

## *Chemistry 253 Syllabus, Spring 2023*

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Lab Time: Wednesday 12:50-4:00pm

Office hours: M and T: 11:00-noon and other times by appointment

Course Website: CANVAS

### **Summary**

Welcome to CHEM 253, a one credit laboratory course taken in conjunction with CHEM 252. The lab meets for a single three-hour session in Guion 208.

### **Purpose of the Course**

The students will conduct experiments that feature applications of topics discussed in CHEM 252. At the end of the semester, each student is required to design and propose an independent project. An oral presentation is given during the last day of class on the independent project.

### **Required Supplies for the course are as follows:**

- (a) Two marbled composition notebook.
- (b) Safety goggles purchased from the Bookshop.
- (c) Lab manual purchased from the Bookshop.
- (d) Scientific calculator.
- (e) Box of gloves and an apron purchased from the Bookshop.

### **Required Attire**

Skirts or pants must be below the knee. Goggles, a lab coat or apron, and closed toes shoes must be worn. Long hair must be tied back. **You cannot begin the lab unless you are properly attired. Please don't come to lab in illegal clothing and shoes!! You will be sent back to your dorm to change.**

## **Attendance**

Attendance in lab is **required** and students should make every effort to come to lab at their regularly scheduled time. If a lab is missed, you have **ONE week** to make it up, after that it will become a zero. If you play sports and know you will be missing a lab, then come to me **BEFORE** the missed lab class and make arrangements to make up the lab. Failure to do so will result in the same penalty as above. If you have to make up a lab you will be responsible for **ALL** of the work. You will have no one to share the work with. You will normally work in pairs during the scheduled lab times. If there are extenuating circumstances, then come to me to work out a make-up time. Do not schedule any other class or activity during your lab time!!!

## **Written Work and Laboratory Safety**

For each lab, the procedure, observations, calculations and post lab questions will be written in the graded notebook. **Write in ink in the notebook.** If there are pre-lab questions, these need to be turned in at the beginning of the lab, either typed or written on a separate piece of paper. If they are not turned in when you walk into lab, then you will lose 10 points from the lab grade. Many labs require a calculator, so bring your calculator with you to lab. Safety glasses or goggles should be worn at **all times** in the laboratory. The instructor reserves the right to deduct points on that day's lab for failure to comply with wearing safety goggles. Contact lenses are **NOT** recommended; wear your glasses covered by safety glasses or goggles. Safety training will include viewing a video and reading/signing a safety agreement/standard operating procedure form for the lab. The Safety Data Sheets are located in Guion 211, across from the fume hood. The college safety website can be accessed at the following address:

<https://sweetbriar.instructure.com/courses/1180>

## **Turning in Labs**

**The lab notebook will be due one week after the lab is completed.** You will be using two lab notebooks-one for the even numbered experiments and one for the odd numbered experiments. It is imperative that these are turned in on time in order for them to be graded and returned to you to write up the next experiment. If labs are turned in one day late, there will be a 50% penalty and two days late will be a 75% penalty. After that, the lab grade will become a zero. **NO EXCEPTIONS!!!!**

## **Independent Project:**

You will be required to do a two-week **independent** research project at the end of the semester. One week will be spent making the solutions that you need for your project and gathering needed glassware and other supplies. This project needs to be based on a scientific principle pertaining to the course that you are interested in investigating. You will be graded on an oral presentation of your independent project. The oral presentation on the basic principles and results of your investigation is **required** on the last day of class. This grade will count twice.

## **Wellness**

You may encounter difficulties during the course of this term, as we all do from time to time. At Sweet Briar College, we are committed to supporting and advancing the mental health and well-being of our students. During the course of their academic careers, students often experience personal challenges that contribute to barriers in learning, such as drug/alcohol problems, strained relationships, persistent sadness or loss of interest in enjoyable activities, family conflict, grief and loss, domestic violence, difficulty concentrating, problems with organization, procrastination and/or lack of motivation. Students also sometimes come to college with a history of learning difficulties, experience difficulties succeeding in a particular subject (*e.g.*, math, reading), or have experienced some form of trauma, be it emotional or physical (*e.g.*, head injury).

These mental health concerns can lead to diminished academic performance and can interfere with daily life activities. If you feel that personal circumstances are preventing you from succeeding in this class, you are encouraged to speak with me as early as you can so that we can plan a reasonable path forward. If I am unable to offer you an appropriate level of support, I will do my best to connect you with other resources we have on and off campus. I want you to be safe and supported so that you can get the best educational experience possible.

