

General Chemistry for Health Sciences

CHEM 1402 Syllabus

Fall 2020

Instructor

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Office Hours

9:30am – 10:30am T,R via zoom
12:30 – 1:30pm Friday via zoom
Office hour zoom link (no passcode required):
T/R: <https://uca-edu.zoom.us/j/84908857787>
F: <https://uca-edu.zoom.us/j/86278943717>
**Individual appointments may be scheduled by sending me an email with a couple options of days & times you are available to meet.

Class Meeting Time (Zoom Lectures only!)

CRN 30815 T,R 8:00am - 9:15am
CRN 32933 T,R 8:00am – 9:15am
CRN 32930 T,R 8:00am – 9:15am
CRN 32935 T,R 10:50am -12:05pm
CRN 32934 T,R 10:50am -12:05pm
CRN 31202 T,R 10:50am -12:05pm

Lab meet times:

CRN 30815 M 8:00 – 9:50am Manion 202
CRN 32930 M 10:00 – 11:50am Manion 202
CRN 32934 R 2:40 – 4:30pm Manion 202
CRN 32935 F 10:00 – 11:50am Manion 202
CRN 32933 F 2:00 – 3:50pm Manion 202

Lab with Dr. Dunlap

CRN 31202 F 12:00 – 1:50pm Man 202

Lecture Zoom Links and passcodes

8:00am Lecture: <https://uca-edu.zoom.us/j/82472201032?pwd=VFg1T1o0OFVmekRjSmJFRzRWcUdKUT09>
Passcode: **928573**

10:50am Lecture: <https://uca-edu.zoom.us/j/87841807819?pwd=YzdoZzBrYXVFaHhjYlJ4cGFLZU9zUT09>
Passcode: **422924**

Course Materials!!!! (you DO need a form of the textbook, but it does not have to be a hardcopy)

1. **(Non Mandatory) Hard copy Textbook** (*Electronic version is acceptable*): Fundamentals of General, Organic, and Biological Chemistry, 8th Edition (2016), J. McMurry, M. Castellion, and D. Ballantine. ISBN: 9780134015187
2. **(Mandatory) Modified Mastering Chemistry** (*comes with access to e-text*): Pearson, ISBN: 9780136781332
3. **(Mandatory)** Approved (ANSI Z. 87) laboratory eye protection.
4. I highly recommend access to a printer for printing lab and or lecture materials.
5. **You will need a calculator for this class.** It does not have to be a graphing calculator, but it should have logarithm and scientific notation functions. **Calculators in cell phones may not be used on quizzes or exams.** Have your calculator ready for lectures. There will be times we will be working problems during lectures.

Course Objective

CHEM 1402 covers topics in general chemistry as they relate to the health science professions. The objective of this course is to provide students with a general knowledge of chemistry, and how it applies to the health science field. Students should leave this course with an understanding of basic chemical principles, and how these principles apply to their daily lives.

Course Prerequisites

CHEM 1402 has a pre-requisite of ACT mathematics score of at least 21 or corequisite/prerequisite of MATH 1390. It is recommended that students have taken and passed high school chemistry or have completed CHEM 1301 with a C or better. It is assumed that students enrolled in this course have some previous exposure to chemistry and have developed simple algebraic skills. Manipulations of simple chemical equations will be required.

Weekly Assignments and Content ****ALL content will be turned in electronically**

1. **Lecture:** All lectures will occur *live* using zoom at the scheduled time (see first page of syllabus). Lecture slides are available on blackboard via the online classroom tab. Attendance *is mandatory as I will make important announcements at the beginning of each zoom lecture*. Students who do not attend lecture will not be successful in this course. You are responsible for the material covered in lecture. All lectures will be recorded and the recordings will be posted in blackboard for those who must miss a lecture for valid reasons.

You may access our lectures via laptop or cellphone by downloading zoom and join the lecture 5-10 minutes *prior* to the start of lecture time. Your zoom link and passcode will always be available in our blackboard course and on page 1 of this syllabus.

