



**Marshall University Syllabus**  
**College of Science**  
**Chemistry**

**Course/Section**

CHM 217, Principles of Chemistry Laboratory I Sections 105/106

**Term/Year**

Fall 2023

**Instructor**

Dr. Rosalynn Quiñones

**Contact Information**

- Office: Science Building S 496
- Office Hours: Tuesdays and Wednesdays 10:00 am – 11:00 am, and Thursdays 11:00 am – 12:00 pm or by appointment in person/online using *Microsoft Teams*. I welcome drop-in visits but cannot guarantee that I will be available to help you during non-office hours. Simple questions can be answered via email.
- Office Phone: 304-696-6731
- Marshall Email: quinonesr@marshall.edu

**Course Description**

A laboratory course that demonstrates the application of concepts introduced in CHM 211.

**Credits**

2.00 credits

**Prerequisites**

Corequisite: CHM 211

**Class Meeting Days/Times**

8:00 – 10:50 AM *Thursdays (105/106)*

\*These times may change on exam days.

**Location**

Science Building S 474/476; Go to S 473 on the first day. S 473 will be used on exam days. (See course schedule.)

**Academic Calendar**

For beginning, ending, and add/drop dates, see the [Marshall University Academic Calendar Academic Calendar Fall 2023](#)

**Health and Safety Information**

All members of the Marshall University community are expected to always observe health and safety protocols.

This includes general health and safety protocols as well as specific protocols that might emerge in response to community and campus health conditions.

## Required and/or Recommended Texts and Materials

1. CHM 217 Lab Manual (purchase at the bookstore)
2. Access to MU Online (<https://www.marshall.edu/design-center/>) and a Marshall email account
3. Composition notebook with sewn binding (*not spiral-bound*) and blue/black ink pen
4. Indirectly vented chemical safety goggles
5. Closed-toe shoes that cover the feet in entirety and clothing that covers the entire torso, extending down past the knees.
6. Combination lock for lab drawer
7. Roll of paper towels for cleanup
8. Non-programmable calculator for exams (it must not have keys for the alphabet)
9. Access to ACS academic lab safety guide (online)  
<https://www.acs.org/content/dam/acsorg/about/governance/committees/chemicalsafety/publications/safety-in-academic-chemistry-laboratories-students.pdf>

## Course Student Learning Outcomes

Course student learning outcomes	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
Students will know and follow safety rules in the chemical laboratory.	<ul style="list-style-type: none"> <li>• Lab Safety training at MU Online</li> <li>• reading laboratory manual</li> </ul>	<ul style="list-style-type: none"> <li>• online Lab Safety quiz</li> <li>• exams</li> <li>• instructor's evaluation</li> </ul>
Students will learn how to properly use and care for laboratory equipment.	<ul style="list-style-type: none"> <li>• reading laboratory manual</li> <li>• prelab presentations</li> <li>• laboratory experiments</li> </ul>	<ul style="list-style-type: none"> <li>• lab reports</li> <li>• instructor's evaluation</li> </ul>
Students will learn how to record and communicate laboratory experiments and results.	<ul style="list-style-type: none"> <li>• reading laboratory manual</li> <li>• prelab presentations</li> <li>• laboratory experiments</li> </ul>	<ul style="list-style-type: none"> <li>• lab notebook</li> <li>• lab reports</li> </ul>
Students will apply concepts introduced in the chemistry lecture (CHM 211).	<ul style="list-style-type: none"> <li>• reading laboratory manual</li> <li>• laboratory experiments</li> <li>• laboratory calculations</li> </ul>	<ul style="list-style-type: none"> <li>• pre- and post-lab questions</li> <li>• lab reports</li> <li>• exams</li> </ul>

## Course Requirements/Due Dates (all can be accessed/submitted at MU Online)

**August 31 (before lab):**

-Complete Lab Safety Training and score at least 80% on the quiz at MU Online

-Complete safety form

To complete the Safety Training Course online: go to <http://www.marshall.edu/muonline/>. The safety exam can be found in the left column at the top of the course content folder. Students failing to complete this requirement (including completing the online quiz and correctly answering at least 12 correct questions) **will not be permitted to work in the lab.** This assessment will not count toward your final grades.

