

# College Chemistry I

## Chem 1450, Fall 2016

**Lecture (Laney-Manion 102):** MWF 12:00 pm – 12:50 pm

**Lab (Laney-Manion 206):** M 2:00 pm – 4:50 pm (Section 19186)

W 8:00 am – 10:50 am (Section 19159)

W 2:00 am – 4:50 pm (Section 21429)

**Instructor:** Dr. Lei Yang

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**Office hours:** Tuesday, Thursday and Friday, 3:00 pm-5:00 pm

Use this time. It works best if you come to my office prepared with specific questions about lecture, lab or homework. Other times are available by appointment.

**Text:** *Chemistry – A Molecular Approach* (3<sup>rd</sup> Ed.) by Nivaldo J. Tro, Prentice Hall (c) 2014.

### Grading

	Possible points <sup>a,b</sup>
Ten Quizzes (10 pts each)	100
Ten Homework Assignments (10 pts each)	100
Ten Experiments/lab work (15 pts each)	200
Four Exams (100 pts each)	400
Final exam ( <b>Dec. 7th, 11:00 am</b> ) (200 pts)	200
<b>TOTAL POSSIBLE</b>	<b>1000</b>

<sup>a</sup> The **lowest** lab, quiz, homework assignment and exam **will be dropped**. Final exam will not be dropped.

<sup>b</sup> Scores will be scaled (e.g. for the 10 quizzes, if your total score is **80** after the lowest is dropped, your end-of-semester score is  $(80/90) \times 100 = 88.89$ ).

**Grades:** A = 900 – 1000 points  
B = 800 – 899.99  
C = 700 – 799.99  
D = 600 – 699.99  
F < 599.99

**Course Goals**

- (1). To supply students with the basic ideas surrounding the nature of chemistry.
- (2). To help student to develop the ability to think critically.
- (3). To increase the ability of students to apply problem solving techniques to similar but not identical problems.
- (4). To adequately prepare students for more advanced chemistry courses.

**Important Dates** October 28 (Friday): Last day to drop a course with a W  
November 28 (Monday): Last day to withdraw with a WP or WF

**Prerequisite** ACT mathematics score of at least 21 or corequisite/prerequisite of MTAH 1390

## **Policies 1. Attendance**

People who miss classes typically do poorly in this course. Do not be one of these people. **Three consecutive unexcused absences will result in a WF grade.** It is the student's responsibility to obtain information covered during an absence.

## **2. Homework Assignment**

Homework problems representative of the material discussed in lecture and the text will be assigned once we start a chapter. You will have one to two weeks to finish it. **The homework assignments will be graded.** Please print the hard copy with your name and student ID number and give it to me in class or office before the deadline. **An electronic version of your homework assignment won't be accepted.** The assigned problems represent a minimum workload for mastery of course material. You will not succeed in this class if you do not regularly work and understand all of these problems.

## **3. Office Hours**

This time is specifically set aside for you to ask me questions and receive help on course material. Use this time! If you cannot make the scheduled times, make another arrangement with me.

## **4. Makeups**

Makeup labs, quizzes, exams or homework assignment will **NOT** be offered except the following situations:

(1) family emergency; (2) medical emergency; (3) student athletes going to games/tournaments. Proper documents with the signature from doctor/parents/coach have to be provided. Otherwise, a missed lab, quiz, exam or homework assignment will be dropped as your lowest score.

## **5. Exams**

(1). Exams will cover the material discussed in class, and problems in the homework. Material that is included in the textbook but is not included in lectures or the homework will not be on the exams (except insofar as it can be deduced from material that is included). Final exam can **NOT** be rescheduled unless students have medical or family emergencies.

(2). **Bring your STUDENT ID to each exam:**

Student IDs may be spot-checked at the exams. No notes are allowed.

*Cell phones or other electronic communication devices can not be used during exams.*

(3). Calculators can **NOT** be shared among students during exams.

