

# CHEM 023/025: OUTLINE OF GENERAL CHEMISTRY

Fall 2021

**LECTURE A:** CHEM 023 (90038) & CHEM 025 (90536), M,W,F 8:30AM-9:20AM, Innovation E102

**LECTURE B:** CHEM 023 (90708) & CHEM 025 (90537), T,Th 8:30AM-9:45AM, Marsh Life Sci 235

**GENERAL INFORMATION:** (see also the CHEM23 BlackBoard page)

**Instructor:** Steve Flemer      **email:** sflemer@uvm.edu

**Office:** 331 Innovation

**Office Hours:**

Mon: 9:30-10:30AM	In-person: 211 Discovery - lab room
Tue: 10:00-11:00AM	In-person 211 Discovery - lab room
Wed: 9:30-10:30AM	In-person 211 Discovery - lab room
Thurs: 10:00-11:00AM	Remote on Teams: <a href="https://go.uvm.edu/qbpju">https://go.uvm.edu/qbpju</a>
Fri: 9:30-10:30AM	Remote on Teams: <a href="https://go.uvm.edu/rndhp">https://go.uvm.edu/rndhp</a>

**Lecture:** The lecture will primarily be used to cover new material. Included in this syllabus is a tentative schedule covering the class material and problem sets to be worked from each Unit of Study.

**Exams:** Three 2-hour exams are given on Thursday nights from 6:00-8:00 PM.

Exam 1	<b>Lecture A</b> (M,W,F section) Thurs, Sept. 23; Billings Lectu	<b>Lecture B</b> (T,Th section)
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**Problems:** Exam questions will be modeled very closely to the type of problems you will encounter in the Practice Problems of each unit of study posted on BlackBoard. Solutions to all of these problems are included in these documents. While it is strongly suggested that you do as many problems as possible, the problems are not collected or graded.

## **LABORATORY:**

(labs start 2 weeks after classes begin)

**Time and Room:** See your class course schedule as to your assignments.

**Attendance:** Students must attend the lab section they are assigned to. Official documentation of sickness or family crisis is required if a lab is missed. **If more than 2 labs are missed, this results in a failure for the course.** In order to take a lab at a time other than your assigned time one must obtain the permission of the TA and instructor.

**Online Lab Safety Quiz:** Prior to the lab sessions beginning, students must read through Lab Safety documentation and take a one-time online quiz before being allowed into their lab session. Just click the “Lab Safety” link on the left hand side of the CHEM23 BlackBoard page and follow the instructions. Students must score an 80 or better on the quiz to be admitted to lab. If you choose, you may take the Lab Safety quiz as many times as you want in order to maximize this score, as it will also count as your first lab quiz grade.

**Lab Safety considerations & Gear:** OSHA approved safety glasses or goggles (available at the UVM Bookstore) must be worn by everyone once any experimentation has started in any area of a lab room. Only shoes that cover the toes are permitted in the lab. Sandals and open-toed shoes are not permitted.

### **Lab Schedule:**

<b><u>Date</u></b>	<b><u>Experiment Description</u></b>
13 – 16 SEPT	<b><u>CHECK-IN</u></b> & Densities of Common Substances
20 - 23 SEPT	Determination of Heat Capacity Using Calorimetry
27 - 30 SEPT	Qualitative Analysis
4 - 7 OCT	Synthesis of Ionic Compound Alum from Aluminum Metal
11 - 14 OCT	Determination of a Compound’s Empirical Formula
18 - 21 OCT	Reaction Stoichiometry & Equation Balancing
25 - 28 OCT	Determination of Limiting Reactant
1 - 4 NOV	Determination of Acid Content in Pickle Juice using Titration
8 - 11 NOV	Determination of Limestone Content in Soil using the Ideal Gas Law
15 – 18 NOV	Acid-Base Equilibria and Buffers
22 – 25 NOV	<b><u>NO LABS</u></b> (Thanksgiving Break)
29 NOV – 2 DEC	<b><u>LAB CHECKOUT</u></b>



# **TENTATIVE LECTURE SCHEDULE**

## **UNIT 1**