**All students must fill out the lab safety form. This form can be found in MU online. The form is fillable and can be printed out. The form can be sent by email. This form is due August 31, 2023.**

- Each week before assigned lab time:** -Prelab questions for the current week's lab (*part of your assessment*)  
**Answers to pre-lab questions are due at 8:00 am the day of the experiment; evaluation will be part of the report, which is submitted a week later.**  
 -Lab report for the previous lab and post-lab questions for the previous lab (*part of your assessment*)
- October 5<sup>th</sup> (before lab):** -Lab notebook grading and Exam
- November 30<sup>th</sup> (before lab):** -Lab notebook grading and Exam

## Grading Policy

Lab notebook	70	points
Online Quizzes*	80	points
Lab reports*	550	points
Exam 1	125	points
Exam 2	125	points
Instructor's evaluation of student performance**	50	points
	<b>1000</b>	<b>TOTAL POINTS</b>

\*Each student's lowest lab report and online quiz grade will be dropped.

\*\* The instructor's evaluation of student performance will be based on observation of safety rules and proper maintenance of laboratory facilities. Students may lose these points for offenses such as, but not limited to: tardiness, improper waste disposal, safety violations, leaving a mess on the balances, failure to return/store lab equipment before leaving lab.

**Grading Scale** A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, F: 0-59%

The percentage of total points earned will be rounded to the nearest whole percentage. If you believe there has been an error in the grading of your work, please consult Dr. Quiñones during office hours.

## Attendance/Participation Policy

Pre-lab presentations (in S 473) are generally brief. Pertinent material from the CHM 211-212 textbook should be read in preparation for an experiment. Consult the safety data sheet (SDS) (available online) or other sources to learn about any chemical substance being used in an experiment. The lab period will not be extended for those who fail to prepare adequately in advance. This lab has been designed so that lectures (CHM 211) and lab topics occur at roughly the same time, emphasizing the interplay between theory and experiment.

There is limited time to complete each experiment, so tardiness cannot be accommodated. If a student is more than 5 minutes late, he/she will not be allowed to complete the lab and will receive a grade of zero on that report.

Students' lowest report grade will be dropped from their overall grade. Because of this policy, students with unexcused absences will not be allowed to make up missed work. Late work will not be accepted without a university-approved excuse.

Students with excused absences should contact the instructor **as soon as possible** to make arrangements for accommodation. Absences related to coronavirus will be treated as excused absences. A student's first excused absence may be made up by attending a makeup lab, scheduled immediately after Exam 2. If the makeup lab is not completed, a grade of zero will be given for the missed lab, which can be counted as the dropped lab report grade. For subsequent excused absences, the student must contact the instructor as **soon as possible** to arrange a makeup lab assignment.

The Department of Chemistry policy, stated in the university catalog, requires that students **complete at least 75% of laboratories to receive credit for the course**. A student who misses 4 or more in-person laboratories, excused

or unexcused, will need to confer with the instructor and consider withdrawing from the course. COVID-19-related absence will be treated as an excuse.

## Safety Rules

1. Read the laboratory safety rules (Training) and chemical disposal rules in the lab manual. There will be questions concerning this on quizzes and exams.
2. Read and sign one copy of the Chemistry Laboratory Questionnaire and keep a second copy (the one in your manual) for reference. The questionnaire must be signed before check-in is permitted.
3. You are required to comply with all safety rules and all safety-related instructions at all times. Failure to do so is grounds for dismissal from the laboratory.
4. Safety goggles must be worn at all times. Wearing contact lenses in the lab is strongly discouraged. If contact lenses must be worn, a Contact Lens Waiver Form must be signed and given to the instructor.
5. Do not eat, drink, smoke, or taste anything in the laboratory.
6. Slacks or dresses cut below the knee are required. Substantial shoes with low heels covering the entire foot must be worn. Avoid very loose clothing or unnecessary items of clothing. Jewelry should be removed.
7. Know the locations of all safety equipment in the lab. You will be tested on this.
8. All injuries, no matter how trivial, must be reported to the instructor immediately. Any accident or near-miss will require a written report discussing how the incident might have been prevented.

## Additional Policy

Electronic Devices: Cellular telephones and other electronic devices must be silenced during class. **This means from 8:00 am until you have finished work and left the laboratory for the day.** The only use permitted is for keeping time.

I have an Open Communication Policy: If you are having trouble with a problem, concept, or anything in class related please do not hesitate to email me. I try to respond to emails within 24 hours, but there are no guarantees. The content of this course will adhere closely to the information contained in the textbook and laboratory manual. You may use other resources (alternate texts, notes from other professors, etc.). If you find information that contradicts something written in the textbook or said in the lecture, please consult Dr. Quiñones.

