

## College Chemistry II Chem 1451, Spring 2018

**Lecture (Laney-Manion 102): TTh 2:40 pm – 3:55 pm**

**Lab: (Laney-Manion 206): W 8:00 am – 10:50 am**

**Instructor:** Dr. Lei Yang

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**Office hours: Wednesday and Friday, 2:00 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>
Eight Quizzes (15 pts each)	150
Eight Homework Assignments (15 pts each)	150
Eleven Experiments/lab work (20 pts each)	200
Three Exams (100 pts each)	300
Final exam ( <b>May 3<sup>rd</sup>, 2:00 - 4:00 pm</b> )	200
TOTAL POSSIBLE	1000

<sup>a</sup> The **lowest** lab, online-quiz, homework assignment and 75-minute exam **will be dropped**. Final exam will not be dropped.

<sup>b</sup> Scores will be scaled (e.g. for the eight online-quizzes, if you total score is **95** points after the lowest is dropped, your end-of-semester score is  $(95/105) \times 150 = 135.7$ ).

**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 Date** March 30 (Friday): Last day to drop a course with a W

**Prerequisite** YOU MUST HAVE EARNED A C OR BETTER IN CHEM 1450 TO TAKE THIS COURSE.

More importantly, a thorough understanding of the Chem 1450 is critical to your success in this course.

## **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 W grade.** It is the student's responsibility to obtain information covered during an absence.

## **2. Last three minutes and discussion board**

At the end of each lecture, the last three minutes will be reserved for you to try one or two small questions based on the lecture materials. You can also write any questions you may have on the sheet. The sheets will be collected and the questions will be answered on our discussion board on Blackboard. This discussion board is also open to everybody to discuss lecture materials, labs, homework, exam et al. Feel free to join the discussion and you can be anonymous during the discussion.

## **3. Online quizzes**

All eight quizzes will be posted on Blackboard. The deadlines will be announced once the quiz is open. Typically you will have three to four days to finish the quiz. Please finish the quizzes independently. Only one attempt is allowed for each quiz and no attempts will be allowed after the deadline. You can check the answers, your work, your grade and my feedback online after the each deadline.<sup>c</sup>

<sup>c</sup> Please see the last page of syllabus for step-by-step instruction of how to check quiz grades, your working results and my comments on Blackboard.

## **4. Homework Assignment**

Homework problems representative of the material discussed in lecture and the text will be assigned once we start a chapter. **The homework assignments will be graded based on your work.** Please turn in the hard copy with your name before deadline. **The 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.

## **5. 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 can't make it, 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. 75-minute Exams and final exam**

- (1). The 75-minute exams will cover the material discussed in class, and problems in the homework. Material included in the textbook but 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). Smart phones or other electronic communication devices are **NOT** allowed during exams.
- (3). Calculators can **NOT** be shared among students during exams.

(4). After the final exam (**May 3<sup>rd</sup>, 2:00 - 4:00 pm**), homework and lab assignment will not be accepted. No extra work will be provided to boost grades after final exam.

### **8. Deadlines**

All the homework assignments, online quizzes and lab assignments should be turned in or finished before deadlines. If you missed the deadline because of family emergency, medical emergency and conference games, proper documents with authorized signatures (medical doctor, parents and team coach) should be presented. Otherwise the assignments won't be accepted.

### **9. Regrade**

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

### **10. Videos**

Videos will be posted on blackboard to review the lecture materials covered during the past week. The purpose of the videos is to provide more examples and practice to enhance the understanding. These videos can not be used to replace lectures.

### **11. 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.

### **12. 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.

### **13. 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.

### **14. 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>.

### **15. 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 II. 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, click "Blackboard" icon.

Step c. Click on College Chemistry II in “My courses” menu.

Step d. Click the folder you want to view.

**Study suggestions**

- (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 we start each new chapter.

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, particularly for **Chapters 14 through 16 that build cumulatively** on each other. If you keep up with the assigned problems, you'll be able to follow the lectures in more detail and get more out of them. 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 this strategy can considerably reduce the study/reading/problem-solving time that you need to devote to Chem 1451 outside of class.

**Free tutor program**

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

**Tentative Lecture and Exam Schedule**

Date		Lectures
Jan. 11	Th	Ch 11: Liquids, Solids and Intermolecular Forces
16	T	
18	Th	
23	T	
25	Th	Ch 12: Solutions
30	T	
Feb. 1	Th	<b>First Exam (75 minutes)</b>
6	T	Ch 13: Chemical Kinetics
8	Th	
13	T	
15	Th	
20	T	Ch 14: Chemical Equilibrium
22	Th	
27	T	<b>Second Exam (75 minutes)</b>
Mar. 1	Th	Ch 15: Acids and Bases
6	T	
8	Th	
13	T	
15	Th	Ch 16: Aqueous Ionic Equilibrium
20	T	<b>Spring break</b>
22	Th	<b>Spring break</b>
27	T	
29	Th	
Apr. 3	T	
5	Th	
10	T	<b>Third Exam (75 minutes)</b>
12	Th	Ch 17: Free Energy and Thermodynamics
17	T	

