

# CHEM 32 (60028): General Chemistry Summer 2021\*

## I. Lecture

**Lecturer:** Erik Ruggles, Ph.D.

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**Email:** [Erik.Ruggles@uvm.edu](mailto:Erik.Ruggles@uvm.edu)

**Office Hours:** By appointment on Teams

**Class Time:** Mon-Fri (9am-noon)

**Location:** Billings I101 Lecture Hall

**Textbook:** If you've taken Chem31 at UVM recently, then probably have all the materials necessary for Chem32. If not, there are four options to purchase **Structure and Properties**<sup>nd</sup> Ed., by Tro (Pearson Publishing; Full text ISBN-13: 978-0-13-429393-6) along with Mastering Chemistry online access. 1) The full textbook and mastering can be bought on Pearson's online site (~\$300; text and mastering), or 2) at the UVM bookstore (~\$160; UVM custom textbook, solutions manual, and mastering), or 3) just digital access (~\$120; etext and mastering) or 4) purchase a used textbook and MasteringChemistry (~\$75 mastering separately). *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 (option 2), but the most economical (option 4).***

**Assignments and Lecture:** The homework assignments are broken down into Modules and can be found in BlackBoard (BB) by clicking the **2. Assignments** link. Each module contains Lecture Videos, Homework Problem Sets, and Homework Video Examples of Problems (for extra help). ***These will be assigned after each class period and you are expected to watch the lecture(s) and attempt the homework prior to the next class time.*** The Video Lectures will cover new material and concepts along with sample problem solving. The Homework Problem Sets will strengthen your connection between concept and the mathematics that describes the concept. I strongly encourage you to do as many problems as possible, as the more you practice the better you will get. Use the Homework Video Examples of Problems for extra help. Our in-class lecture notes will be posted in pdf format on BB (**4. Course Materials** link). Our in-class discussions will be recorded and posted in video format on [Teams](#).

**Class Time:** Class will be held 9am-noon Monday-Thursday. Class is meant for question and answers. Questions could be homework related, lecture related, exam related, etc. The homework assigned should be finished (or at least attempted) prior to class discussion as I want to use this time to clarify lecture concepts and homework problems. I will be available by email, on [Teams](#) and on discussion boards within BB (**5. Discussion Boards** link) as much as possible for question and answer.

**Office Hours:** Our class time is pretty much the same as office hours. However, if you have questions outside of class, questions of a more personal nature or feel the need to meet in private then feel free to set up an individual meeting with me via email or on [Teams](#) that fits both of our schedules.

**Extra Practice:** For added examples, blank old exams from my 2019 and 2018 classes, SI Sessions, as well as their answer keys are posted on BB (**4. Course Materials** link). Remember that even though questions will change from year to year, the concepts will remain the same. ***Do not study with just the old exams!*** The Meat and Potatoes, or Seitan and Broccoli, is in the Homework Problems. Also, there are homework probl

**Exams:** The exams are scheduled to be open on ***Fridays from 9:00am-noon.*** There are no scheduled make up dates. The Mid-Semester Exams are written to take 1.5 hours to compete, but every student has a full 3 hours to take the exam (*double time already provided to all, so ACCESS time accommodations not applicable*). The only exception to this is the Final Exam (ACCESS time accommodations will be allowed

## II. Laboratory

**Lecture Time:** Mon – Wed 1:00pm-3:45pm

**Location:** Discovery

**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***

### III. Course Grade

#### Percent Ranges for Grades:

A+	97	A	92	A-	90	B+	87	B	82	B-	79	C+	74
C	67	C-	64	D+	61	D	57	D-	54	F	< 54		

#### How to Calculate Your Points:

- 1) Class = **750 total points** (75% of grade; exams and homework)
- 1a) Mid-Semester Exams = **525 points** (175 points/exam)
- 1b) Final Exam = **225 points**

There are three mid-semester exams (each 175 points) and a final exam (225 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

Course Grade

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)	<u>80 points</u>
	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:

$$\begin{array}{r} 585.25 \text{ class points} \\ + \quad \underline{200 \text{ lab points}} \\ \hline 785.25 \text{ total points}/1000 \text{ points} = 78.25\% \text{ C+} \end{array}$$

Example 2:

$$\begin{array}{r} 545.0 \text{ class points} \\ + \quad \underline{200 \text{ lab points}} \\ \hline 745.00 \text{ total points}/1000 \text{ points} = 74.50\% \text{ C+} \end{array}$$

**To summarize:**

$$\text{Ex1} + \text{Ex2} + \text{Ex3} + \text{Final} + \text{Lab} + \text{Extra Credit} = \text{Total Points}$$

$$[(\text{Total Points})/1000] \times 100 = \text{Total Percent}$$

**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.**



<b>July 2</b>	<b>Second Exam**</b>	<b>Chapters 15,16,17**</b>
<b>July 5</b>	<b>Independence Day (observed)</b>	
July 6	17	
June 7	17 and 18	Ch18:31,35,37,39,41,45,47,51,53,55,59,61, 67,71,73,75,85,87,93,101 ( <u>Module18</u> : Entropy, Gibbs Free Energy, Free Energy and Equilibrium, Standard State and Non- Stanard State)
July 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 (Module19: Redox, Cell Potential, Redox and Equilibrium, Batteries, Electrolysis and Corrosion)
July 9	<b>Exam 3**</b>	<b>Chapters 17,18,19**</b>
July 12	19	
July 13	19	
July 14	20	Ch20: 31,33,35,37,41,45,51,57,61,71,73,81, 83,89 (Module20: Radioactivity, Kinetics of Radioactivity, Fusion, Fission, and Binding Energy)
July 15	Review	
July 16	<b>Final Exam</b>	<b>Cumulative</b>

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

## V. Laboratory Schedule

Date

Experiment

Description

June 21



## 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 - [access@uvm.edu](mailto:access@uvm.edu).

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

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expectations that UVM has for students, faculty, and staff to remain compliant with all COVID-19 recommendations from the federal CDC, the State of Vermont, and the City of Burlington. This include following all rules regarding facial coverings and social distancing when attending class. If you do not follow these guidelines, I will ask you to leave the class. If you forget your mask, you cannot enter the class and should go back and retrieve your mask. [The Code of Student Conduct](#) outlines policies related to violations of the Green and Gold Promise. Sanctions for violations include fines, educational sanctions, parent notification, probation, and suspension.

## **X. Health & Safety**

The University of Vermont's number one priority is to support a healthy and safe community:

General Chemistry 32 Summer  
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welcome at the Interfaith Center for reflection, spiritual practice, education, and community building.  
<https://www.uvm.edu/interfaithcenter>