Class announcements may occasionally be made via email to your university email address. Please check it regularly. Lecture notes and handouts will be posted on MU Online as time permits.

## Assessments and Late Policy

**Lab Reports.** The lab report format will include prelab questions. These prelab questions must be answered before students perform the lab experiment and they must be included in your lab report as well as in the lab notebook. Answers to pre-lab questions are due at **8:00 am** the day of the experiment in your lab notebook. Dr. Quiñones will sign your lab notebook to check the answer to the prelab questions. *Post-lab write-ups and experimental results* (produced using a program such as Microsoft Word, **(PDF files will not be accepted)**) are due at 8:00 am the period following the completion of the experiment (**one week after the lab is completed**). Lab reports will be submitted in MU online/course content folder. **Lab reports sent by email as attachments will be disregarded.** Follow the guidelines for the *lab report format* found in MU online. (A required lab report format can be found in MU online). A total of 12 lab reports will be collected and graded will count at 50 pts with a total of 550 points for the semester. Each student's lowest lab report will be dropped.

**Notebooks** will be inspected at least twice. At the end of each laboratory period, the lab notebook must be signed (stamped) by the lab instructor or TA. Therefore, you must write all you do, observe, and collect data in the lab notebook including a final summary of the lab experience. Always write down in your lab notebook and lab reports in 3rd person. Follow the guidelines for maintaining a *laboratory notebook* found in MU online. (A required

laboratory notebook format can be found in MU online). Lab notebook will be graded twice (35 points) two times in the semester with a total of 70 points.

**Online Quizzes** will be performed using Microsoft Forms. The online quizzes will be taken before the laboratory period. Students will be able to access and complete the online quiz in MU online. The online quiz will be available each week for a period of 24 hrs from Wednesday 8:00 am until Thursday 8:00 am. **No extra time will be allowed if one is late.** A quiz may cover any previous experiments as well as the experiment of the day, calculations, and safety. Each online quiz will count at 8 pts with a total of 11 quizzes for the semester (80 pts). Each student's lowest online quiz grade will be dropped.

**Instructor Evaluation** of student performance will be based on observation of safety rules, attitude in the lab, and proper maintenance of laboratory facilities. Students may lose these points for offenses such as, but not limited to: tardiness, improper waste disposal, safety violations, evenly divide work with the lab partner, leaving a mess on the balances, failure to return/store lab equipment before leaving lab.

**Course Performance:** Except in highly unusual circumstances, no make-up of quizzes or experiments is permitted. Missed quizzes or experiments are considered "lowest". The lowest quiz and report scores will be dropped so that an unavoidable absence will not jeopardize one's grade. Excused absences (for policy, see link on next page of syllabus) must be arranged in advance (if possible). **Late lab reports and pre-lab questions are not accepted.**

## Academic Integrity Policy

Each student should read the university's Academic Dishonesty Policy carefully. It is expected that each student will complete all assignments without help from any other person. Seeking assistance for a graded assignment from Chegg, Reddit, Course Hero, previous students of this class, or any other entity will be considered academic dishonesty and reported by university policy. Posting any material from the lab manual or a class assignment in a public forum is a copyright violation and will also be reported as academic dishonesty.

## University Policies

By enrolling in this course, you agree to the University Policies. Please read the full text of each policy (listed below) by going to [MU Academic Affairs: University Policies](http://www.marshall.edu/academic-affairs/policies/). (URL: <http://www.marshall.edu/academic-affairs/policies/>)

- Academic Dishonesty Policy
- Academic Dismissal Policy
- Academic Forgiveness Policy
- Academic Probation and Suspension Policy
- Affirmative Action Policy
- Dead Week Policy
- D/F Repeat Rule
- Excused Absence Policy for Undergraduates
- Inclement Weather Policy
- Sexual Harassment – Policy Title IX prohibits the harassment of students based on sex, which includes pregnancy, childbirth, and related conditions. This includes that students will not be penalized for taking medically necessary leave related to pregnancy, childbirth, or related conditions. Marshall's Title IX Office may be contacted at [TitleIX@marshall.edu](mailto:TitleIX@marshall.edu)
- Students with Disabilities (Policies and Procedures)
- University Computing Services Acceptable Use Policy

**Plagiarism Statement (Academic Affairs Policy):** Plagiarism is submitting as one's own work or creation of any material or an idea wholly or in part created by another. This includes:

- Oral, written, and graphical material.
- Both published and unpublished work.