If you or someone you know has a history of mental health concerns or if you are unsure and would like a consultation, a variety of confidential services are available. If you find yourself experiencing these issues, please consider taking advantage of the resources available. [Horizon Health Services](http://www.horizonbh.com/) (<http://www.horizonbh.com/>) are located on campus in the Health and Wellness center in the basement of the Chapel. Counselors are on campus and available for appointments Monday-Friday from 9 a.m. to 5 p.m. Students may schedule appointments by calling 434-946-2316. You can also email questions to [HorizonBehavioralHealth@sbc.edu](mailto:HorizonBehavioralHealth@sbc.edu).

## **Accommodations**

Sweet Briar College is committed to upholding and maintaining all aspects of the federal Americans with Disabilities Act of 1990 (ADA), as amended in 2008, and Section 504 of the Rehabilitation Act of 1973. If you are a student with a disability and wish to request reasonable accommodations, please contact the Office of Accessibility Services [accessibility@sbc.edu](mailto:accessibility@sbc.edu) for an appointment. Because many accommodations require early planning, requests for accommodations should be made as soon as possible.

## **Diversity Statement**

At Sweet Briar, administrators, faculty, and staff are committed to the creation and maintenance of “inclusive learning” spaces. These are classrooms, labs, and other places of learning where you will be treated with respect and dignity and where all individuals are provided equitable opportunity to participate, contribute, and succeed.

In Chemistry 253, all students are welcome regardless of race/ethnicity, gender identities, gender expressions, sexual orientation, socio-economic status, age, disabilities, religion, regional background, veteran status, citizenship status, nationality and other diverse identities that we each bring to class.

## **Professor/Student-Athlete Academic Contracts:**

If you are on an athletic or riding team this term, I expect you to provide me with a completed Professor/Student-Athlete Academic Contract to consider and sign ASAP.

## **Class Conduct and Academic Integrity**

“Sweet Briar women do not lie, cheat, steal, or violate the rights of others. Therefore, I pledge to uphold all standards of honorable conduct. I will report myself and others for any infractions of this pledge.” - The Honor Code

Students are expected to respect themselves, their peers, and their professors. If any behavior becomes a distraction, the professor may dismiss any student from class and give an absence for that day. Cheating and plagiarism will not be tolerated; these will be reported to the Academic Judicial Chairwoman to be addressed in accordance with the Sweet Briar College Student Handbook. Consequences may also include failure of the assignment or failure of the course.

## **Grading:**

Letter grades may be interpreted as:

A	100 - 93 %
A-	92 - 90 %
B+	89 - 87 %
B	86 - 83 %
B-	82 - 80 %
C+	79 - 77 %
C	76 - 73 %
C-	72 - 70 %
D+	69 - 67 %
D	66 - 63 %
D-	62 - 60 %
F	59 % or lower

## LAB SCHEDULE FOR SPRING 2023

*TABLE 1: Course Schedule (Subject to Change)*

<b>01/11</b>	Safety Video, Check-in, Course Expectation, Making Solutions Prepping solutions for Lab #1
<b>01/18</b>	<b>Lab #1:</b> Factors That Affect Solubility, Rate of Dissolution and Crystal Formation Prepping solutions for Exp. 2
<b>01/25</b>	<b>Lab #2:</b> Colloidal Dispersions Prepping Solutions for Exp. 3
<b>02/01</b>	<b>Lab #3:</b> Freezing Point of Solutions Prepping Solutions for Exp. 4
<b>02/08</b>	<b>Lab #4:</b> The Rate of a Chemical Reaction Prepping Solutions for Exp. 5
<b>02/15</b>	<b>Lab #5:</b> Equilibrium Constant of an Organic Reaction Prepping Solutions for Exp.6
<b>02/22</b>	<b>Lab #6:</b> A Study of the pH of Acids, Salts and Buffers Prepping Solutions for Exp. 7
<b>03/01</b>	<b>Lab #7-:</b> From Rust to Batteries: How to Control Electrochemical Energy-Week 1
<b>03/15</b>	<b>Lab #7:</b> From Rust to Batteries: How to Control Electrochemical Energy-Week 2 <b>Independent project proposals due today</b>
<b>03/22</b>	<b>Lab #8:</b> Independent Research Project-Gathering equipment and making solutions needed for projects.
<b>03/29</b>	<b>Lab #8:</b> Perform Independent Research Project
<b>04/05</b>	Oral Presentations and Checkout

Note: Classes End April 7, 2023