

General Chemistry for Health Sciences (CHEM1402)

Syllabus

Fall 2017

Instructor

Dr. Melissa Kelley
201-A Laney-Manion
Phone: 501-450-5960
Email: mkelley@uca.edu
<http://faculty.uca.edu/mkelley/>

Class Meeting Time

MWF 11:00-11:50 Laney 104
Lab Section A: M 2:00-3:50 Laney 202
Lab Section B: W 2:00-3:50 Laney 202

Office Hours

Monday: 1:30-2:45
Wednesday: 8:15-9:00
Appointments are also available.

Course Objective

CHEM 1402 is the first of a two-part course designed for students interested in the health science profession. This course covers topics in general chemistry as they relate to the health science profession. 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 CHEM 1302 and/or High School chemistry. 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.

Course Materials

1. Text: Fundamentals of General, Organic, and Biological Chemistry, 7th Edition (2013), J. McMurry, D. Ballantine, C. Hoeger and V. Peterson.
2. Lab Manuals are available through Dr. Kelley's website.
3. Approved (ANSI Z. 87) laboratory eye protection.
4. 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. You should know how to use your calculator. Calculators on cell phones may not be used. You will not be permitted to share a calculator with a classmate during exams or quizzes. Bring your calculator to class, as there will be times when we will be working in class problems.

How to be successful in this course

1. **Attend lecture.** Students who do not attend lecture will not be successful in this course. Many of the topics I cover will not be presented in the book. You are responsible for the material covered in class and the reading assignments. Attending class is highly recommended.
2. **Read the book and bring the book to class.** The book is an excellent reference and provides example problems that will greatly aid you in preparation for exams. Reading the chapter summaries before lecture will give you an idea of what we will be covering and will better prepare you for lecture. Some of the figures I show in class are from the text.
3. **Study time.** I recommend you devote between two and three hours per lecture study time. I recommend you identify two or three other classmates to study with, asking questions, and using the textbook questions as a guide.
4. **Chemistry requires practice.** Chemistry is a field that requires you to practice and think. Many of you have not had the opportunity to develop your critical thinking skills. To help develop these skills, you will need to practice and understand the problems that are presented in lecture and the problems in the text. Chemistry is not a spectator sport and to be successful it requires hard work and lots of practice. *Working the problems in the book will greatly aid your understanding of the material.*
5. **Ask questions.** If you do not understand the concepts I have presented in lecture ask. 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. Stupidity lies in not asking. Please feel free to stop me in lecture with a question or if you would prefer stop by my office during office hours and ask.
6. **Be an interactive learner.** Ask questions and participate in class discussions. This is an excellent way to understand the material and hopefully you find many of the topics we cover are applicable to your life.

Important Notes:

1. I cannot discuss grades by phone or email.
2. I will not calculate your grade for you.
3. I will not re-grade your exam for additional partial credit. If I have made a mathematical calculation error, then the error can be discussed. I will not re-grade your exam or quizzes.
4. Late work is never accepted. Students who are late on the days of exams or quizzes will not be allowed to take the exam or quiz. Labs start on time. Students will not be able to complete the lab if they are more than 5 minutes late to lab.
5. If you miss class, I will not provide a make-up lecture for you on the material. It is your responsibility to obtain the material. I would recommend that you try to have someone record the lecture for you, and get a least two people's notes over the material. After you have done these things, please come to me if you have specific questions about the material you missed.
6. I do not provide extra credit. There are plenty of opportunities for credit during the semester. You must submit assignments in the manner requested and follow the directions concerning quizzes, exams, and assignments. Failure to follow the directions may result in a zero or significant loss in points.

Grading

4 Exams at 100 points each=400 points
1 Final exam (comprehensive) = 200 points
5 quizzes at 10 points each =50 points
10 labs at 15 points each = 150 points
Cool compound assignment= 100 points
Total points= 900 points

Grading Scale

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

Missed Exams and Quizzes

A missed quiz will not be made up. A missed exam will be made up at my discretion. If you miss an exam for a **valid and significant reason**, and you contact me either through email **before** the schedule exam, then we can discuss the possibilities of a make-up exam. If you contact me after the exam, no make-up will be given. I strongly suggest that you make every effort to attend exams and quizzes. Tardiness to an exam is discouraged.

Attendance and Class Participation Policy

Attendance will be taken. Poor 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 the material presented in class and class announcements.

Laboratory Safety

Safety in the laboratory is of utmost importance. You and your classmates' safety depend on one another. Horseplay, pranks, and other inappropriate behavior will not be tolerated and result in you being excused from the lab with a 0 recorded for that laboratory. Use common sense, 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.**

Laboratory Reports and Pop Quizzes

Laboratory reports are due the following laboratory period and will not be accepted late. Pre-lab portions of the laboratory are required to be completed **prior to entering the laboratory**. **Any student not having the pre-lab completed will be given a zero for that laboratory.** Laboratory pop-quizzes may be given during the course of the semester. The score received on the pop-quiz will be added to the laboratory report submitted for that week's laboratory for a total of 15 points for that laboratory. Your lowest laboratory score will be dropped.

