CHEMISTRY 141 Fall 2010

General Chemistry with Laboratory

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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
- 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:
- The scientific method
- Conversion between different measuring systems
- Significant figures
- The structure of the atom
- Nomenclature
- Molecular mass and moles
- Stoichiometry
- Reactions in aqueous solution
- Molarity
- Gases
- Thermochemistry
- Quantum theory and electromagnetic radiation
- Electron configurations
- The periodic table

- Bonding
- Molecular geometry and hybridization
- Organic chemistry

4. Materials. You will need:

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: Laboratory manual, sold by the Chemistry Department.

Carbon-copy lab notebook.

Safety glasses.

You must have all three materials for lab before your first lab meeting.

- **5. Attendance.** (a) All students are expected to attend all lecture and laboratory sessions. You are allowed NO ABSENCES in lab. If your absence is due to an extreme circumstance, accommodations may be made to make up a missed lab.
 - (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. 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. 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. Missing an exam also counts as an absence in the course.
- **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. 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. Exams. (a) There will be 4 exams. These will be given in class and 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.

8. Exam Schedule.

Exam I Friday, Sept. 17

Exam II Wednesday, Oct. 6 and Friday, Oct. 8

Exam III Friday, Nov. 5 Exam IV Friday, Dec. 3

Note that Exam II will be given in two parts – for the first part you will have 20 minutes on Oct. 6 and for the second part you will have the entire class period on Oct. 8.

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

9. 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.

10. 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 your own calculator and pencils/pens. You may not have any other material with you – this includes books, notebooks, book bags, papers, etc.; they must be left at the front of the room. You may not have a cell phone or other electronic device with you; if you bring these, they must be left at the front of the room also (and must be turned off). 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.

11. Schedule.

Ch. 1	Ch. 7	
Ch. 2	Ch. 8	
Ch. 3	Ch. 9	
Ch. 4	Ch. 10	
Ch. 5	Ch. 20	(brief overview)
Ch. 6		

Note that this schedule is subject to change. 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 <u>Grading</u> below, how your lab average affects your course grade.
- 14. LearnLink. You are expected to read the class LearnLink conference (Chem 141 Eichler, under Oxford Chemistry) regularly, as well as any subconferences within it. You are also expected to check your LearnLink mail regularly. (Note: "regularly" means daily M-F). Failure to read a message sent to you or to the class conference is not an acceptable excuse for your action or inaction. Similarly, if you wish to communicate with me by e-mail, please use LearnLink (but note that I do not read it nights and weekends).
- **15. Office Hours.** My office is Pierce 210. I am usually in my office and available from 9-5 every day. Exceptions are around lunch time (11:30-1:00) and during class and labs. You are welcome to come see me in my office anytime, but it is best to email me and set up a specific appointment.

16. Grading.

Exam I	10%
Exam II	15%
Exam III	15%
Exam IV	15%
Final Exam	25%

Lab 20%

Note: Your grade on the final exam can be used to replace your lowest exam grade. The determination of your lab grade will be described in your first lab session.

17. Grading scale. Grades are normally assigned as follows, without 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 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. If you are on the borderline between two grades, an improved performance on the final exam may be used as justification for assigning the higher grade.