19	Th	
24	T	Ch 18: Electrochemistry
26	Th	
May 1	T	
3	Th	<b>Comprehensive final exam (2:00 – 4:00 pm)</b>

### Tentative Laboratory Schedule

Date	Lab Topic
Jan 17 (W)	Lab 1. Graphing assignment (dry lab, finish at home by watching a video)
24 (W)	Lab 2. Density and Mass Percent Measurements to Determine Sugar Content
31 (W)	Lab 3. Colorimetric Analysis of Aspirin Content in A Commercial Tablet
Feb 7 (W)	<b>No lab</b>
14 (W)	<b>No lab</b>
21 (W)	Lab 4. Chemical Kinetics-Determining Rate Laws for Chemical Reactions
28 (W)	Lab 5. Determining an Equilibrium Constant Using Spectrophotometry
Mar 7 (W)	Lab 6. Chemical Equilibria, LeChatelier's Principle
14 (W)	Lab 7. Weak Acid Titration
21 (W)	<b>Spring break</b>
28 (W)	Lab 8. Making Buffers
Apr. 4 (W)	<b>No lab</b>
11 (W)	Lab 9. Solubility of KHT and Common ion Effect
18 (W)	Lab 10. The Thermodynamics of Potassium Nitrate Dissolving in Water
25 (W)	Lab 11. Electrochemistry-batteries, thermodynamics, cell potentials
Apr. 30 – May 4	<b>Final week</b>

**Lab Manual** Lab manuals will be posted on the Blackboard. **Bring a copy with you each time.** Make sure you bring the correct copy according to our lab schedule.

**Lab Participation** You will work in a small group with maximum four members, and you should actively participate in the experiments. For the total 20 points of each lab, 5 points will be from participation of experimental work, which includes but are not limited to collection of data, waste disposal, glassware clean, data analysis and post-lab question discussion. Any inactive behavior, which includes but are not limited to using smartphone to browse social media, texting and doing other course work, will result in an oral reminder for the first time. If the student(s) received the second reminder, 5 points will be deducted from your total lab grade (total 20 points), which means the maximum points the student(s) will receive is 15 points.

**Pre-lab Assignments** **Individual** prelab assignments are due before each lab session begins. A portion of the points for each experiment is allotted to the prelab (5 pts, 25% of total points). Nearly every experiment has a formal pre-lab assignment, especially when lab work needs be performed.

**Lab Grade** For most labs, there are four components:  
 1). Pre-lab assignment (5 points).  
 2). Data sheets and observations (5 points).

3). Post-lab assignment (5 points).

4). Participation (5 points).

All four parts are required for receiving full credit. As stated on the front page of syllabus, your lowest lab score will be dropped (10 labs/activities will be counted).

**Make-up lab** If you missed a lab with a reasonable excuse (see page 2), you might be able do the make-up lab if an open spot can be found in other faculty members' lab sections. Otherwise the lab will be dropped as your lowest lab if it's the only one you missed.

**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 results points deducted from the lab total, or dismissal from the lab and a zero for the lab score.

### How to check your quiz grade, your quiz work and my comments on Blackboard:

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</b> Test	Jan 5, 2018 12:16 PM GRADED	<b>6.00000</b> /15
<b>Quiz 1-syllabus</b> DUE: JUL 11, 2017 Test	UPCOMING	- /15
<b>Quiz 2 (Chapter 11)</b> DUE: JUL 14, 2017 Test	Jul 15, 2017 3:12 PM GRADED	<b>4.00000</b> /15
<b>Quiz 3 (Chapter 12)</b> DUE: JUL 16, 2017 Test	Jul 17, 2017 3:19 PM GRADED	<b>-0.00000</b> /15
<b>Quiz 4 (Chapter 13)</b> DUE: JUL 21, 2017 Test	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	<b>6</b>

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

COLLEGE CHEMISTRY II  
(Meredith; Yang) - Summer 2017

- Announcements
- Syllabus
- Lecture notes
- Last three minutes
- Concept map
- Videos
- Lab manuals
- Homework
- Recommended practice-answer
- Quiz
- Exams
- My Grades
- Emails
- Help

User	Lei Yang_PreviewUser
Course	CL-CHEM-1451-COLLEGE CHEMISTRY II (Meredith; Yang) -Summer 2017
Test	Quiz-practice
Started	1/5/18 12:13 PM
Submitted	1/5/18 12:14 PM
Status	Completed
Attempt Score	6 out of 15 points
Time Elapsed	1 minute out of 10 minutes
Results Displayed	All Answers, Submitted Answers, Correct Answers, Feedback, Incorrectly Answered Questions

**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*

**Question 2** 1 out of 3 points