

# College Chemistry I

## Chem 1450, Spring 2021

### Lecture (online Zoom meeting): MWF 9:00 am – 9:50 am

- (1) Address: <https://zoom.us/j/6127591153?pwd=K2JOckJWV0pwbWpnYUJ6TW9lM3hodz09>
- (2) Zoom meeting ID - 6127591153
- (3) Zoom Password – 5tn0Fe

### Lab (Manion Hall 202):

- (1) CRN 32939: M 3:00 pm – 4:15 pm (group 1\*) and 4:35 pm – 5:50 pm (group 2\*)
  - (2) CRN 32940: W 2:00 pm – 3:15 pm (group 1\*) and 3:35 pm – 4:50 pm (group 2\*)
- \*Please check your grade book on Blackboard for your designated lab group and lab cubical station number.

### Instructor: Dr. Lei Yang

Office: Manion Hall 203B

Phone: 501-852-0711

Email: [lyang@uca.edu](mailto:lyang@uca.edu)

Website: <https://faculty.uca.edu/lyang/Site/Home.html>

### Office hours: Monday, Thursday and Friday, 1:00 pm-3:00 pm\*

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\*If you are not admitted immediately when you try to join the Zoom office hours, it's probably because I'm in a private meeting with a student. Please wait online if you can or schedule a time with me through emails.

**Text:** *Chemistry: Structure+Properties* (2<sup>nd</sup> Ed.) by Nivaldo J. Tro, Pearson (c) 2018.

### Grading

	Possible points <sup>a</sup>
Nine 20-minute online quizzes (15 pts each)	120
Eleven homework assignments (20 pts each)	200
Ten experiments/lab work (30 pts each)	270
Three 50-minute exams (online, 100 pts each)	200
Final exam (online, May 5, Wednesday, 2:00-4:00 pm)	210
<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.

**Grades: A = 900 – 1000 points**

**B = 800.00 – 899.99**

**C = 700.00 – 799.99**

**D = 600.00 – 699.99**

**F < 600.00**

### Course

(1). To supply students with the basic ideas surrounding the nature of chemistry.

### Goals

(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** April 12 (Monday): Last day to withdraw with a W grade

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

**Course Structures and Policies** **1. Flipped class**  
Lecture videos will be uploaded and assigned to watch BEFORE regular lecture time. Students then join Zoom meetings to practice problems and ask questions.

**2. Zoom meetings**

When you click our Zoom meeting link, you might be prompted to install Zoom on your computer if you haven't done so. **When you join our Zoom meetings, please use your real names.**

**3. Online quizzes**

There are total nine online quizzes on Blackboard, and they will be posted with deadlines according to our progress on lectures.

**4. Homework Assignments**

Homework problems are representative of the material discussed in lectures and the text will be assigned once we start a chapter. **The homework assignments will be graded.** Please submit the images of your finished homework **via Blackboard** before the deadline. You will not succeed in this class if you do not regularly work and understand all of these problems.

**5. Office Hours**

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

**6. Makeups**

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

- (1) Medical emergency of the student
- (2) Family emergency
- (3) UCA student athletes' absences due to Southland conference games.

Proper documentations with the signatures from medical doctors, parents and team coach are required before the arrangement of makeup. A missed lab, quiz, exam or homework assignment without any excuses will be dropped as your lowest score if that's the only one you missed.

**7. Three 50-minute Exams (online)**

- (1). The three 50-minute exams will cover the material discussed in lectures and classes, and problems in the homework. Material not covered in lectures or the homework will not be on the exams (except insofar as it can be deduced from material that is included).
- (2). Smart phones or other electronic communication devices are NOT allowed during exams.

**8. Final exam (online, May 5, Wednesday, 2:00-4:00 pm, 210 points)**

- (1). Final exam is an online comprehensive exam.
- (2). Final exam **cannot** be rescheduled unless students have the situation(s) mentioned in 5.
- (3). After the final exam, homework and lab assignment will not be accepted. In addition, no extra work will be provided to boost grades after final exam.

**9. Deadline**

All the homework assignments, prelab assignments and lab assignments should be turned in before the deadline. If you turned in later because of family or medical emergency or conference games, proper documents with authorized signatures should be presented (see item 6). Otherwise the assignment won't be accepted.

**10. 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.

### **11. Recommended practice**

For each chapter, extra questions from textbook will be recommended for students to practice. The answers and detailed solutions can be found in “Recommended Practice” folder on Blackboard.

