CHEM 32A (94858): General Chemistry Fall 2019

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Office Hours: M W F: 9:30am-12:30pm
T Th: 10am-2pm
or by appointment

Lecture Time: M W F 1:10 – 2:00 pm

Location: Innovation E430

I. Lecture

Lecture: The lecture each week will be used primarily to cover new material. Included in the syllabus is a tentative schedule covering the topics and timing of the lecture, reading material, and homework problem sets. Most will find it difficult to do well in this class if they do not attend the lecture. Class lecture notes will be posted on BlackBoard (BB) after each lecture.

Textbook: If you took Chem31 recently at UVM, then you may already have all the materials necessary for Chem32. If not, there are three options to purchase "Chemistry Structure and Properties" 2nd Ed., by Tro (Full text ISBN-13: 978-0-13-429393-6) along with MasteringChemistry online access. 1) It can be purchased at an online site (~$300; hardcover text and mastering), or 2) at the UVM bookstore (~$160; binder text, solutions manual, and mastering), or 3) digital access (~$120; etext and mastering). The digital solutions manual will be provided for free but also comes with the UVM package and has the complete solutions to all the assigned problems. The most bang for your buck is the UVM bookstore package.

Practice Homework: Problem sets and MasteringChemistry exercises will be assigned after each lecture and a complete list for the textbook can be found starting on page 5 of the Syllabus. I strongly encourage you to do as many problems as possible, the more you practice the better you will get. Also posted in Course Materials on BB are blank old exams from my 2018 and 2019 classes, as well as their answer keys. These are a great way to evaluate what you understand and what you do not. Remember though that test questions will change but the format and concepts will remain the same. ***Do not study with just the old exams!*** Within Course Materials I have also posted sample textbook homework problem videos posted for extra "at-home" help.

Recitations: Throughout the semester I will hold recitations on the Wednesday evening before an exam from 6:45-8:45 pm in Innovation E432. The Sunday before a mid-semester exam I will hold an exam review session from 10:30am-12:00 pm in Innovation E102. These problem sessions are meant to address your questions about lecture topics and/or homework problem solving, so come prepared with questions.

Homework Quizzes: There will be eight graded homework quizzes during the semester. These assignments will occur once we finish a chapter and will be found in MasteringChemistry. You will have several days to complete each assignment, but I would not wait until the last moment.

Exams: The exams are scheduled to be ***Wednesday evenings from 6:40-9:40 pm in Innovation E432.***. There are no scheduled make up dates. While taking the exams only non-programmable non-graphing calculators are permitted. No other electronic devices are allowed (i.e. no cell phones, mp3 players, ipods, etc.). It is the responsibility of the student to bring a non-programmable non-graphing calculator to the exams, since there will be no extras provided. ***Students caught using any other electronic device other than a non-programmable non-graphing calculator will receive a zero for the exam.***

II. Laboratory

Lab Manuals: All experiments can be found online on your lab's BB website as individual pdfs. Please make sure you ***print out each experiment and bring to lab*.**

Lab Notebook: A notebook with carbon-less copies is required for recording lab data. All data is to be recorded in ink (not pencil). A carbon-less copy lab notebook can be bought at UVM's bookstore.

Safety Eye Wear: Everyone in the lab must wear OSHA approved (EZ87stamped) safety glasses or goggles once any experimentation has been started. Students not observing this rule will receive a **ZERO** for the experiment, warnings will not be given. Safety eyewear can be purchased at the UVM bookstore or in the Discovery Building stockroom. ***Contact Lenses are a potential health hazard and can be worn in the laboratory only if no other types of corrective lenses are available. If you have to wear contact lenses then you must wear goggles and please let your TA know.***

Lab Attire: This is a chemical laboratory dress appropriately! It is best to wear full pants and a shirt with at least short sleeves. Shorts and short pants (capris, crops, etc.) are not allowed in the laboratory. Shirts that expose the shoulders, midriff, or back are also not allowed. Proper footwear is also necessary in the laboratory. Full shoes, preferably constructed of leather or other chemically resistant material, should be worn in when in the laboratory. Open toed shoes, open backed shoes, and shoes that expose the top or other portions of the foot are not allowed. If you arrive at lab in inappropriate attire, you will not be allowed to perform the experiment that day.

Prior to Start of Lab: Purchase your lab manual, lab notebook, and safety glasses. Also, on Blackboard review and complete the Safety Presentation and Safety Quiz. ***If you have not purchased or completed these items you will not be able to begin the lab portion of the course.***

Attendance: Students must attend the lab section they are assigned to. If more than two labs are missed you will receive an **F** for the course. Only the academic dean of your college may grant an incomplete. An unexcused absence will result in a **ZERO** grade for the laboratory experiment. Official documentation of sickness or a family crisis is required for an excused absence. If there is a need to reschedule your lab time to one that is not your assigned time you must obtain permission from me a week in advance.

Lab Videos: Prior to attending your lab it is mandatory to view the video that accompanies the lab. These videos demonstrate the proper use of new equipment and the safe handling of chemicals. Videos can be found at: https://www.youtube.com/channel/UC8r6fR2K-8xAtsf-_a8edMg.

