CHEM 1451, College Chemistry 2, CRN 10418 & 19425

Fall 2015, University of Central Arkansas

General Information

Professor: Dr. Robert Mauldin

Contact Information: Laney-Manion Hall 303A, rmauldin@uca.edu

Office Hours: MWF 9-11 AM or by appointment

Lecture: MWF 8:00-8:50 AM, Laney-Manion Hall 104

Laboratory: CRN 10418, T 8:00-10:40 AM, Laney-Manion Hall 206

CRN 19425, T 10:50 AM – 1:30 PM, Laney-Manion Hall 206

Required Course Materials

Textbook: "Chemistry: A Molecular Approach" by Nivaldo Tro, Third Edition.

Labs: Electronic copies of the labs will be posted on the myUCA course site for this course. These labs are provided free of charge to you by the UCA Department of Chemistry.

Calculator: A scientific calculator.

Safety Glasses: A pair of safety glasses with side-shields, ANSI Z87 certified.

Course Description and Objectives

Course Description: Continuation of College Chemistry I. Lecture, small-group work, and laboratory instruction are used. Three hours of lecture and three hours of laboratory per week. Prerequisite: grade of C or better in CHEM 1450. Skills learned in CHEM 1450 will be applied to liquids, solids, intermolecular forces, solutions, kinetics, equilibrium, acid/base chemistry, ionic equilibrium, thermodynamics, electrochemistry, and nuclear chemistry.

Grading Policies

1. Grading Composition

12 labs @ 20 points each = 240 points; 4 exams @ 100 points each = 400 points;

1 comprehensive final exam = 200 points (840 points total)

2. Grading scale: 90-100%=A; 80-89%=B; 70-79%=C; 60-69%=D; <60%=F

3. Extra Credit, Dropped Grades: No extra credit will be offered and no grades will be dropped.

4. Attendance and Missed Work Policy: If you miss an exam or lab, the prorated grade on your final exam will be used in place of the missed exam or lab grade.

5. Academic Misconduct Policy: In the first instance of academic dishonesty (including smart phone use during an exam), a zero will be assigned for the assignment. In the second instance, a failing grade will be assigned for the class.

6. Laboratory Safety Policy: You are responsible for abiding by general safety and waste disposal procedures covered at the beginning of the semester and specific procedures addressed at the start of each lab period.

7. Assigned End-of-Chapter Problems: Although these assigned problems are not formally a part of the grade for the course, it is your responsibility to work and study them in preparation for exams. All assigned problems are odd-numbered, with answers in the back of the book.

Chapter 11: 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 85, 87, 91, 93, 99, 101, 103

Chapter 12: 29, 31, 33, 35, 39, 41, 43, 45, 47, 49, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 77, 81, 83, 85, 87, 89

Chapter 13: 25, 27, 29, 31, 35, 37, 39, 41, 43, 45, 47, 51, 53, 55, 57, 59, 61, 63, 73, 75, 77

Chapter 14: 21, 23, 25, 27, 29, 31, 33, 35, 37, 41, 43, 47, 49, 51, 53, 55, 63, 65, 67, 69

Chapter 15: 33, 35, 37, 39, 41, 43, 45, 47, 49, 53, 55, 57a-c, 59, 63, 65, 69, 71, 75, 81, 83, 87, 89, 93, 95, 97, 99, 109, 119, 125

Chapter 16: 27, 29, 31, 33, 35, 37, 41, 43, 47, 53, 57, 59, 61, 63, 85, 87, 89, 91, 95a,c, 97, 99

Chapter 17: 27, 31, 39, 43, 45, 47a-d,f, 49, 51, 53, 57a-b, 59a-b, 61, 63, 65, 67, 69, 71, 75, 77

Chapter 18: 37, 39, 41, 43b-c, 45, 47, 49b-c, 51, 53, 63, 65, 73, 89, 99, 101

Chapter 19: 31, 33, 35, 37, 41, 43, 45, 47, 49, 53, 65, 67a (note answer for 67a is based on wrong mass of a proton)

UCA/State/Federal Policies

1. Academic Misconduct Policy: 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. See the current Student Handbook for the procedure to appeal accusations of academic misconduct.

2. Americans with Disabilities Act Policy: 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. If you are pregnant, allergic to any chemicals, color-blind, or have any other condition that might impact work in a chemistry lab, tell me immediately so that we can make accommodations.

3. Title IX Disclosure Policy: 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 the 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. **Disclosure of sexual misconduct by a third party who is not a student and/or employee is also required if the misconduct occurs when the third party is a participant in a university-sponsored program, event, or activity.*

4. Student Evaluations of Teaching Effectiveness Policy: Student evaluations of a course and its professor are crucial elements in helping faculty achieve excellence in the classroom and the institution in demonstrating that students are gaining knowledge. Students may evaluate courses they are taking starting on the Monday of the twelfth week of instruction through the end of finals week by logging in to myUCA and clicking on the Evals button on the top right.

5. Emergency Matters Policy: 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.

Course Schedule*

Monday Lecture	Tuesday Lab	Wednesday Lecture	Friday Lecture
			8/21 Introduction to Class
8/24 Chapter 11 Liquids, Solids, and Intermolecular Forces	8/25 No Lab	8/26 Chapter 11	8/28 Chapter 11

8/31 Chapter 11	9/1 Safety Agreement	9/2 Chapter 12 Solutions	9/4 Chapter 12
9/7 Chapter 12	9/8 Sugar Content by Density	9/9 Chapter 12	9/11 Chapter 12
9/14 Exam 1, Chapters 11-12	9/15 Colorimetric Aspirin Determination	9/16 Chapter 13 Chemical Kinetics	9/18 Chapter 13
9/21 Chapter 13	9/22 Kinetics	9/23 Chapter 13	9/25 Chapter 13, Chapter 14, Chemical Equilibrium
9/28 Chapter 14 Chemical Equilibrium	9/29 LeChatelier's Principle	9/30 Chapter 14	10/2 Chapter 14
10/5 Chapter 14	10/6 Determination of Equilibrium Constant	10/7 Exam 2, Chapters 13-14	10/9 Chapter 15, Acids and Bases
10/12 Chapter 15	10/13 Weak Acid Titration, Part 1	10/14 Chapter 15	10/16 Chapter 15, Chapter 16, Aqueous Ionic Equilibria
10/19 Chapter 16	10/20 Making Buffers	10/21 No Class: Fall Break	10/23 No Class: Fall Break
10/26 Chapter 16	10/27 Determination of Ksp, Part 1	10/28 Chapter 16	10/30 Chapter 16
11/2 Exam 3, Chapters 15-16	11/3 No Lab	11/4 Chapter 17 Free Energy and Thermodynamics	11/6 Chapter 17
11/9 Chapter 17	11/10 Thermodynamics	11/11 Chapter 17	Chapter 18, Electrochemistry
11/16 Chapter 18	11/17 Electrochemistry	11/18 Chapter 18	11/20 Chapter 18
11/23 Exam 4, Chapters 17-18	11/24 Determination of $K_{sp,}$ Common Ion Effect (Part 2)	11/25 No Class: Thanksgiving Break	11/27 No Class: Thanksgiving Break
11/30 Chapter 19, Radioactivity and Nuclear Chemistry	12/1 Weak Acid Titration, Part 2	12/2 Chapter 19	12/4 Chapter 19
		12/9 Final Exam, 8-10 AM	

***Note: Important dates are 10/30, drop deadline (W) and 11/30, drop deadline (WP/WF).**