### **12. 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.

### **13. 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.

### **14. 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.

### **15. 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>.

### **16. 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 (<http://my.uca.edu/>) and log into MyUCA.

Step b. Once in MyUCA, click Blackboard.

Step c. Click on College Chemistry I.

Step d. Click the folder you want to view.

**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.

## Tentative Lecture and Exam Schedule

Date		Chapter: topics
Jan 20	W	Syllabus
22	F	Ch E. Matter and Measurement
25	M	
27	W	
29	F	Ch 1. Atoms
Feb 1	M	<b>No class</b>
3	W	
5	F	
8	M	
10	W	<b>Exam 1</b>
12	F	Ch 2. The Quantum-Mechanical Model of the Atom
15	M	
17	W	
19	F	Ch 3. Periodic Properties of the Elements
22	M	
24	W	
26	F	Ch 4. Molecules and Compounds
Mar 1	M	
3	W	
5	F	<b>Exam 2</b>
8	M	Ch 5. Chemical Bonding I and Ch 6. Chemical Bonding II
10	W	
12	F	
15	M	
17	W	Ch 7. Chemical Reactions and Chemical Quantities
19	F	
22	M	<b>Spring break</b>
24	W	<b>Spring break</b>
26	F	<b>Spring break</b>
29	M	
31	W	Ch 8. Introduction to Solutions and Aqueous Reactions
Apr 2	F	
5	M	
7	W	
9	F	
12	M	
14	W	<b>Exam 3</b>
16	F	Ch 9. Thermochemistry
19	M	
21	W	
23	F	Ch 10. Gases
26	M	
28	W	
30	F	Study day, no class
May 3	M	
5	W	<b>2:00-4:00 pm, online Comprehensive Final Exam</b>

## Tentative Laboratory Schedule

Date	Lab Topic
Jan 25 and 27	No lab
Feb 1 and 3	Lab 1-Ch E. Measurements
Feb 8 and 10	Lab 2-Ch E. Density of Materials
Feb 15 and 17	Lab 3-Ch E. Separations
Feb 22 and 24	Lab 4-Ch 2. Atomic Emission Spectra (dry lab)
Mar 1 and 3	Lab 5-Ch 4. Hydrates (dry lab)
Mar 8 and 10	No lab
Mar 15 and 17	Lab 6-Ch 5 and 6. Molecular Geometry and Bonding (dry lab)
Mar 22 and 24	No lab
Mar 29 and 31	No lab
Apr 5 and 7	Lab 7-Ch 8. Acid-Base Titrations
Apr 12 and 14	Lab 8-Ch 8. Types of Chemical Reactions and Equations
Apr 19 and 21	Lab 9-Ch 9. Thermodynamics
Apr 26 and 28	Lab 10-Ch 10. Gas Law
May 3 and 5	Final Week, no lab

## Laboratory Instructions

### Face-to-Face Labs

- (1) Face-to-face labs will have no more than 12 students, an instructor, and a teaching assistant (TA) per lab at any given time. Please sign the online Safety Agreement Form before you come to lab:  
<https://www.uca.edu/web/forms/view.php?id=358>
- (2) Lab manuals and datasheets will be posted on the Blackboard. Bring a copy with you each time.
- (3) You must have goggles\*, closed toe shoes, long pants, and masks\*\* to enter the building and the laboratory. Please discuss any issues with me in advance.\*\*\*

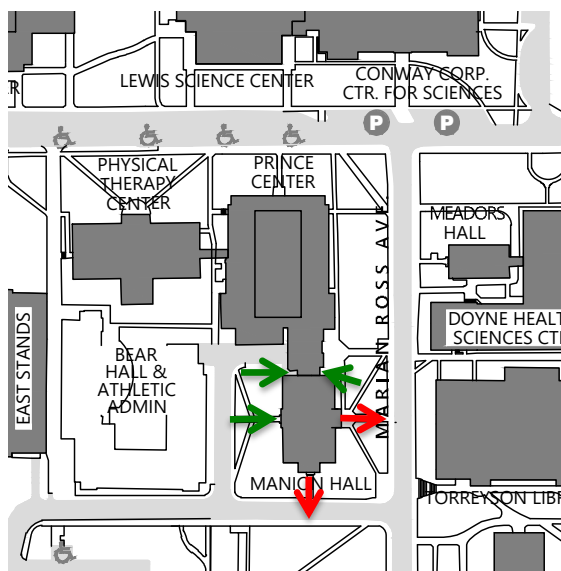
\*Goggles can be purchased from a variety of sources. UCA American Chemical Society will be selling goggles for \$10 using CashApp **only** (\$ucaacs). Selling schedule will be announced shortly.