2. **Quizzes:** You will have ten quizzes this semester (each with 5 multiple choice questions) that will be completed through Blackboard. You will be given 20 minutes to complete these quizzes. The purpose of these are to let you know how well you are comprehending the material **before** an exam.
3. **Textbook Reading:** It is *essential* to do the textbook reading. The lecture schedule (pg 5) outlines in the far-right column which sections of the textbook you need to read *prior* to that day's lecture. **It is quick reading**. The book provides example problems in the reading that will greatly aid you in preparation for exams! Most figures I show in lectures are from the text.
4. **Homework Assignments:** You will have online HW assignments to complete through Mastering Chemistry. In our blackboard course see the pdf with instructions for how to setup access to your mastering chem account. The lecture schedule (pg 5) shows you the due date for each assignment. *First week of class sign up in Mastering for temporary 14 day access after which you will pay and acquire permanent access OR get access code from the UCA bookstore for our course.
5. **Lab:** All lab assignments are posted on blackboard in the online classroom tab. There are dry and wet labs in this course and wet labs will be conducted either in rotations where half of the lab group (group A) will come to campus to complete the lab while the other half (group B) completes a dry lab on their own then the groups will switch the next week, OR group A will come in the first hour of the lab time and group B will come for the 2nd hour of lab time in the same week. *See blackboard to determine your lab group & the lab schedule (pg 6) for what assignment you will complete each week*. Lab work will be turned in on blackboard either by typing in your data/answers and/or uploading images of your work. **Your single lowest lab score will be dropped.**
Dry Labs: You will read over the lab pdf/procedure (sometimes there may be videos to watch). Then you will join a zoom meeting at your scheduled lab time in which I will use the zoom break out rooms tool for everyone to complete the lab in small groups. You will enter your answers into a separate blackboard assignment.
Wet Labs: Wet labs are experiments using chemicals. For some wet labs there are three parts that you will complete: a pre-lab, a data sheet, and a post-lab. For wet labs you will come collect your data on campus and then enter your answers into a separate blackboard assignment. There are no make-up wet labs.
6. **Supplemental videos:** Throughout the semester I will upload 5-10 minute videos into blackboard in which I show step by step how to work practice problems similar to those on homework assignments, in lectures, **and dry lab assignments**. I *highly* suggest watching these quick videos when you get stuck on concepts/problems as an AID to your own personal study time.
7. **Study Sessions: THESE ARE OPTIONAL.** I will host online review sessions via zoom prior to exams (in addition to my weekly office hours) to answer questions from students, work problems, and go over any concepts that are particularly challenging to students. These will be recorded and posted to blackboard.

Grading

4 Exams at 100 points each	= 400 points
1 Final exam (comprehensive)	= 200 points
10 quizzes at 5 points each	= 50 points
12 labs at 15 points each (includes 1 dropped lab)	= 180 points
Chemistry primer (mastering chemistry assignment)	= 5 points
Intro to mastering chemistry	= 5 points
<u>10 Homework assignments at 10 points each</u>	<u>= 100 points</u>
Total points	= 940 points

Grading Scale

A: 90%
B: 80%
C: 70%
D: 60%
F: 50% and below

Course Policies and tips

- **Missed Exams and Quizzes:** *All exams will occur online in blackboard. I will not* require the use of Respondus lockdown browser/monitor software, which essentially means exams will be open note/open book. HOWEVER, I will ask you to sign UCA's academic integrity policy for each quiz and exam which states you will not use any additional resources (including classmates) or share your work. **Please know any confirmed case of cheating or academic integrity violation will go on your permanent record – and unfortunately, I have spotted several cases via online exams in the past.**
- ****Your total percentage on your homework assignments can replace one 100-point exam score (does NOT include your final exam score). Additionally, if it is a benefit to your grade, your final exam percentage will replace your lowest score from exams 1-4. Therefore, a missed exam and additionally a missed quiz will not be made up.** I strongly suggest that you make every effort to complete exams and quizzes on time.
- **Attendance Policy:** Attendance **WITH VIDEO** for our zoom lectures is mandatory. Attendance is recorded for each lecture via zoom. I will be able to see the duration of minutes you were logged onto our lecture, so please do not log on late or leave early. Poor class attendance and vice versa excellent class attendance will be taken into account in determination of final grade at the critical areas. You are advised to attend all lectures since material presented in class will supplement the text **and be included in quizzes and exams**. Students who miss class are responsible for obtaining and knowing the material presented in class and for knowing what I announced to the class at the beginning of lecture.
- **Laboratory Safety:** Safety in the laboratory is of utmost importance and inappropriate behavior will not be tolerated and will result in you being excused from the lab with a 0 recorded for that laboratory. Many of the chemicals can be toxic, corrosive, flammable, and have generally ill affects to you. If you are unsure of a technique or a chemical, **ASK BEFORE USING IT!!** Goggles or glasses with side shields will be required in the laboratory. Those students who do not have proper eye protection will not be allowed to complete that laboratory and receive a grade of 0 for that lab.
- **Ask questions:** If you do not understand the concepts I have presented in lecture, ask questions to me and others via email, zoom meetings, or discussion boards in blackboard. Chemistry is a science in which one concept is built on another. If you do not understand a chemical concept, then it is not going to get easier as the semester progresses. Please do not be embarrassed, there is no such thing as a stupid question. Please feel free to stop me in lecture with a question by typing it in the chat, which I will check often during lecture, or if you would prefer email me and set up an individual zoom meeting.

