CHEMISTRY 142 Dr. Kj Dennison Spring 2011

1. Oxford College and Liberal Arts. Oxford College is dedicated to a liberal arts education, and science, including chemistry, is an integral part of the liberal arts. In this course, you will have an opportunity to master these liberal arts skills:

- Reasoning:

1. Problem-Solving
2. Critical Thinking
3. Logic
4. Calculation/Computation
5. Investigation
6. Analysis of data

- Language

1. Listening and interpreting
2. Reading
3. Writing

- Aesthetics

1. Observing
2. Seeing relationships among form, pattern, harmony, and shape

- Imagination

1. Prediction
2. Developing scientific insight (hypotheses)

2. 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.

3. Content goals. You will be expected to master these areas of chemistry (for a more detailed list of the content, see the class LearnLink conference):

- 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

4. Materials. Textbook: "Chemistry" 10th ed., by Chang.
Optional: study guide, student solutions manual.
Scientific calculator. Calculators which can download and/or store information, which can automatically solve equations, or which can be programmed, are not allowed.
For lab: (1) Laboratory manual.
If you did not take Chemistry 141 at Oxford in Fall 2010, you will be given a copy of this year's laboratory manual and the cost will appear on your college bill. This includes students with AP credit, students who took Chem 141 at another school, and students who took Chem 141 in an earlier semester here. You may purchase a lab manual from a student who took Chem 141 here in the fall but is not taking Chem 142 – if so, notify me so you do not get charged for a lab manual.
(2) Carbon-copy lab notebook.
(3) Safety glasses.

You must have all three materials for lab <u>before</u> your first lab meeting.

5. Attendance. (a) All students are expected to attend all lecture and laboratory sessions. However, it is recognized that emergencies can arise which may result in absence 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.

(b) 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. <u>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.</u> If the excuse is not considered acceptable, the exam grade will be a zero. As

the instructor, I make the determination as to whether an excuse is acceptable. In general, illness or an emergency situation are the only acceptable excuses for missing an exam. If you are going to miss an exam for a religious holiday or for a school-related activity, you must make arrangements to take the exam early. Missing an exam also counts as an absence in the course.

(c) 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. 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.

(d) In class, you should be concentrating on learning. Anything that distracts from this is contrary to the educational process. Therefore, cell phones and pagers are not allowed in class.

6. 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 (*occasional problem sets may be collected and 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 numerous practice problems.

7. Tests. (a) There will be 4 exams. These will be given in class. Each exam will last 55 minutes. Make sure your calculator is one which is allowed, that it is working, and that you know how to use it. Calculators will not be loaned or shared. You must take the exam during your regular class time. If you come in late, you will not be given extra time to finish the exam. The honor code applies to all exams (see the Honor Code Pledge handout).

If you finish an exam before the end of the class period, stay at your desk with your test until I am in the room; you may then turn it in to me and leave. Do not leave your test in the room unless I am there to collect it.

(b) Oxford College has adopted as part of its Mission Statement that its curriculum is designed to teach students to "embrace responsible citizenship." In addition, as part of its Purpose Statement, the College lists "to augment the student's ... intellectual awareness of the world".

8. 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 do not proctor exams unless I have reason to believe the Honor Code is being violated.

On exams, you may not use any material not distributed with the exam itself except for a calculator and pencils/pens. Any other material you bring into the room must be left at the front of the room, including a cell phone or other electronic device. 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 Pledge handout for more information.

9. Exam schedule.

Exam I	Friday, Feb. 4
Exam II	Friday, Feb. 25
Exam III	Wednesday, Mar. 30 and Friday, Apr. 1
Exam IV	Friday, Apr. 22

Note that Exam III will be given in two parts – for the first part you will have 25 minutes on Mar. 31 and for the second part you will have the entire class period on Apr. 2.

Exams may be moved forwards or backwards as necessary; this will be announced in class and on the class LearnLink conference.

10. Final Exam. There will be a final exam, covering the semester's material. This will be given during the regularly scheduled final exam period. Final exams are not returned.

11. Schedule.

Chapter 22 (some sections)	Chapter 15
Chapter 11	Chapter 16
Chapter 12	Chapter 18
Chapter 13	Chapter 19
Chapter 14	Chapter 20

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

12. Review sessions. A review session will be held before each exam; the date and time will be announced in class. If held outside of class, these sessions are optional and voluntary; no new material will be covered. If held in class, attendance will count as it would for a regular class session, since the review normally will not take the entire class period.

13. Laboratory. At your first lab meeting, I 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. Note under (16) Grading, how your lab average affects your course grade.

14. Office Hours. Office Pierce 202. Hours: M 10:45-12:45, W 10:45 – 11:30. I have an open door policy for other times I am in my office. Any time I am in my office, you may speak with me.

15. LearnLink. You are expected to read the class LearnLink conference (Chem 141-142 Dennison, under Oxford Chemistry) regularly, as well as any subconferences within it. You are also expected to check your LearnLink e-mail regularly. Failure to read a message sent to you or to the class conference is not an acceptable excuse for your action or inaction.

16. Grading. Final 25%
4 In Class Exams 50% (12.5% each)
Lab 20%
Participation/Attendance 5%

The final may be used to replace the lowest exam score. If you have a zero on an exam due to missing the exam, the final will replace that exam.

17. Grading scale. Grades are normally assigned as follows:

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-	63 - 66 D
	below 63 F

Your exam average AND your lab average must both be passing or you will receive a grade of F in the course regardless of your final numerical average. Grades are assigned based on your performance in the course (exams, lab, attendance) and are not open for discussion after being assigned. There is no automatic rounding. If you are on a border, consideration is given to attendance, improvement, and class participation.

18. Special note. If you did not make at least a C in Chemistry 141, you will have a difficult time in this course and will probably make a D or F. You should sit in on Chem 141 for review (or retake the class once you're at Emory College) before taking Chemistry 142.