

College Chemistry II, Chem 1451 Spring 2017 CRN 20224 CRN 28255 CRN 26742
Lecture (LM 104): TTh 800 – 915a Lab (LM 206): Th 1050a-130p, Th 240-530p, F 800-1050a

Lecture Instructor Dr. Patrick Desrochers
Instructor LaneyManion 205 (501) 450-5936
patrickd@uca.edu
Desrochers Office hours **Drop in times: Mon 9-10a, 12-1p | Tue 4-5p | Wed 9-11a**
Use this time. It works best if you come prepared to my office with specific questions about lecture, lab, or homework. Other times available by appointment.
Lab Instructor Dr. Marsha Massey
 LaneyManion 203D (501) 450-5961
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Webpage: (can be accessed through UCA, chemistry, faculty)
<http://faculty.uca.edu/patrickd/chem1451/main1451.html>
 username = chem1451 password =

Text *Chemistry: A Molecular Approach*, Nivaldo J. Tro, 3rd Edition (c) Pearson 2014.

Grading	possible points	your percent in the category	your points in the category
quizzes (weekly)	20	Use your pct to determine your points in each category.	
experiments/lab work	20		
exams	40		
final exam (May 4, 8 am)	20		
TOTAL POSSIBLE	100	YOUR PCT =	

The lowest experiment, quiz, and hour exam will be dropped. Final exams may not be dropped.

Grades: A 89 - 100 points B 79-88 C 69-78 D 57-68 F < 57

Consult my Chem 1451 webpage for grade calculation tools.

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 at 450-3135.

Course Description A required course for chemistry, biology, chemical physics majors, and medical pre-professional tracks. More advanced principles of general chemistry are treated with emphasis on theoretical and quantitative applications. Lecture discussions, small-group, and laboratory work are used.

Course Objectives Integrate the basic concepts of Chem 1450 into broad applications of chemical equilibria, thermodynamics, and kinetics. Model and predict properties and interrelationships of matter in its three major forms. Develop some detailed aspects of acids and bases, solutions, electrochemistry, and nuclear chemistry. Emphasis will be placed on application of this knowledge to the natural world and adequate preparation for further detailed studies in chemistry.

Review From Chem 1450 YOU MUST HAVE EARNED A C OR BETTER IN CHEM 1450 TO TAKE THIS COURSE. More importantly, a thorough understanding and mastery of specific Chem 1450 concepts is critical to your success in this course. Consult my Chem 1451 webpage (linked above) for core Chem 1450 topics.

- Policies**
- 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. It is the student's responsibility to obtain information covered during an absence.
 - Homework
Specific homework problems representative of the material discussed in lecture and the text are listed on the Lecture Schedule. The assigned problems represent a minimum workload for mastery of course material. To succeed in this class if you must regularly work and *understand* all of these problems.
 - 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 cannot make the scheduled times, make another arrangement with me.
 - Makeups
Makeup labs, quizzes, or exams will not be offered.
A missed lab activity, quiz, or exam will be dropped as your lowest score in that category.

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.

- Lab Downloads** Lab activities, procedures, data pages, etc. must be downloaded as Adobe (.pdf) files and printed from my Chem 1451 webpage. http://faculty.uca.edu/patrickd/chem1451/lab_downloads.htm
- 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.
- 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 included, especially when lab work will be performed. These are the pages that are due at the beginning of the lab period. Advice is posted for working some of the prelabs on my Chem 1451 website.
- Safety Goggles** You must use appropriate safety goggles when working in 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. Examples of eyewear are posted on my 1451 webpage.
- Lab Grade** You will conduct a total of 11 graded lab experiments/activities. As stated on the front page of syllabus, your lowest lab score will be dropped (your best 10 labs/activities will count). A missed activity/experiment will be dropped as your lowest score.

Lecture, Exam, Lab Schedule

Date	Chapter See also Daily Outline	Assigned chapter questions. Work and understand these to prepare for exams and quizzes*	Labs (Thursdays, Fridays) ☉downloads from Chem 1451 website
Jan 12	11: Liquids & Solids	2-15,18-25,27-35,49-58,61-63,65,67-73,79-81	☉graphing, Ch 11 lecture, Chem1450 rvw
17	phase changes	85-89,91-94,105-110,119,120,124,137,152,157	
19	12: Solutions	11.59,60 12.2-11,13,14,16-19,22,24,29-33,35,36	☉Sugar in Beverages, Chem 1450 Quiz
24		41-43,48,51-61,63-67,69-72,77-82,89,90,	
26		109,114, 136	Work day, Ch 11 and 12 problems
31 Feb 2	1st EXAM (Ch 11, 12) 17: Thermodynamics	Ch 17 (for exam 2):1,6-8,11,12,14,17-19,21,27-29,31-33,37,41-45,47,48-52,55-57,59,61-64, 79,80,107-110	Lecture: ΔS , ΔG are unique from ΔH
7 9	13: Chemical Kinetics	3,4,6-9,16-20,25,29,31,33,35,36-48,51-55,57, 73-76,81-82,93,94,103-105,118,119	☉Kinetics: Rate = $k[\text{dye}]^x[\text{ClO}^-]^y$
14 16	14: Chemical Equilibrium	2-6,9,10,13,14,24,25,27-32,35-49,51,53-60,	☉Equilibrium, LeChatelier's Principle
21 23		63-67,70-72,80,81,86,89,102 Ch 17: 65,66,69-71,81,82	☉Thermodynamics of KNO_3 solutions
28 Mar 2	2nd EXAM (Ch 13,14,17) 15: (Aq)Equilibria:	3-18,23,33-54,57-60,63-73,75,79,81-102,105,	☉Spectrophotometric determination of K_{eq}
7 9		111,113,123-130,134,137,157	☉Weak acid titration
14 16	16: Aqueous Equil: K_{sp} Buffers	K_{sp} : 19,21,85-90,93-97,99-102,141	Workday, Ch 15 and 16 problems
21-23	Spring Break		
28 30		Acid/base: 2-6,10,11,13-18,27,28,37-39,41-51, 53,55,57,58,61-71,73,75-77,79,113,114,119,121	☉ K_{sp} of KHT(s)
Apr 4 6	A/B titrations	149-151	☉Making Buffers
11 13	3rd EXAM (Ch 15, 16) 18: Electrochemistry	1,2,5,6-9,17,18,28,37,38,41-43,45,47-49,51,	☉Oxidation numbers, redox balancing
18 20		53-58,61-68,84-87,89,91,92,94,95,99,100,137 138	☉Electrochemical Cells
25 27	19: Nuclear Chemistry	2,5-8,31-38,40-42,45-48,57-60,106	Final exam review session
May 4	8:00 – 10:00 am Comprehensive Final Exam		

W deadline
Mar 27

WP deadline
Apr 14

* A copy of the instructor's solutions manual is available for two-hour checkout at the regular circulation desk of the library. While you officially will have 2-hours from the library, recognized that your other classmates also need this reference so treat it with respect, use it, and return it promptly.

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.

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 Evals button in the top right.



2016-17 Student handbook



Laney Manion Hall
Building emergency plan