

Chemistry 141
Dr. Heather Patrick
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Fall 2014

Course Description

Chemistry 141 is the first course in a two-semester sequence in General Chemistry. The Chemistry 141-142 sequence is designed for students who plan to major in chemistry or another science and for those who plan on attending medical school, dental school, veterinary school, pharmacy school, or most allied health schools. Topics covered in Chemistry 141 include atomic theory and the periodic table, mass relationships, aqueous phase reactions, gas laws, thermochemistry, quantum theory, and chemical bonding.

Course Goals

The goal of Chemistry 141 is to provide an introduction to the study of matter and the changes it undergoes. The course aims to develop a student's analytical, problem solving, and critical thinking skills, and it emphasizes the application of these skills to both macroscale and microscale systems.

Chemistry 141 assumes a good working knowledge of algebra, and it, along with Chemistry 142, will provide you with the chemistry background to take further advanced courses in chemistry, such as organic chemistry, physical chemistry, and analytical chemistry. General Chemistry will also prepare you for the chemistry portion of the physical sciences section on the MCAT.

Materials

Chemistry, 11th 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 perform conversions, or which can be programmed are not allowed on exams.

Carbon-copy lab notebook: This must be obtained (available in the bookstore) prior to your first lab meeting.

Laboratory manual and safety glasses: sold by the Chemistry Department

Office Hours

Pierce 202

Wed. and Fri.: 1:30 – 2:30

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Attendance

You are expected to attend all lectures and lab sessions. If, however, you are absent due to an emergency, you must notify me. You are responsible for all material covered in lecture if absent.

You are allowed 3 absences in lecture and no absences in lab. If you exceed the 3-absence limit for any reason, you will lose 1 point from your final course average for the 4th absence, 2 additional points for the 5th absence, and 3 additional points for each further absence.

Make-up exams will not be 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 to make the determination as to whether an excuse is acceptable. Illness or an emergency situation are the only acceptable excuses for missing an exam. Missing an exam also counts as a course absence.

Being late to class is rude and distracting. Therefore, 2 tardies will be treated as 1 absence. If you are 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 class early counts as an absence, as does sleeping through a class or being generally inattentive.

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 solutions manual. 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. See the "Survivor's Guide" for more information.

Lecture Outlines

I will post lecture outlines on our class Blackboard conference before each lecture. This outline will help guide you as you read the textbook material before each lecture. I recommend that you print out a copy of the outline, take notes on it before coming to class, and then bring it to the appropriate class so that you can spend more class time thinking and less time transcribing.

Note that these outlines are abridged. While they will let you know what topics we will cover each day in order to help you prepare for class, they will not cover the material. They are in no way a substitute for attending the lecture.

Quizzes

Brief, previously announced quizzes will be given sporadically throughout the course. These will be given in the first few minutes of class. Make-up quizzes will not be given, regardless of the reason a quiz was missed. If you miss a quiz and present me with an acceptable excuse, the quiz will not count toward your grade. You must notify me by the day and time of the quiz that you will not be present, and you must give me the reason for the absence. If the excuse is not considered acceptable, the quiz grade will be a zero. It is up to me to make the determination as to whether an excuse is acceptable. Illness and emergency situations are the only acceptable excuses for missing a quiz.

Unannounced quizzes may also be given on occasion. These will cover textbook reading assignments that have been assigned prior to the quiz. The honor code applies to all quizzes. Quiz grades will count as a small portion of points toward your next exam.

Tests

There will be 4 exams, given approximately every 3 – 4 weeks. These will be given in class and will last 65 minutes each. You must take the exam in your regular class time. If you come in late, you will not be given extra time to finish the exam. You may bring only a calculator and pencils; any other material will be given out with the exam. Make sure that your calculator is working and that you know how to use it. Calculators may not be loaned or shared. The honor code applies to all exams.

Schedule

Chapter 1
Chapter 2, sections 1-7
Chapter 3
Chapter 4, sections 1-5, 7
Chapter 5
Chapter 6
Chapter 7
Chapter 8
Chapter 9
Chapter 10
Chapter 24

Test Schedule

Exam I	Friday, Sept. 19
Exam II	Wednesday, Oct. 8
Exam III	Friday, Oct. 31
Exam IV	Friday, Dec. 5

Exams may be moved back to the next class meeting if necessary to cover the material. The material covered on each exam will be announced in class.

There will be a cumulative final exam given during the regularly scheduled final exam period.

Preparation for Class¹

In what has become a seminal article in higher education, Arthur Chickering and Zelda Gamson outlined “Seven Principles for Good Practice in Undergraduate Education.” Many years of research went into the development of this list, and it has proven itself as an invaluable resource since its inception. Some of these principles involve actions that are your responsibility, some involve actions that are my responsibility, and some involve actions that are our combined responsibility. According to Chickering and Gamson, good practice in undergraduate education:

1) Encourages contact between students and faculty

I will be available for you and responsive to your needs both in and out of class, and it is your responsibility to speak up in class or come to my office when you need assistance.

2) Develops reciprocity and cooperation among students

“Good learning, like good work, is collaborative and social, not competitive and isolated.” (Chickering and Gamson, p. 2) When you are struggling with a topic, discuss it with your peers. You are strongly encouraged to work together on problems, especially when you’re just starting on a new topic. This is where a lot of your learning will occur!

3) Encourages active learning

Simply sitting in class, listening to lectures, and watching others solve problems will not be sufficient in this class. You must be actively engaged in your studies if you want to succeed.

4) Gives prompt feedback

I will always return and review graded quizzes and tests in the next class period.

5) Emphasizes time on task

You will work hard in this class! See Dr. Parker’s “Survival Guide” for more details.

6) Communicates high expectations

I expect you to work hard in this class! If you do not know the material inside and out, as well as backward and forward, you will not do well on the exams.

7) Respects diverse talents and ways of learning

Students learn in a wide variety of ways, and I will work with you to find what works for you.

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.

On exams, you may not use any material not distributed with the exam itself except for a calculator and pencils. Any other material you bring into the room must be left at the front of the room. During a quiz or exam, you may not give or receive any assistance. On assignments for outside class (including lab reports), the work is to be your work alone; you may not give or receive any assistance from other people, and you may only use authorized materials.

Since absences and tardies can affect your grade, giving false information about these is a violation of the Honor Code.

Laboratory

At our first lab meeting, I will explain the lab procedures to you. The lecture and lab are designed to coordinate so that you will have covered material in class before being required to use that material in lab. Please read the section below to see how your lab grade is incorporated into your overall Chem 141 grade.

Grading

Quizzes will count as a portion of points toward each exam. I will give you specific details about this before each announced quiz. 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. The average of the remaining 5 grades 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. Any attendance penalty will then be subtracted.

Grades (after accounting for lecture, lab, and absences) will be 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 lecture average AND your lab average must both be passing (63 or higher) 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, and attendance) and are not open for discussion after being assigned.

References

- 1) Chickering, A.W. and Gamson, Z.F. (1987). Seven Principles for Good Practice in Undergraduate Education. AAHE Bulletin, March, 1987.