## **6. Deadline**

All the homework assignments, prelab assignments and lab reports should be turned in before the deadline. If you have turn in later because of family or medical emergency, proper documents with authorized signatures should be presented. Otherwise the assignment won't be accepted.

## **7. Regrade**

All regrade requests on exams, quizzes, lab reports and homework should be made to the instructor **within two weeks** after the grades posted on Blackboard. When inquiring about a possible regrade, please do **NOT** make any marks on the item in question.

## **8. Academic Integrity Statement:**

The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No 709 on February 10, 2010, and published in the Student Handbook. Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy.

## **9. Disabilities Act Statement:**

The University of Central Arkansas adheres to the requirements of the Americans with

Disabilities Act. If you need an accommodation under this Act due to a disability, please contact the UCA Office of Disability Services, 450-3613.

#### **10. Building Emergency Plan Statement:**

An Emergency Procedures Summary (EPS) for the building in which this class is held will be discussed during the first week of this course. EPS documents for most buildings on campus are available at <http://uca.edu/mysafety/bep/>. Every student should be familiar with emergency procedures for any campus building in which he/she spends time for classes or other purposes.

#### **11. Title IX Disclosure**

If a student discloses an act of sexual harassment, discrimination, assault, or other sexual misconduct to a faculty member (as it relates to "student-on-student" or "employee-on-student"), the faculty member cannot maintain complete confidentiality and is required to report the act and may be required to reveal the names of the parties involved. Any allegations made by a student may or may not trigger an investigation. Each situation differs and the obligation to conduct an investigation will depend on those specific set of circumstances. The determination to conduct an investigation will be made by the Title IX Coordinator. For further information, please visit: <https://uca.edu/titleix>.

#### **12. Blackboard:**

UCA Blackboard offers you a place to receive announcements, find course materials and syllabus, find grades and locate other material related to a successful venture into college chemistry I. By virtue of registering for this course, you are enrolled in the Blackboard portion of the course. To access the site you must go through My UCA website.

Step a. Go to the UCA homepage ([www.uca.edu](http://www.uca.edu)) and log into My UCA.

Step b. Once in My UCA, link to My Courses.

Step c. Click on College Chemistry I.

Step d. Click the folder you want to view.

- (1). Please pay attention to the announcements. They will keep you up-to-date on assignment, lecture notes, information for lab, and other important items.
- (2). Lecture note will be posted on Blackboard before a lecture.
- (3). Homework assignments will be posted on Blackboard after the first lecture of each chapter.

**Study suggestions** Organize your study time to prepare yourself to learn the most from the lectures. This means *keeping up with the assigned homework problems on a lecture-by-lecture basis*. If you get several topics behind, the lectures probably won't seem to make much sense. A good habit is to do the reading and at least some of the problems associated with the previous lecture, and then skim the reading for the next lecture. If you come to the lectures prepared, you will find that they can considerably reduce the study/reading/problem-solving time that you need to devote to Chem 1450 outside of class.