Cool Compound Assignments

Students will be assigned a cool compound that is to be used in assignments throughout the semester. Cool compound assignments are due at the beginning of class on the dates listed in the syllabus. Cool compound assignments are listed on the course website **and will not be accepted late.**

Weekly Problems

Weekly problems will be listed on the course website. These problems should be worked by the student prior to the lab due the following week and stapled to the laboratory report. You will be penalized on your lab report for not completing these problems. Additional suggested chapter problems and old exams are listed on the course website. It is to your benefit to work these suggested problems prior to exams.

Class Disruptions

Cell phones should remain silent during lecture and laboratory. **Texting and social talking is not acceptable in this course.** We have a lot material to cover in a semester and social visiting clearly inhibits the learning process. It is a disruption to your classmates and shows a lack of respect for the class and the instructor. Those students engaged in social talking, texting and/or disruptive behavior will be asked to leave the lecture or laboratory.

UCA Policies

Cheating or representing someone else's work as your own is **severely discouraged**. The penalties for cheating are severe and include, but are not limited to, assigning an "F" for the work and/or the course to expulsion from the University. 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.

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 and the Sexual Harassment 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.

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>. **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.*

The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need accommodations under this Act due to a disability, please contact the UCA office of Disabilities Services, 450-3135.

Lecture Schedule

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

Date	Topic	Chapter	Assignment
Aug 25	Introduction		
Aug 28	Matter and Life Measurements in Chemistry	1	
Aug 30	"	"	
Sept 1	"	"	
Sept 4	LABOR DAY-no class		
Sept 6	Measurements in Chemistry cont Atoms and Periodic Table	2	
Sept 8	Atoms and Periodic Table	2	
Sept 11	"	"	Quiz 1 Cool Cpd. Assignment #1 Due
Sept 13	"	2	
Sept 15	"		
Sept 18	"		
Sept 20	Atoms and Periodic Table cont Ionic Cpds	" 3 and 4	Quiz 2
Sept 22	Ionic Cpds Molecular Cpds	"	Cool Cpd. Assignment #2 Due
Sept 25	"	"	
Sept 27	EXAM 1		EXAM 1
Sept 29	Chemical Rxns	5 and 6	
Oct 2	"	"	
Oct 4	"	"	
Oct 6	"	"	
Oct 9	"	"	
Oct 11	"	"	Quiz 3
Oct 13	Gases, Liquids,& Solids	8	Cool Cpd. Assignment #3 Due
Oct 16	"	"	
Oct 18	EXAM 2		EXAM 2
Oct 20	FALL BREAK		
Oct 23	Gases, Liquids & Solids Cont.	"	
Oct 25	"	"	
Oct 27	Solutions	9	
Oct 30	"	"	Quiz 4
Nov 1	"	"	
Nov 3	Energy, Rate and Equilibrium	7	Energy, Rate and Equilibrium
Nov 6	"	"	
Nov 8	EXAM 3		EXAM 3

Nov 10	"	"	Cool Cpd. Assignment #4 Due
Nov 13	"	"	
Nov 15	Acid/Bases	10	Quiz 5
Nov 17	"	"	
Nov 20	"	"	Cool Cpd. Assignment #5 Due
Nov 22-24	Thanksgiving-No Class		
Nov 27	Acid/Bases	"	
Nov 29	EXAM 4		EXAM 4
Dec 1	Acid/Base Functional Groups		
Dec 4	Functional Groups		
Dec 6	Functional Groups/ Review		
Dec 8	Reading Day-No Class		
Dec 11	FINAL EXAM 2:00-4:00		FINAL EXAM

Lab Notes

Monday's Lab Section
Dr. Cavender
Email: kcweaver@uca.edu

Wednesday's Lab Section
Dr. Hollandsworth
Email: drburth@gmail.com

1. For all wet labs students are expected to have googles. Students not having googles will not be allowed to perform the lab.
2. Students should be on time to lab. If a student enters the lab after the pre-lab introduction or is 10 minutes late to the lab, they will not be allowed to perform the lab.
3. Students should have their labs printed out and be ready to start laboratory during their scheduled lab time. Faculty members will not print or make copies of the laboratory handouts. Labs are available for download on the course website.
4. Your data sheet will need to be initialed or stamped before you leave the laboratory. If it does not contain either an initial or stamp from your laboratory instructor, it will not be accepted. Unless the instructor specifies differently, labs are due at the end of the. laboratory
5. Students will work in groups of 2. Larger groups are unacceptable.
6. Drs. Cavender and Hollandsworth are wonderful and knowledgeable faculty members who are here to help you in the laboratory. Be respectful of their time and talent. What they say in the laboratory and ask you to do is their call. They will ask you to leave if your behavior is inappropriate or you or your classmates safety is at risk. If you have specific questions/concerns about grading, course content, exams, quizzes, or other related class activities, please contact Dr. Kelley.

Laboratory Schedule

Day	Laboratory Experiment
August 28/30	Safety
Sept 4/6	No Lab
Sept 11/13	Scientific Notation and Significant Figures
Sept 18/20	Detecting Signs of Chemical Change
Sept 25/27	No Lab
Oct 2/4	Physiological Important Ions
Oct 9/11	Balancing Chemical Reactions
Oct. 16/ 18	No Lab
Oct 23/25	Dry Lab-Lewis Structures
Oct 30/ Nov 1	Chromatography
Nov 6/8	No Lab
Nov 13/15	Dry Lab- Hydrogen bonding
Nov 20/22	No Lab- pH Dry Lab Assignment
Nov. 27/29	Titration of Vinegar
Dec 4/6	No Lab