

II. Laboratory

Lab Manuals:

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-

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. **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:

review and complete the Lab Safety and Academic Integrity Modules. Prior to lab print out the experiment. **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 Christine Cardillo (Christine.Cardillo@uvm.edu) 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>.

Laboratory Format: Each laboratory period is scheduled for 2 hours and 45 minutes. This time -lab overview, performing the weekly experiment, lab clean-up, and lastly time for post-lab calculations. When you first arrive to lab you should turn in your pre-lab for the

where you will work in groups on selected problems relating to both the current lecture and lab content. Recitation is followed by a brief pre-lab overview led by your TA, leading to the start of experimental work. All experimental work will be stopped prior to the end of the laboratory period to allow enough time for lab clean-up and proper waste disposal before leaving the laboratory. Lastly, any time left in the laboratory period should be used to get started on the post-lab calculations. Plan on being in laboratory for the full scheduled time, do not assume that you will be able to leave or get out of lab early every week.

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 = **375 points** (125 points/exam)
- 1b) Homework = **125 points** (12.5 points/10 quizzes)
- 1c) Final Exam = **250 points**

There are three mid-semester exams (each 125 points) and a final exam (200 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

Office, **see VIII. Illness Accommodations** below), makeup exams will not be administered after the scheduled exam time.

Example 1:	Exam 1	Exam 2	Exam 3	Final
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2) Laboratory = **250 lab points** (25% of grade)

Lab Safety Quiz:

Passing grade required **BEFORE** the
first lab.

Pre-Lab Questions:

Technique:

250 points

Post-Lab Calculations & Questions:

3) Course GraMC /Span ~~AMCID~~ 9/1 0 0 i2g 0 0 i9x

IV. Tentative Lecture Schedule and End-of-Chapter Homework

<u>Dates</u>	<u>Chapters</u>	<u>Homework Problems (Learning Objectives)</u>
Jan 16 - 19	Syllabus	(Class Dynamics)
	13	Ch13: 1,3,5,7,9,11,17,19,23,29,33,35, 39,42,53,54, 57,59,63,67,71,75,83,89,99,107,119,127,129,141 (<u>Module13</u> : Solution Concentration, Temperature Effects, Colligative Properties, Melting and Boiling Points, Osmotic Pressure)
Jan 22 - 26	13 and 14	Ch14: VC14.1-VC14.4,9,11,15,17,19,21,23,25,27,29, 31,33,37,43,47,49,57,61,63,73,85,95,113,121,123, (<u>Module14</u> : Chemical Kinetics, Rate Laws, Integrated Rate LawVC1s, Mechanism, Temperature Effects)
Jan 29	Last Day to Add/Drop course	
Jan 29 Feb 2	14	
Feb 4 – 7	EXAM 1**	Chapters 13 and 14**
Feb 5 9	15	Ch15: VC15.1-VC15.4,9,11,13,15,17,19,21,23,27,33, 35,39,41,49,51,55,59,63,64, (<u>Module15</u> : Entropy, Gibbs Free Energy, Free Energy and Equilibrium, Standard State and Non-Standard State)
Feb 12 16	15 and 16	Ch16: 1,7,9,11,17,19,21,23,25,27,29,35,37,42,45,47, 51,53,VC16.1-16.4,57,61,63,VC16.5-16.12,71,75,81,

<u>Dates</u>	<u>Chapters</u>	<u>Homework Problems (Learning Objectives)</u>
Mar 4 8	17	Ch17: 2,3,57,11,13,15,17,21,23,25,27,29,33,35,37,39,41,VC17.1-VC17.4,45,51,53,55,61,69,71,75,77,79,83,85,94,95,96,97,99,115,117,119,125,139,153,161 (Module17: Acid-Base Reactions and Equilibria, Conjugate Acid/Conjugate Base Equilibria, Polyprotics)
Mar 11 15	SPRING BREAK	
Mar 18 22	17	
Mar 25 29	17 and 18	Ch18: VC18.1-VC18.4,9,11,13,15,17,19,23,25,27,29,33,35,38,41,43,47,51,53,55,57,59,VC18.5-VC18.8,67,69,71,81,85,93,97,99,103,107,113,117,131,133 (Module18: Buffers, Titrations, and Solubility Equilibria)
Apr 1	LAST DAY TO WITHDRAW FROM COURSE	
Apr 1 5	18 and 19	Ch19: 1,VC19.1-VC19.4,60.00000912 0 612 (d(2 0 612 792 r

V. Laboratory Schedule

Jan 15-19	No Lab	Purchase lab notebook and safety glasses. On Blackboard, review lab syllabus and schedule.
Jan 22-26	Lab Check In	On Blackboard, review and complete the Safety Presentation and Safety Quiz
Jan 29-Feb 2	Experiment 1 Lecture Correlation	Freezing Point Depression Module13
Feb 5-9	Experiment 2 Lecture Correlation	Iodination of Acetone Module14
Feb 12-16	Experiment 3 Lecture Correlation	Thermodynamics of Hot/Cold Packs Module15
Feb 19-23	President's Day Holiday: No Labs	
Feb 26-Mar 31	Experiment 4 Lecture Correlation	K_{eq} of FeSCN Module16
Mar 4-8	Town Meeting Day Holiday: No Labs	
Mar 11-15	Spring Break Holiday	
Mar 18-22	Experiment 5 Lecture Correlation	Thermodynamics of Borax Module16
Mar 25-29	Experiment 6 Lecture Correlation	Acid Neutralizing Potential of Antacids Module17
Apr 1-5	Experiment 7 Lecture Correlation	Acids, Bases, pH and Buffers Module17 and 18
Apr 8-12	Experiment 8 Lecture Correlation	K_{sp} of Copper Hydroxide Module18
Apr 15-19	Experiment 9 Lecture Correlation	Oxidizing Power of Bleach Module19
Apr 22-26	Experiment 10 Lecture Correlation	Electrolysis and Electroplating Module 19
Apr 29-May3	Lab Clean Up and Check Out	
May 6-10	No Lab	

VI. ACCESS Accommodations

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 -