\*\*UCA will provide a pack of five KN95 masks to each student attending face-to-face labs. If you need a pack, please sign the following form and send me the electronic copy (smart phone picture can work).

<https://uca.edu/coronavirus/files/2020/07/KN95-mask-Information-acknowledgement-form.pdf>

\*\*\*Students without a mask or wearing mask improperly will **NOT** be allowed to do lab activities.

- (4) Check the grade book on Blackboard for your designated group number and the cubical working station number.
- (5) You will enter Manion Hall via the designated entrances. See the **green** arrows on map.
- (6) You will not be permitted to enter the lab prior to the designated time and you will leave lab by the time indicated so that the next group can enter on time.
- (7) Face-to-face laboratory time in Room206 will **ONLY** be used for obtaining the experimental data for the lab.
- (8) As you enter the lab, obtain a pair of gloves and wear them at all times.



- (9) Each student will have their own set of chemicals, glassware, etc. at their station. If something is missing, ask the instructor or TA for that item.
- (10) Please remain at your station for the entirety of the experiment except when using the balance, sink, or when told to move by your instructor or TA.
- (11) Use the sink closest to your station.
- (12) Clean your station according to the instructions given by the instructor or teaching assistant. **Please be gentle when you clean the plexiglasses and not push excessively hard.** Dispose waste in the waste flask in balance cubical station.
- (13) Dispose of your gloves as you exit the laboratory.
- (14) Students will exit the opposite door from which they entered (nearest the fume hoods)
- (15) Students will take a right out of the laboratory and head to the far stairwell to exit the building via designated exits. See the **red** arrows on map.

#### **If Face-to-Face labs shift to online only:**

- (1) We will meet via Zoom according to the normal lab time. You can certainly work on these online labs first and bring your questions with you when we meet online.
  - CRN: 32939 (entire section)–M 3:00pm-5:50pm
  - CRN: 32940 (entire section)–W 2:00pm-4:50pm
- (2) Address: <https://zoom.us/j/6127591153?pwd=K2JOckJWV0pwbWpnYUJ6TW9lM3hodz09>
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#### **Lab grade** For most lab assignments, there are three components\*:

- (1) Pre-lab assignments (10 points)
- (2) Data sheets/observations (10 points)
- (3) Post-lab assignments (10 points)\*\*

\*All three components are required to receive the full credit. Generally, a prelab assignment is due before each lab session starts. Data sheets/observations and postlab assignment are due before next lab session starts.

\*\*For the labs without a post-lab assignment, the datasheets/observation will be 20 points.

## How to check your quiz/lab/homework grade, your work and my comments on Blackboard (use quiz as an example):

Step 1. Click "My Grades" (red cycle) then click the quiz title (blue cycle).

ITEM	LAST ACTIVITY	GRADE
Total		-
<a href="#">View Description</a> <a href="#">Grading Criteria</a>		
<b>Quiz-practice Test</b>	Jan 5, 2018 12:16 PM GRADED	<b>6.00000</b> /15
Quiz 1-syllabus Test	DUE: JUL 11, 2017 UPCOMING	- /15
Quiz 2 (Chapter 11) Test	DUE: JUL 14, 2017 GRADED	4.00000 /15
Quiz 3 (Chapter 12) Test	DUE: JUL 16, 2017 GRADED	-0.00000 /15
Quiz 4 (Chapter 13) Test	DUE: JUL 21, 2017 UPCOMING	- /15

Step 2. You can see the quiz grade on your right side (red cycle). Click it.

Date Created	Date Last Submitted or Edited	Calculated Grade
Jan 5, 2018 12:13 PM	Jan 5, 2018 12:14 PM	6

Step 3. You can see your answer (red cycle), correct answer (blue cycle) and my comments (green cycle).

Question 1 0 out of 3 points

Write the full name of element 29.

Selected Answer: Zinc **Your work**

Correct Answer: Copper **Answer**

Response Feedback: Please be careful. The atomic number of zinc is 30, not 29. **My comments**