- **Note taking and review:** As most all of us are brand new to learning chemistry online, it will be critical for you to **take notes** during lecture (*even if you have the lecture slides in front of you*). Additionally, I recommend you devote between two and three hours per lecture to reviewing those notes and working/reworking practice problems. You are encouraged (if possible) to identify two or three other classmates to study with, ask questions, and use the textbook questions as a guide.
- **Class Disruptions:** I highly encourage you to turn your cell phones off and eliminate other distractions during lectures. We have A LOT of material to cover in a semester and social visiting inhibits the learning process. It is a disruption to your education and shows a lack of respect for the class and the instructor. Additionally, during lab, those students engaged in social talking, texting and/or disruptive behavior will be asked to leave the laboratory.

UCA Policies

Students are encouraged to familiarize themselves with all the policies listed in the UCA Student Handbook. Students should pay particular attention to the Academic Policy on page 37 and the Sexual Harassment Policy on page 115.

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.

Face Coverings

All students are expected to comply with the university policy regarding face coverings.
< <https://uca.edu/coronavirus/students/> >.

Lecture Schedule

This is a tentative schedule-all dates and contents are subject to change

Date	Topic	Chapter	Assignments Due	Assigned Reading
Jan 19	Introduction, Matter & Chemistry	1		1.1 – 1.5
Jan 21	Measurements in Chemistry	"		1.6, 1.7, 1.10
Jan 26	"	"	Quiz 1 , Intro to **MC & Chem Primer. Due 1/25 @ 11:59pm	1.11 & 1.12
Jan 28	Atoms and the Periodic Table	2	HW Ch 1 Due 1/27 @ 11:59pm	2.1, 2.2, 2.3
Feb 2	"	"	Quiz 2	2.4, 2.5, 2.9
Feb 4	Ionic Compounds	3	HW Ch 2 Due 2/3 @ 11:59pm	3.1 – 3.4
Feb 9	"	"	Quiz 3	3.5 – 3.10
Feb 11	Exam 1 – (no lecture)		HW Ch 3 Due 2/10 @ 11:59pm	
Feb 16	Molecular Compounds	4		4.1 – 4.3 & 4.6, 4.7
Feb 18	"	"	Quiz 4	4.8 – 4.11
Feb 23	Chemical Reactions	5	HW Ch 4 Due 2/22 @ 11:59pm	5.1 & 5.2
Feb 25	"	"	Quiz 5	5.3 – 5.6
Mar 2	Mol Mass Relationships	6	HW Ch 5 Due 3/1 @ 11:59pm	6.1 – 6.4
Mar 4	"	"	Quiz 6	
Mar 9	Exam 2 – (no lecture)		HW Ch 6 Due 3/8 @ 11:59pm	
Mar 11	Energy, Rate, & Equilibrium	7		7.1, 7.2, 7.3
Mar 16	"	"		7.4, 7.5, 7.6
Mar 18	"	"	Quiz 7	7.7, 7.8, 7.9
Mar 23	Spring Break – no class			
Mar 25	Spring Break – no class			
Mar 30	Gases, Liquids, & Solids	8	HW Ch 7 Due 3/29 @ 11:59pm	8.1, 8.2, 8.4, AND 8.5-8.9
Apr 1	"	"	Quiz 8	8.10 – 8.14
Apr 6	EXAM 3 - (no lecture)		HW Ch 8 Due 4/5 @ 11:59pm	
Apr 8	Solutions	9		9.1 – 9.6
Apr 13	"	"	Quiz 9	9.7, 9.8, 9.10
Apr 15	Acids & Bases	10	HW Ch 9 Due 4/14 @ 11:59pm	10.1, 10.2
Apr 20	"	"		10.3 – 10.6
Apr 22	Finish Acids & Bases (will post video of Functional groups)	10/12	Quiz 10	10.10–10.11, 12.1, 12.2
Apr 27	EXAM 4 - (no lecture)		HW Ch 10 Due 4/26 @ 11:59pm	
Apr 29	Review for Final			
May 6	Final Exam: 8:00 lecture 8:00am – 11:00am, 10:50 lecture 11:00am – 2:00pm			

