College Chemistry I, Chem 1450 Spring 2019

Lecture (LM 102): MWF 10:00 – 10:50 am Lab (Th, LM 206): 10:50a-1:30p *27559*, 2:40-5:20p *28254*

Instructor

Dr. Patrick Desrochers
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Web Page: (can be accessed through UCA, chemistry, faculty)
http://faculty.uca.edu/patrickd/chem1450/main1450.html
username = chem1450 password =

Desrochers Office hours

Tu 11 am – 12 pm, Tu 2:40 – 3:40 pm; W 2 – 3 pm Other times available by appointment (call or email).
You paid for this time, use it.
It works best if you come with specific questions about lecture, lab, or homework.

Weekly study sessions

Monday 3 – 4 pm & Thursday 240 – 340 pm Room 105

Text

Chemistry: A Molecular Approach (4th ed.) Nivaldo J. Tro (c) Pearson 2017.

Grading

	category points	your percent in the category		your points in the category
quizzes (weekly)	20		**Use your percentage to determine your points in each category.**	
experiments/lab work	20			
exams	40			
final exam (Apr 29, 8 pm)	20			
TOTAL POSSIBLE	100		YOUR TOTAL =	

The lowest experiment, quiz, and hour exam will be dropped. Final exams may not be dropped.
NEW! Final exam score, can be used to replace one of the three hour exams that count.
Grades: A 89 - 100 points B 79-88 C 69-78 D 57-68 F < 57
Consult my Chem 1450 webpage for examples of grade calculations and for a grade calculation tool.

UCA adheres to the requirements of the Americans with Disabilities Act. A student with a documented disability (e.g., physical, learning psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must at the beginning of the semester contact the instructor and UCA Office of Disability Services (Student Health Rm 212, 450-3135).

Course Description

This is a required course for chemistry, biology, chemical physics majors, and medical pre-profession tracks. Principles of general chemistry are treated with emphasis on theoretical and quantitative applications. Lecture discussions, small-group, and laboratory work are used. It is recommended that students have taken and passed high school chemistry or CHEM 1301 with a B or better. Prerequisite of Math ACT of at least 21 or corequisite/prerequisite of MATH 1390.

Course Objectives

Develop a working knowledge of such topics as chemical nomenclature, proportionate relationships in chemical formulas and reactions, general reaction classifications, energy and its interaction with different forms of matter, atomic and molecular structure in relation to periodic chemical and physical properties, and quantitative chemical problem solving skills. Two goals are the ability to apply this knowledge to the natural world and adequate preparation for further detailed studies in chemistry.

Exams and Quizzes

Exams (50 min) dates are posted on the syllabus. Plan your schedule accordingly; these dates rarely change.
Quizzes (first 10 min of class) are always announced at least one class period prior to the day they are given. These timed exams and quizzes typically consist of short answer questions and questions requiring numerical work. The final exam is a multiple-choice American Chemical Society nationally standardized College Chemistry I exam. Consult my 1450 website or other www resources for information about this exam.

Policies

1. Attendance
People who miss classes typically do poorly in this course. Do not be one of these people. Three unexcused absences will result in a WF grade. There is little reason to be in a course if you don't show up to class.
It is the student's responsibility to obtain information covered during an absence.

2. Homework
Homework problems to practice and develop your mastery of course material are listed on the Lecture Schedule. Your success on exams and quizzes is related to the effort you spend working and *understanding* these problems.

3. Makeups
No makeup labs, quizzes, or exams will be offered. A missed lab, quiz, or exam will be dropped as your lowest score.

Additional university policies and announcements are summarized on the last page of this syllabus.
Students should read these announcements and be familiar with the policies they describe.

Laboratory Considerations

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 will still actively participate in the experiments. Passive observation in lab while a partner does the work is unacceptable. You will work in groups of 2.

Pre-lab Assignments

Prelab assignments are due before a lab session begins. A portion of the points for each experiment is allotted to the prelab (5 of 30 points). Late prelabs will be penalized with a loss of points. Nearly every experiment has a formal pre-lab assignment written into the published pages. These are the pages that are due at the beginning of the lab period. Advice for working some of the prelabs is posted on my Chem 1450 website.

Safety Goggles

You must use appropriate safety goggles when working in lab. Bringing goggles each week for lab is your responsibility. Without goggles, you will not work in lab and will have to accept that day as your dropped lab score. 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. Examples of eyewear are posted on my 1450 webpage. You must wear long pants (no shorts, no capri's) and closed shoes (no sandals, flip-flops).

Lab Grade

You will conduct a total of 10 lab experiments/activities. As stated on the front page of syllabus, your lowest lab/activity score will be dropped (9 labs/activities will count). A missed experiment will be dropped as your lowest score.

