College Chemistry II
Chem 1451, Spring 2016

Lecture (Laney-Manion 104): MWF 10:00 am – 10:50 am
Lab: (Laney-Manion 206): W 2:00 pm – 4:50 pm (Section 27569)
R 8:00 am – 10:40 am (Section 28255)
R 10:50 am – 1:30 pm (Section 27566)

Instructor: Dr. Lei Yang
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Office hours: Monday, Thursday 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* (3nd Ed.) by Nivaldo J. Tro, Prentice Hall (c) 2014.

Grading

	Possible points[a,b]
Ten Quizzes (10 pts each)	100
Eight Homework Assignments (10 pts each)	100
Eleven Experiments/lab work (15 pts each)	200
Four Exams (100 pts each)	400
Final exam (**Apr. 25th, Monday, 8:00 am**)	200
TOTAL POSSIBLE	1000

[a] The **lowest** lab, quiz, homework assignment and one-hour exam **will be dropped**. Final exam will not be dropped.
[b] Scores will be scaled (e.g. for the 10 quizzes, if you total score is **80** after the lowest is dropped, your end-of-semester score is (**80**/90) × 100 = 88.89).

Grades:		
	A = 90 – 100	**900 – 1000 points**
	B = 80.0 – 89.99	**800 – 899.99**
	C = 70.0 – 79.99	**700 – 799.99**
	D = 60.0 – 69.99	**600 – 699.99**
	F < 59.99	**< 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
March 18 (Friday): Last day to drop a course with a W
April 15 (Friday): Last day to withdraw with a WP or WF

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 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 usually have 7~10 days to finish it. **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.

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 can't make it, make another arrangement with me.

4. 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.

5. Exams

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

Student IDs may be spot-checked at the exams.

Notes, cell 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 (**Apr. 25th, Monday, 8:00 am**), homework and lab assignment will not be accepted. In addition, no extra work will be provided to boost grades after final exam.

6. Deadline

All the homework assignments, prelab assignments and lab reports should be turned in before deadline. 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.

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 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) and log into My UCA.
Step b. Once in My UCA, link to My Courses.
Step c. Click on College Chemistry II.
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 we start each new chapter.

13. YouTube channel

Username: chem1451@gmail.com
Password: ChemIIUCA

This YouTube channel is created exclusively for this class. Educational videos regarding lab and review topics will be uploaded to this channel for you to use. Please do NOT use the gmail account associated with this channel for personal use.

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

Tentative Lecture and Exam Schedule

Date		Chapter: Topic
Jan. 8	F	Ch 11: Liquids, Solids and Intermolecular Forces
11	M	
13	W	
15	F	***quiz***
18	M	**Martin Luther King Jr. Holiday**
20	W	
22	F	Ch 12: Solutions
25	M	***quiz***
27	W	
29	F	**First Exam (50 minutes)**
Feb. 1	M	Ch 13: Chemical Kinetics
3	W	
5	F	***quiz***
8	M	
10	W	
12	F	Ch 14: Chemical Equilibrium
15	M	***quiz***
17	W	
19	F	**Second Exam (50 minutes)**
22	M	Ch 15: Acids and Bases
24	W	
26	F	***quiz***
29	M	
Mar. 2	W	
4	F	***quiz***
7	M	
9	W	
11	F	**Third Exam (50 minutes)**
14	M	Ch 16: Aqueous Ionic Equilibrium
16	W	
18	F	***quiz***
21	M	**Spring Break**
23	W	**Spring Break**
25	F	**Spring Break**
28	M	
30	W	***quiz***
Apr. 1	F	
4	M	**Fourth Exam (50 minutes)**
6	W	Ch 17: Free Energy and Thermodynamics
8	F	***quiz***
11	M	
13	W	Ch 18: Electrochemistry
15	F	***quiz***
18	M	
20	W	
22	F	Study day, no class
25	M	**8:00 am – 10:00 am Comprehensive Final Exam**

Tentative Laboratory Schedule

Date	Lab Topic
Jan 7 (R)	**No Lab**
13 (W) and 14 (R)	Lab 1. Graphing assignment (dry lab)
20 (W) and 21 (R)	Lab 2. Density and Mass Percent Measurements to Determine Sugar Content
27 (W) and 28 (R)	Lab 3. Colorimetric Analysis of Aspirin Content in A Commercial Tablet
Feb 3 (W) and 4 (R)	**No lab**
10 (W) and 11 (R)	**No lab**
17 (W) and 18 (R)	Lab 4. Chemical Kinetics-Determining Rate Laws for Chemical Reactions
24 (W) and 25 (R)	Lab 5. Determining an Equilibrium Constant Using Spectrophotometry
March 2 (W) and 3 (R)	Lab 6. Chemical Equilibria, LeChatelier's Principle
9 (W) and 10 (R)	Lab 7. Weak Acid Titration
16 (W) and 17 (R)	**No lab**
23 (W) and 24 (R)	**No lab**
30 (W) and 31 (R)	Lab 8. Making Buffers
April 6 (W) and 7 (R)	Lab 9. Solubility of KHT and Common ion Effect
13 (W) and 14 (R)	Lab 10. The Thermodynamics of Potassium Nitrate Dissolving in Water
20 (W) and 21 (R)	Lab 11. Electrochemistry-batteries, thermodynamics, cell potentials
25-29	**Final week**

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 in a small group with maximum four members, but you should still actively participate in the experiments. Passive observation in lab while a partner does the work is unacceptable.

Pre-lab Assignments Prelab assignments are due before each lab session begins. A portion of the points for each experiment is allotted to the prelab (5 pts, 30%). Nearly every experiment has a formal pre-lab assignment, especially when lab work needs be performed. These are the pages that are due at the beginning of the lab period.

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.

Lab Grade You will conduct a total of 11 lab experiments/activities. Most labs contain three components:
1). Pre-lab assignment.
2). Data sheets and observations.
3). Post-lab questions.
All three 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 count). A missed experiment will be dropped as you lowest score.