III. Course Grade

Percent Ranges for Grades:

I cannot say in advance which point ranges correspond to which letter grades, but I will give approximate correlations throughout the semester following each of the exams. Please note that you are not competing with each other for grades in this course: if everyone scores in the "A-range," I will give everyone "A"s for the course (really!). I encourage you all to work together as you study, to help each other learn the material, but do also recognize that all graded work must be solely your own, so be prepared to work independently to demonstrate your mastery of the material.

How to Calculate Your Points:

1) Class = **750 total points** (75% of grade; exams and homework)

1a) Mid-Semester Exams = **450 points** (150 points/exam)

1b) Homework = **100 points** (12.5 points/assignment)

1c) Final Exam = **200 points**

There are three mid-semester exams (each 125 points) and a final exam (250 points). If your final is your lowest grade it will count only as one unit. If one of the mid-semester exams is your lowest grade then your final will count as two units. The lowest mid-semester exam grade will be replaced by the percentage on the final. If you are absent from an exam official documentation of sickness or family crisis is required or you will receive a **ZERO** for the exam. Students with legitimate excuses will be permitted to take the exam early. Except in very unusual circumstances makeup exams will not be administered after the scheduled exam time.

Example 1:	Exam 1	Exam 2	Exam 3	Final
Actual:	127.5 (85%)	67.5 (45%)	117.0 (78%)	150.0 (75%)
Counted:	127.5 (85%)	112.5 (75%)	117.0 (78%)	150.0 (75%)
Homework:	84.0 (84%)			

Class Points = 507.0 exam pnts + 84.0 homework pnts Total = 591.0 points

Example 2:	Exam 1	Exam 2	Exam 3	Final
Actual:	105.0 (70%)	117.0 (78%)	114.0 (76%)	136.0 (68%)
Counted:	105.0 (70%)	117.0 (78%)	114.0 (76%)	136.0 (68%)

Homework Score: 94.0 (94%)

Class Points = 472.0 exam + 94.0 homework Total = 566.0 points

2) Laboratory = **250 lab points** (25% of grade)

Prelab (2 pts/per)	20 points
Lab Reports (15 pts/per)	150 points
Quizzes (8 pts/per)	80 points
	250 points

3) Course Grade Determination

Add up your points from class and lab and then use the chart at the beginning of this section to determine your course grade.

Example 1:

591.0 class points

\+ 200 lab points

791.0 total points/1000 points = 79.1%

Example 2:

566.0 class points

\+ 200 lab points

766.0 total points/1000 points = 76.6%

To summarize:

Ex1 + Ex2 + Ex3 + Final + Homework + Lab + Extra Credit = Total Points

(Total Points)/1000] x 100 = Total Percent

Academic Integrity

Offenses against the Code of Academic Integrity (i.e. cheating) are deemed serious and insult the integrity of the entire academic community. Any suspected violations of the code are taken very seriously and will be forwarded to the Center for Student Ethics and Standards for further investigation.

IV. Lecture Schedule and Chapter Homework

Your Exam Location is based on your Lab Section Number. Go to the exam hall that corresponds to your Lab Section Number

September 18	Exam 1	(Innovation E432)
October 16	Exam 2	(Innovation E432)
October 28	Last Day to Withdraw	
November 20	Exam 3	(Innovation E432)
December 12	Final Exam	(10:30am-1:15pm; Innovation E430)

Date	***Chapter***	***End-of-Chapter Homework Problems***
Aug. 26 - Aug. 30	13	Ch13: 25,27,29,31,33,35,37,43,45,47,49,51, 59,63,65,67,69,71,73,77,79,81,83,85,87,89,93, 97,99,105,109,115
Sept. 2	**LABOR DAY HOLIDAY**	
Sept. 3 - Sept. 6	13 and 14	Ch14: 27,29,31,37,41,45,47,53,55,59,65,71, 75,77,83,89,91,95,103,105,107
Sept. 09	**LAST DAY TO ADD/DROP COURSE**	
Sept. 9 - Sept. 13	14 and 15	Ch15: 21,23,27,29,31,33,35,37,39,41,45,47, 49,53,55,59,63,65,67,69,71,73,75,79,81,83,89
Sept. 18	**First Exam***	**Chapters 13,14,15***
Sept. 16 - Sept. 20	15	
Sept. 23 - Sept 27	15 and 16	
Sept. 30 - Oct. 4	16	Ch16: 31,33,35,37,39,41,45,49,51,55,59,61, 65,67,69,71,75,79,81,83,85,87,89,91,95,97,99, 101,103,107,109,111,113,115,117,121,123, 127,129,133,141
Oct. 7 – 11	16	
Oct. 14	**FALL RECESS**	

*Extent of exam material will depend on our progress in lecture.