****MC = Mastering Chemistry**

Laboratory Schedule (MANION 202)

Week	Laboratory Experiment	Scheduling	DUE
Jan 18 - 22	No Lab		
Jan 25 - 29	A - Safety & *Detect Signs Chem Change B - Convs, Sp. Heat, & Density (dry lab) <i>on your own</i>	A meets in lab	nothing due this week
Feb 1 - 5	A - Convs, Sp. Heat, & Density (dry lab) <i>on your own</i> B - Safety & *Detect Signs Chem Change A&B complete assignments on ***BB separately	B meets in lab	Both due 2/7 @ 11:59pm
Feb 8 - 12	Dosage measurement – **ZBOR	Meet on zoom	2/14 @ 11:59pm
Feb 15 - 19	Lewis Structures (Dry lab) – ZBOR	Meet on zoom	2/21 @ 11:59pm
Feb 22 - 26	Balancing Chemical Equations (dry lab) – ZBOR	Meet on zoom	2/28 @ 11:59pm
Mar 1 - 5	Mol Calculations practice (dry lab) – ZBOR	Meet on zoom	3/7 @ 11:59pm
Mar 8 - 12	Monday Mar 8 Review for Exam 2 (<i>optional</i>) Rest of week - rest and recover (no lab)		
Mar 15 - 19	Enthalpy practice dry lab – ZBOR	Meet on zoom	3/21 @ 11:59pm
Mar 22 - 25	Spring Break	No one meets	
Mar 29 – Apr 2	A (1 st hour) B (2 nd hour) *LeChatelier's Principle Complete assignment on BB separately	A & B meet on campus	4/4 @ 11:59pm
Apr 5 - 9	April 5 – Review for Exam 3 (<i>optional</i>) Hydrogen Bonding (dry lab) complete on MC <i>on your own</i>	No one meets	4/11 @ 11:59pm
Apr 12 - 16	Chromatography - ZBOR	Meet on zoom	4/18 @ 11:59pm
Apr 19 - 23	A (1 st hour) B (2 nd hour) *Titration of Vinegar Complete assignment on BB separately	A & B meet on campus	4/25 @ 11:59pm
Apr 26 - 30	Monday April 26 – Review for Exam 4 (<i>optional</i>) Attend lecture review for final exam Thursday April 29 for this week's lab points	Attend lecture review!	

* These labs are **wet labs**. This means that you **MUST** wear **pants, closed toed shoes, and GOGGLES** to lab. You must also **read the lab procedure** and complete the **pre-lab assignment** *before* the lab period.

**ZBOR = zoom break out rooms

***BB = blackboard

Lab Zoom links and passcodes:

Monday 8:00am (CRN 30815)

<https://uca-edu.zoom.us/j/87027176467?pwd=cU5HeXZrWndPQjhZlVdUnNraGRoQT09>

Passcode: 121015

Monday 10:00am (CRN 32930)

<https://uca-edu.zoom.us/j/82895537553?pwd=ZlVDMnRkU1FBK3JMdmDoK1VxSHFkdz09>

Passcode: 685741

Thursday 2:40pm (CRN 32934)

<https://uca-edu.zoom.us/j/84460125548?pwd=cythZlVISjVxZm45TkFaVFA2NjQxUT09>

Passcode: 090211

Friday 10:00am (CRN 32935)

<https://uca-edu.zoom.us/j/84213930513?pwd=YkZGejBQaS90Zm9oMGJVa0lqaG9aZz09>

Passcode: 849614

Friday 12:00pm (CRN 31202) – With Dr. Dunlap

<https://uca-edu.zoom.us/j/84231814887?pwd=dHFWYXU0dmd3d2I5UFo1QTlicGRpQT09>

Passcode: 977792

Friday 2:00pm (CRN 32933)

<https://uca-edu.zoom.us/j/84347167287?pwd=OTJXV21OU0t1Y0lOb0RrbjJHTFRmUT09>

Passcode: 884857