Lecture, Exam, and Lab Schedule

Date	Chapter ATOMS FIRST see Daily Boardlist	Assigned chapter questions to work and *understand**	**Thursday Labs:** download from Chem 1450 lab website
Jan 10			Syllabus safety expectations
Jan 11	Ch1: Matter, Measurements	6,8-17,20,21,23-25,27-31,35,37-44,47-49,51,54,55,	
14 16 18	Ch2: Atoms, Molecules, Ions	58-59,61-76,78,79,81-88,93-105,107,108,113-118, 120,121,123,124,126,128-130,134,143-147	**Jan 17: Measurements** (See Sec 1.6-1.7)
21 23 25		2,6-8,10,12,15,17-19,22,24,26-31,34,39-43,45,47,48, 51-57,61,62,65-69,71-73,77,81-88,91,95,100,103-7, 110,112,113,116,119,120,172,123,126,128,132,136	**Jan 24: Density** (See also pp. 17-19)
28 30 Feb 1	Ch7: Atomic Structure **FIRST EXAM (Ch 1,2)**	1-3,6,8,10,13,14,25,27-29,32,37-46,57-68,71,73-76,	**Jan 31: Separations** (See Sec. 1.3-1.4)
4 6 8	Ch8: Periodicity	79-80,87,89,98,100,103,106,108	**Feb 7: Spectroscopy** (See Sec. 7.2-3, p 322)
11 13 15	Ch3: Formulas, Compounds	2,8,9,11,14,18,22,31-33,35,36,41-54,57,59,61-78, 82-84,91-94,98-100,103,104,115,122,133,134	**Feb 14: Work day**
18 20 22		2-5,8,14,17,23-45,47-50,55-60,63-67,69-73,75-78, 81-84,87-94,97-108,111,112,121,122,125,127,128, 130,131,133,134,145,148	**Feb 21: Hydrates** (See p101, Prob 3.133-34)
25 27 Mar 1	**SECOND EXAM (Ch 3,7,8)** Ch9: Chemical bonding		**Feb 28: Molecular Structure, Day 1** Lewis dot, VSEPR (See Sec. 9.5,9.7-9,10.1-5)
4 6 8	Ch10: Molecular structure/polarity Ch4: Reactions, Stoichiometry	2,3,9,12-15,17,37-43,49-68,73-81,84-87,89,91,95-97, 100,102,103,105,107,108,119,122,126,128 3-5,7,8,13,15,31-45,47-52,57-68,83-87	**Mar 7: Molecular Structure, Day 2** Hybridization, polarity (See Sec. 9.6,10.1-10.5)
11 13 15		2,3,6,7,11,12,15,17,24-29,31,33,35-42,45-54,57-62, 65-68,71-82,85,86,89-92,99-102,105,108,110,113, 114,116-118,120,121,138,139	**Mar 14: Reactions** (See Sec. 1.4,3.11,4.5-4.9)
18-22	**SPRING BREAK**		
25 27 29	**THIRD EXAM (Ch 4,9,10)**	Mar 29 is the final date to drop with a W.	**Mar 28: Titrations** (pp. 171-173)
Apr 1 3 5	Ch6: Thermochemistry	4,6,10,12,15,16,20,21,23,25,33,34,37-41,45-50,55, 57-60,62-69,71-73,75,77-88,90,91,93,96,99-101,106 109,110,112,117,123,132-134,138	**Apr 4: Thermodynamics** (Sec. 6.6-6.9)
8 10 12	**FOURTH EXAM (Ch 4,6)**		**Apr 11: H_2O_2 decomposition** (p 219-21)
15 17 19	Ch5: Gases	1,2,5,10,13,17,19,23,25,26,29-35,39-52,55,57-59,61, 62,65-71,74-77,81-83,88-90,96,97,101,107,108,110, 114,115,130,133,143	**Apr 18: Final Study Day, practice ACS style**
22 24 26	Study Day—No class		**Apr 25: Q & A for final**
Apr 29	**8:00 – 10:00 am**	**ACS Standardized Comprehensive Final Exam (see advice on my website)** Final Exam score can replace one of the three hour exams that count. This is a chance at semester's end to greatly improve your situation in the class.	

* Answers to all homework problems available for 2-hour check from library reserve desk. Return them promptly. Other classmates will need to also use these reference tools.

University Academic Policies

Academic Integrity

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.

Disabilities 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 Disability Resource Center, 450-3613.

Building Emergency Plan

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.

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 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*

Student Handbook Policies

You are encouraged to familiarize yourself with student policies described in the student handbook. In particular, carefully read and understand those policies pertaining to academic issues and sexual harrassment.

Course Evaluations

Evaluations are kept completely confidential. Your thoughtful feedback is highly valued and cannot negatively or positively affect your course grade. Over the years this information has changed and improved the instruction of this course.

Student evaluations of a course and its professor are a crucial element 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 thirteenth week of instruction through the end of finals week by logging in to myUCA and clicking on the Course Evaluations Task.

2017-18 Student handbook

Laney Manion Hall
Building emergency plan