

CHEM 1400B (90352): General Chemistry 1 Fall 2023

I. Lecture

Lecturer: Erik Ruggles, Ph.D.

Office: Innovation 333 or Virtual Ethereal

Email: Erik.Ruggles@uvm.edu

Office Hours: MWF: 9:00am-12:00pm for in-office hours by appointment or any time for virtual office hours by appointment using Teams. For us to meet you must make an appointment with me regardless if it is in office or over Teams. This makes the best use of both of our time.

Class Time: T,Th: 2:50-4:05 pm

Location: Innovation E102 and [Teams](#)

Course Objectives: To become adept in the concepts of matter, unit conversions, stoichiometry, reactions, gas laws, thermochemistry, quantum theory, atomic structure, electronic configurations, bonding and intermolecular forces. To perform experiments within these concepts to physically connect to the topic.

Textbook: There are a number of options to purchase “**Chemistry; Atoms First**” 5th Ed., by

Group Presentations: To help students make peer-peer connections in class there will be group presentations at the end of the semester. I will create groups with approximately 7-10 people per group. I will try and keep the groups to like-minded majors, but there will be mixtures of majors out there. Once your group has been made I would suggest contacting each other and setting up some meetings to accomplish the overall goal. The **goal of each group is to pick a relatively current scientist (does not have to be a chemist) whose work and world impact is something that inspires your group in science.** There will be an excel file in the

II. Laboratory

Lab Manuals: All experiments can be found online on yo

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

Lab Safety Quiz:

Passing grade required **BEFORE**

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

<u>Dates</u>	<u>Chapters</u>	<u>Homework Problems (Learning Objectives)</u>
Aug 28 - Sept 1	Syllabus	(Class Dynamics)
	1	Ch1: 7,11,13,15,17,19,25,27,29,31,33,39,41,43,45,47,49,51,53,69,71,73,77,79,87,89,93,95,97, (<u>Module1</u> : Dimensional Analysis, Conversions, Significant Figures and Density)
	2	Ch2: 9,15,17,19,21,35,37,39,45,47,53,55,57,59,61,63,65,67,69,81 (<u>Module2</u> : History and Current Understanding of Atoms, Elements and Molecules, The Mol)
Tuesday	Mindful Meditation1	UVM Mindfulness (2min) Introduction
Thursday	Mindful Meditation 2	Short Box Breathing (3min)
Sept 1	Last day to add class without Instructor permission	
Sept 4	LABOR DAY HOLIDAY	
Sept 5 - 8	2 and 3	Ch3: 5,7,9,15,17,25,27,29,31,33,35,36,37,45,47,49,59,61,63,71,77,79,85,97,99,101,103 (<u>Module3</u> : Light, Energy and Fireworks, Quantum Mechanical View of the Atom)
Tuesday	Mindful Meditation3	UVM Mindfulness (3min) Breath Awareness
Thursday	Mindful Meditation 4	Circular Breathing (3min)
Sept 12	LAST DAY 61 0 0 1 186.74 384.91 Tc 384.91 geW* nBT/F2 12 Tf1 0 0 1 232.13	

<u>Dates</u>	<u>Chapters</u>	<u>Homework Problems (Learning Objectives)</u>
Oct 20		Group Presentation Scientist Choice Due
Oct 23 - 27	7 and 8	Ch8: 5,9,11,19,21,23,27,29,31,33,35,37,39,47,49,51, 53,55,57,64,65,69,81,85 (<u>Module8</u> : Chemical Reactions, Balancing, Stoichiometry, Combustion Empirical Formula Determination, Limiting Reagent, Theoretical Yield and Percent Yield)
Tuesday	Mindful Meditation15	Headspace Breathe to the Light
Thursday	Mindful Meditation16	Breathing with R2D2
Oct 30		

<u>Dates</u>	<u>Chapters</u>	<u>Homework Problems (Learning Objectives)</u>
Nov 20 - 24	THANKSGIVING HOLIDAY	
Nov 27 - Dec 1		

V. Laboratory Schedule

<u>Date</u>	<u>Experiment</u>	<u>Description</u>
Aug 28-Sept 8	No Lab	Purchase lab notebook and safety glasses. On Brightspace, review 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 - 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>

VII. Religious Holidays

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.

<https://www.uvm.edu/registrar/religious-holidays>

timeframe for accommodations, if you cannot make up the exam by Sunday prior to the exam then you will have to take a zero and allow for your Final Exam score to replace it at the end of the semester (except for extremely special circumstances for which you need to be in contact with me with ongoing updates and discussions about incompletes or medical withdraw).

IX. COVID-19 Accommodations

Due to COVID-19 we advise that a student feeling any symptoms should get checked out before attending an in-person class. Keep in mind that

The Division of Diversity, Equity, and Inclusion believes excellence should be inclusive of the entire University of Vermont (UVM) community and is steadfastly committed to this belief. Every day, our Division strives to make our work accessible, affirming, and action-oriented to help ensure excellence is inclusive of everyone. <https://www.uvm.edu/diversity>

Interfaith Center: Each of us engages those questions differently, perhaps through a religious tradition, philosophy, or spiritual practice. No matter how you make meaning of your life, you are welcome at the Interfaith Center for reflection, spiritual practice, education, and community building. <https://www.uvm.edu/interfaithcenter>

Mosaic Center for Students of Color (MCSC): MCSC's vision is to create a diverse and rich community of empowered, engaged, and enthusiastic students of color at UVM. We fully support the holistic development of self-identified students of color so that they can obtain their goals for academic achievement, personal growth, identity formation, and cultural development. <https://www.uvm.edu/mcsc>

Prism Center: The Prism Center serves the diverse queer and trans communities at the University of Vermont. We support and empower