primary learning goals for this class are for you to:

- Utilize critical thought and reasoning to understand chemical behavior at the microscopic and macroscopic levels.
- From your knowledge of chemistry and chemical systems, be able to develop solutions to problems which you have not encountered before.

Content goals

You will be expected to master these areas of chemistry:

- Coordination compounds and crystal field theory
- Intermolecular forces
- Phase diagrams
- Concentration units
- Factors affecting solubility
- Colligative properties
- Kinetics, including rates of reaction and reaction mechanisms
- Equilibrium, including LeChatlier's Principle
- Acids, bases, buffers
- pH and titrations
- Solubility equilibrium
- Entropy and free energy
- Electrochemistry, including electrochemical cells and electrolysis
- Nuclear chemistry (time permitting)

Text

"Chemistry" 11th ed., by Chang, with study guide and solutions manual
Laboratory manual: sold by the Chemistry Department (same as for 141)

Attendance

All students are expected to attend all lecture and laboratory sessions. However, it is recognized that emergencies may arise which may necessitate absences from class. You should notify me if an absence is due to illness or other emergency. You are responsible for all material covered in lecture if absent.

You are allowed 2 absences in lecture and NO ABSENCES in lab.

If you exceed the 2 absence limit in lecture for whatever reason, you will lose 1 point for the next absence (number 3), 2 points for the next absence (number 4), and 3 points for each additional absence (numbers 5 and up). These points will be deducted from the final course average. Note that there are no "excused" absences.

Make-up exams are not given, regardless of the reason an exam was missed. If you miss an exam and present me with an acceptable excuse, the grade on the final exam will count in place of the missed exam grade. You must notify me by the day and time of the exam that you will not be present and you must give me the reason for the absence. If the excuse is not considered acceptable, the exam grade will be a zero. It is up to me as the instructor to make the determination as to whether an excuse is acceptable. In general, illness or an emergency situation is the only acceptable excuse for missing an exam. Missing an exam also counts as an absence in the course.

Being late to class is rude and distracting. Therefore, 3 tardies will be considered equal to 1 absence. If you come in more than 15 minutes tardy, you will be counted absent. If you come in late, it is your responsibility to see me immediately after class to ensure that you are marked tardy and not absent. No adjustments will be made at a later time. If you are continuously tardy, you may be excluded from further classroom attendance. When you are in class, you must be attentive and not disturb others. Leaving a class early counts as an absence, as does sleeping through a class or being generally inattentive.

In class, you should be concentrating on learning. Anything that distracts from this is contrary to the educational process. Therefore, cell phones and other electronic means of communication are not allowed in class or lab. Should you bring one and it goes off, or should you use it to call someone, you will leave the class and be counted absent. If this happens a second time, you may not return to class. For the same reason, food and drink are not allowed in class or lab.

Problems

At the end of each chapter, there are problems which you should work to help you in understanding the material. These problems are for your benefit only; they will not be taken up or graded. Since general chemistry is a problem-oriented course, and the tests will consist mainly of problems, it is essential that you become proficient in working

problems such as those found at the end of the chapters. You should work problems as you encounter the material. You should also attempt each problem before seeking help from the book, your notes, or the answer. It is not sufficient to be able to follow how a problem is worked; on a test, you will have to work a problem all the way through, and the only way you will be able to do this is if you have worked practice problems.

Tests

There will be 4 exams, given approximately every 3-4 weeks. Other than your own calculator (Calculators which can download and/or store information, which can automatically solve equations, or which can be programmed, are not allowed and may not be used on exams.) and pen or pencil, you may use only the materials and data provided with the exam. Any material you bring with you, such as books, book bags, papers, notebooks, scratch paper, etc., must be left at the front of the room. You may not have a cell phone at your desk. Make sure your calculator is working and that you know how to use it; calculators may not be loaned or shared. Students work submitted as part of this course may be reviewed by Oxford College and Emory College faculty and staff for the purposes of improving instruction and enhancing Emory education.

Honor Code

It is assumed that all Oxford College students will adhere to the highest standards of academic honesty and will uphold the Oxford College Honor Code. Accordingly, I normally do not proctor exams.

On exams, you may not use any material not distributed with the exam itself except for a calculator and pencils/pens (no scratch paper). Any other material you bring into the room must be left at the front of the room, including a cell phone. During an examination, you may not give or receive assistance. On assignments for outside class (essays, lab reports), the work is to be your work alone – you may not give or receive any assistance, and you may use only materials authorized. Since absences and tardies can affect your grade, giving false information regarding absences or tardies is a violation of the Honor Code. Note also that the Oxford College Honor Code expects students to report any violations of the Code they know of.

See the Honor Code handout for more information.

Exam schedule

Exam I	Friday, Feb. 7
Exam II	Friday, Feb. 28
Exam III	Wednesday, Apr. 2
Exam IV	Friday, Apr. 25

Final Exam

There will be a final exam, covering the semester's material. This will be given during the regularly scheduled final exam period.

Schedule

Chapter 23
Chapter 11
Chapter 12
Chapter 13
Chapter 14
Chapter 15
Chapter 16
Chapter 17
Chapter 18
Chapter 19*
Chapter 20*

* These two chapters will be covered depending on the course progress.

The sections covered for each exam will be announced in class.

Preparation for class

The pace of this course is such that it normally is not sufficient merely to attend class and take notes. You must also make use of your textbook. Before coming to class, you should read the material to be covered; after class, you should read back over this material as well as your class notes.

Review sessions

A review session will be held before each exam; the date and time will be announced in class. Often the review session will be held in class. If held outside of class, these sessions are optional and voluntary; no new material will be covered. Students normally come to a review session to ask questions that have come up while studying or to see problems worked.

Laboratory

Your laboratory instructor will explain the lab procedures to you. The lecture and laboratory are designed to coordinate so that you will have covered material in class before being required to use that material in lab. As you will note under Grading, there are penalties assessed for a low lab average and for low individual lab grades.

Office Hours

My office is Pierce 216. I am usually in my office and available from 9-5 every day. Exceptions are around lunch time and during other classes and labs.Best time to see me is usually 2:00-3:00 on all weekday.

Grading

The final exam will count as two exam grades, giving a total of 6 (4 exams + final counting twice). The lowest of these 6 grades will be dropped. This average will constitute the lecture portion of your course grade.

Your course grade will be computed by taking 80% of your lecture grade and 20% of your lab grade.

Grading scale

Grades are normally assigned as follows, with no automatic rounding:

93 - 100 A	77 - 79 C+
90 - 92 A-	73 - 76 C
87 - 89 B+	70 - 72 C-
83 - 86 B	67 - 69 D+
80 - 82 B-	60 - 66 D
	Below 60 F

Your exam average AND your lab average must both be passing or you will receive a grade of F in the course.