It is the student's responsibility to clearly distinguish his/her own work from that created by others. This includes the proper use of quotation marks, paraphrasing, and the citation of the original source. Students are responsible for both intentional and unintentional acts of plagiarism.

**Sanction:** Sanctions for academic dishonesty may be imposed by the instructor of the course. The sanction for academic dishonesty may be imposed even if a student withdraws from an individual course or the university entirely. The instructor may impose the following sanctions:

- A lower or failing project/paper/test grade
- A lower final grade
- Failure of the course
- Exclusion from further participation in the class (including laboratories or clinical experiences).

## Course Schedule

**\*\* This schedule is subject to change. Changes, if necessary, will be announced in class\*\***

Date	Experiment #	Topic
8/24	1 Part 1	Methods of Measurement
8/31	1 Part 2	Determination of Sugar in Soft Drinks <i>Safety training, safety form, contact lenses, and safety exams are due</i>
9/7	2	Separating Components of a Mixture
9/14	5	Determination of an Empirical Formula
9/21	4	Determination of the Percent Oxygen in Air
9/28	8	Titration of Vinegar
10/5	6 <b>Exam 1</b>	Synthesis of an Alum <i>Lab notebook grading</i>
10/12	7	Reactions
10/19	9	Heat of Reaction and Heat of Solution
10/26	10	Energy of a Peanut: Calorimetry
11/2	11	Combustion – Synthesis and Reactions of Oxygen
11/9	12	Molecular Architecture
11/16	13	Determination of Molar Mass & Lab Check-out
11/17	<i>last day to withdraw from full-semester courses</i>	
11/23	<i>No Lab, Thanksgiving Break</i>	
11/30	<b>Exam 2; make-up for excused absences</b> <i>Lab notebook grading</i>	

## Artificial Intelligence (AI) Policy

Generative AI is permitted/encouraged with proper attribution, but prohibited in other ways.

Students are allowed, and even encouraged, to use Generative AI in some ways but are prohibited from using it in other ways. Keep in mind that any content produced by generative AI can “hallucinate” (produce false information), so students are responsible for ensuring the accuracy of any AI-generated content. For information on citing AI, please see MU Library’s citation website (URL: <https://libguides.marshall.edu/plagiarism-AI/cite>). Students should not use generative AI in any way that would violate the Student Code of Conduct (URL: <https://www.marshall.edu/student-conduct/files/Studnet-Code-of-Conduct-2022.pdf>).

Students are permitted and encouraged to use generative AI in the following ways:

*Brainstorming:* You may use generative AI to stimulate creativity, generate ideas, or brainstorm topics for papers, presentations, and discussions. The generated content must serve as a stepping stone, not a final product.

*Citation Assistance:* AI tools can be used to manage, format, and organize citations and references, promoting adherence to academic writing standards and specific style guides required for individual assignments.

*Grammar and Style Checking:* AI-powered writing enhancement tools may be used to help with spelling, grammar, syntax, and stylistic errors.

*Concept Understanding:* Generative AI can be used to explain or simulate concepts taught in class, aiding in a deeper understanding.

*Research Assistance:* AI can be used to conduct initial research, compile data, and summarize articles, books, or papers. It should not replace traditional research methods but rather enhance them.

You may not use generative AI in coursework in the following ways:

*Plagiarism:* Using AI-generated content as your original work without attribution. This includes essays, papers, presentations, and exam answers.

*Data Manipulation:* Using AI tools to alter data or create misleading information.

*Misrepresentation of Skills:* Using generative AI to complete tasks that are meant to assess your knowledge and skills.

*Confidentiality Breach:* Using AI tools that might violate university policies or laws related to data privacy and confidentiality.

See individual assignment instructions for more details.

**Metacognitive Reflection. In addition to a proper citation, the student should include the following statement with any assignment where generative AI is used for assistance.**

“I used generative AI platform [INSERT NAME OF PLATFORM, SUCH AS CHAT GPT] for assistance in the following ways on this assignment: [INSERT WAYS USED, such as brainstorming, citation assistance, grammar and style checking, concept understanding, and research assistance, etc.]”