**Free tutor program** Tuesday and Thursday 5:30-7:30pm every week in Laney-Manion 103. Take advantage of this program!

## Tentative Lecture and Exam Schedule

Date		Chapter: Topic
Aug 19	F	Ch 1. Matter, Measurement and Problem Solving
22	M	
24	W	
26	F	<i>quiz</i>
29	M	
21	W	Ch 2. Atoms and Elements
Sep 2	F	<i>quiz</i>
5	M	<b>Labor day holiday, no class</b>
7	W	
9	F	<b>Exam 1</b>
12	M	Ch 3. Molecules, Compounds and Chemical Equations
14	W	
16	F	<i>quiz</i>
19	M	
21	W	Ch 4. Chemical Quantities and Aqueous Reactions
23	F	<i>quiz</i>
26	M	
28	W	
30	F	<i>quiz</i>
Oct 3	M	<b>Exam 2</b>
5	W	Ch 5. Gases
7	F	<i>quiz</i>
10	M	
12	W	Ch 6. Thermochemistry
14	F	<b>Fall Break</b>
17	M	<i>quiz</i>
19	W	
21	F	<b>Exam 3</b>
24	M	Ch 7. The Quantum-Mechanical Model of the Atom
26	W	
28	F	<i>quiz</i>
31	M	
Nov 2	W	Ch 8. Periodic Properties of the Elements
4	F	
7	M	<i>quiz</i>
9	W	
11	F	<b>Exam 4</b>
14	M	Ch 9. Chemical Bonding I: The Lewis Model
16	W	
18	F	<i>quiz</i>
21	M	Ch 10. Chemical Bonding II: Molecular Shape and Bonding Theories
23	W	<b>Thanksgiving Holiday</b>
25	F	<b>Thanksgiving Holiday</b>
28	M	
30	W	
Dec 2	F	Study day, no class
7	F	<b>10:00 am – 12:00 pm Comprehensive Final Exam</b>

## Tentative Laboratory Schedule

Date	Lab Topic
Aug 22 (M) and 24 (W)	<b>No Lab</b>
Aug 29 (M) and 31 (W)	Lab 1. Measurements
Sep 5 (M) and 7 (W)	Lab 2. Separation Techniques
Sep 12 (M) and 14 (W)	Lab 3. Density of Materials
Sep 19 (M) and 21 (W)	Lab 4. Hydrates
Sep 26 (M) and 28 (W)	<b>No lab</b>
Oct 3 (M) and 5 (W)	Lab 5. Types of Chemical Reactions and Equations
Oct 10 (M) and 12 (W)	Lab 6. Acid-Base Titration
Oct 17 (M) and 19 (W)	Lab 7. Gas Laws
Oct 24 (M) and 26 (W)	Lab 8. Thermodynamics
Oct 31 (M) and Nov 2 (W)	Lab 9. Atomic Emission and Molecular Absorption Spectra
Nov 7 (M) and 9 (W)	<b>No lab</b>
Nov 14 (M) and 16 (W)	<b>No lab</b>
Nov 21 (M) and 23 (W)	<b>No lab</b>
Nov 28 (M) and 30 (W)	Lab 10. Molecular Geometry and Bonding
Dec 5 (M) and 7 (W)	<b>Final Week, no lab</b>

**Lab Manual** Handouts will be posted on the Blackboard. **Bring a copy with you each time.** Make sure you bring the correct lab handout.

**Lab Participation** Chemistry is an experimental science. Lab time is your chance to master some of the experimental aspects of the subject. You will work with a partner in lab, but you should still actively participate in the experiments. Passive observation in lab while a partner does the work is unacceptable.

**Safety Goggles** You must use appropriate safety goggles when working in lab. Safety goggles are personal protective equipment and it is the responsibility of the student to bring to lab each lab. Your goggles should meet the ANSI Z.87 standard for laboratory eye protection. Specifically they must have side and top shields to protect your eyes from chemical spills. Refusing to wear safety goggles will result in points deducted from the lab total, or dismissal from the lab and a zero for the lab score. ACS club will sell goggles during our lab. Price: basic pair for \$5, some nicer ones for \$6, and the over-glasses version for \$8. Cash only.

**Lab Grade** You will conduct a total of 10 lab experiments/activities. A full lab assignment contains three parts:

- 1). Pre-lab assignment (5 points)
- 2). Data sheets and observations (5 points)
- 3). Post-lab questions (5 points)

Students have to turn in the individual pre-lab assignments before a new lab starts. When lab is over, each group can submit ONE group lab assignment (data sheets and post-lab) with all group members' names. Students can also choose to submit an individual lab assignment (data sheets and post-lab). As stated on the front page of syllabus, your lowest lab score will be dropped and total 9 labs/activities will be counted. A missed experiment will be dropped as your lowest score.

**Lab Safety** Students are required to read the UCA Safety Agreement and submit the online form. A computer will be provided during our lab section. **No food, drink or open toe shoes in lab.**