Dates	***Chapters***	***End-of-Chapter Homework Problems***
Oct. 16	**Second Exam***	**Chapters 15,16***
Oct. 15 - Oct. 18	17	Ch17: 25,27,29,31,33,35,39,41,43,45,49,51, 53,57,59,61,63,65,67,69,71,75,81,83,85,87,93, 95,97,103,105,111,113,115,121,125
Oct. 21 -Oct. 25	17	
Oct. 28	**LAST DAY TO WITHDRAW FROM COURSE**	
Oct. 28 - Nov. 1	17 and 18	Ch18:31,35,37,39,41,45,47,51,53,55,59,61, 67,71,73,75,85,87,93,101
Nov. 4 - Nov. 8	18 and 19	Ch19: 33,35,37,39,41,43,45,47,49,53,57,59, 61,63,65,69,71,73,77,83,85,89,97,99,103,105, 115,119
Nov. 11 - Nov. 15	19	
Nov. 20	**Exam 3***	**Chapters 17,18,19***
Nov. 18 - Nov. 22	19	
Nov. 25 -Nov. 29	**THANKSGIVING HOLIDAY**	
Dec. 2 – Dec. 6	20 and Review	Ch20: 31,33,35,37,41,45,51,57,61,71,73,81, 83,89
Dec. 12	**Cumulative Final Exam** (10:30am-1:15pm; Innovation E430**)**	

*Extent of exam material will depend on our progress in lecture.

V. Laboratory Schedule

Date	***Experiment***	***Description****
Aug26 – Aug 30	**No Labs**	**No Lab**
Sept 2 – 6	**No Labs**	**No Lab**
Sept 9 – 13	Check In Experiment 1 Recitation 1 Assignment Due	 Freezing Point Depression Chapter 13 Exp1: Prelab and Quiz
Sep 16 – 20	Experiment 2 Recitation 2 Assignment Due	Iodination of Cyclohexanone Chapter 14 Exp1: Lab Report Exp2: Prelab and Quiz
Sep 23 – 27	Experiment 3 Recitation 3 Assignment Due	Keq of $FeSCN^{+2}$ Chapter 15 Exp2: Lab Report Exp3: Prelab and Quiz
Sep 30 – Oct 4	Experiment 4 Recitation 4 Assignment Due	Acid Neutralization of Anti-Acids Chapter 16 Exp3: Lab Report Exp4: Prelab and Quiz
Oct 7 – 11	Experiment 5 Recitation 5 Assignment Due	Acid-base Equilibria and Buffers Chapter 16 and 17 Exp5: Prelab and Quiz
Oct 14 – 18	**No Labs** Assignment Due	 Exp5: Lab Report (hand in to TA)
Oct 21 – 25	Experiment 6 Recitation 6 Assignment Due	K_{sp} of Copper (II) tartrate Chapter 17 Exp6: Prelab and Quiz
Oct 28 – Nov 1	Experiment 7 Recitation 7 Assignment Due	Thermodynamics Hot/Cold Packs Chapter 18 Exp6: Lab Report Exp7: Prelab and Quiz

Date	***Experiment***	***Description****
Nov 4 – 8	Experiment 8 Assignment Due	Thermodynamics of Borax Exp7: Lab Report Exp8: Prelab and Quiz
Nov 11 – 15	Experiment 9 Recitation 8 Assignment Due	Oxidizing Power of Bleaches Chapter 19 Exp8: Lab Report Exp9: Prelab and Quiz
Nov 18 – 22	Experiment 10 Recitation 9 Assignment Due	Electrolysis/Electroplating Chapter 19 Exp9: Lab Report Exp10: Prelab and Quiz
Nov 25 – 29	**THANKSGIVING HOLIDAY**	
Dec 2 – Dec 6	Check Out Recitation 10 Assignment Due	 Chapter 20 Exp10: Lab Report

* All pre-lab quizzes are conducted during the first 10 minutes of your scheduled laboratory period. If you arrive late you will not be given extra time or allowed to make-up the quiz.

* The pre-lab write ups and post-lab reports are to be handed in to your TA at the beginning of your lab period. If you are late to your lab/recitation period points will be deducted for your work being handed in as late.

VI. ACCESS Accommodations and Religious Holidays

Student Learning Accommodations Statement

In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact ACCESS, the office of Disability Services on campus. ACCESS works with students to create reasonable and appropriate accommodations via an accommodation letter to their professors as early as possible each semester.

Contact ACCESS: A170 Living/Learning Center - 802-656-7753 - access@uvm.edu.

ACCESS Office: http://www.uvm.edu/~access/

Policy on disability certification and student support:
http://www.uvm.edu/~uvmppg/ppg/student/disability.pdf

Religious Holiday Policy Statement

Religious Holidays: Students have the right to practice the religion of their choice. If you need to miss class to observe a religious holiday, **please submit the dates of your absence to me in writing by the end of the second full week of classes.** You will be permitted to make up work within a mutually agreed-upon time.

VII. Emergency Accommodations

The Center for Health and Wellbeing does not provide students with notes verifying medical illness. This approach makes the best use of their limited medical resources by not having students who are required to provide verification of a recent illness utilize appointment times which can be used for students who require evaluation and therapy. Instead, ***contact your college's Dean's office so they can report your illness to all of your professors.***

When students experience a serious illness requiring hospitalization or when an extended absence from class is foreseen, a Center staff member will (with the student's permission) notify the Dean's Office of the student's College or School so that faculty members can be made aware and the student supported in working successfully through the absence.