

Chemistry 254 Syllabus, Summer 2022

Instructor: J. Molloy **Info:** ISC Rm 2031, ext. 12546; jcmolloy@wm.edu;

Laboratory Instructors: J Molloy

Lab T.A. _____

Laboratory Coordinators: Ms. Shieh (ISC Rm 1053, ext. 12678);
Mrs. Hopkins (ISC Rm 1037, ext. 12543)

Chem 254/208 is a cognate lab/lecture courses.

Objectives: Laboratory techniques in chemistry; applications of chemical fundamentals

Safety: Everyone is responsible for safe practices in the laboratory. Students must wear approved goggles in the laboratory.

Course Structure

An online pre-lab discussion precedes the laboratory experiment itself and is required before attending. You must attend the lab as you registered (no section-hopping) except with express permission.

Grading: Experiments: 60% Exam I: 20% Exam II: 20%

A: 100-95, A-: 94-90, 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 < 60

No goggles will be available for lending. Students not prepared for lab with goggles will be unable to complete the lab.

Students that do not complete the pre-lab quiz with a grade of 100% 15 minutes before the lab will receive a 25 point reduction in your lab report grade for that lab. The pre-lab quiz must be completed before you can attend the lab.

Students that arrive more than 15 minutes after the beginning of the lab time will not be permitted to complete the lab.

Enrollment Deadlines

Add/Drop Deadline: Friday, July 8, 11:59 pm.

Withdraw Deadline: Friday, July 22, 11:59 pm.

Schedule of Experiments

Experiment date	Exp. #	Experiment
July 4		No Lab
July 5	1	Determination of Chloride and Vitamin C.
July 6	2	Some Analyses of Water
July 7	3	pH and Potentiometric Titrations
July 11	5	Inorganic Synthesis of Alum and CuCl
July 12	4	Photometric Determination of an Equilibrium Constant
July 13	7	Synthesis of a Coordination Compound
July 14		Review 208 Class Exam
July 18		Chem 254 Exam I
July 19	6	Determination of a Cation Mixture using Cation Exchange
July 20	7	Synthesis of a Coordination Compound, part 2
	8	Electrochemistry
July 25	9	Complexes of Copper
July 26	10	Identification of an Unknown Salt
July 27	11	Determination of the Mole Ratio in a Complex
July 28		Review 208 Class Exam
August 1	12	Analysis of a Coordination Compound
August 2		Review Chem 254 Exam II
August 3		Chem 254 Exam II
There are no makeup labs ; labs may be made up during the week offered on a space available basis, per the excused absence policy; see Ms. Shieh.		
Questions about grading, excused absences, and other issues should be directed to J. Molloy.		
Exams	Each exam is a 90 minute exam.	

Course Materials

Multiple materials will be used in the laboratory.

Equipment:

- Chemical splash goggles are required during lab work. The book store sells chemical splash goggles, but that model of goggle is not required. Other vendors, both local and online, have suitable replacements. Please contact J. Molloy if you have questions on appropriate goggles.

Written Materials:

- The Chem 103 lecture text -- E. J. Neth, P. Flowers, K. Theopold, R. Langley, W. R. Robinson, *Chemistry: Atoms First*, 2nd ed., OpenStax: Houston, TX, ISBN: 9781947172630 (2019). <https://openstax.org/details/books/chemistry-atoms-first>.
- Lab procedures are available on Blackboard.
 - * **Students are required to print out materials and bring them to lab.**

Video Materials:

- Pre-lab lecture materials are available on Blackboard.
- Additional video material may be available from library resources or the internet.

Software:

- Spreadsheet programs will be used for calculation and visual display of results. **Microsoft Excel**, which is available for all students, and **Google Sheets**, available on the internet, will be used.
- **Zoom** will be used as needed for meeting with students. It is free to the student.
- **Blackboard** will be used to post all experimental procedures, pre-lab recordings and any supplemental materials. Pre-lab assignments will be completed on Blackboard.
- **Gradescope** will be used for grading laboratory assignments. Gradescope is free to the student.

Office Hours

J. Molloy

Info: ISC Rm 2031, ext. 12546; jcmolloy@wm.edu;

Office Hours: by appointment

Student Accessibility Services

William & Mary accommodates students with disabilities in accordance with federal laws and university policy. Any student who feels they may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis should contact Student Accessibility Services staff at 757-221-2512 or at sas@wm.edu to determine if accommodations are warranted and to obtain an official letter of accommodation. For more information, please see www.wm.edu/sas. Specific discussion may be needed on how qualifying needs impact laboratory activities.

Diversity & Inclusion Vision Statement

The College of William & Mary values and actively nurtures an environment of diversity and inclusiveness where every individual, regardless of how we may differ – for example, but not limited to, with regard to race, religion, gender, ethnic origin, age, socioeconomic status, political preferences, physical abilities, or sexual orientation – is embraced, respected, and afforded the same opportunity to grow, to succeed, and to contribute to the William & Mary's success.

Honor Code

All students are expected to follow the W&M Honor Code. For more information, please see:

<https://www.wm.edu/offices/deanofstudents/services/communityvalues/honorcodeandcouncils/honorcode/index.php>

Update Policy

Changes may be required to this syllabus during the course of the semester. If changes are made, an updated version will be made available and placed on Blackboard as Syllabus -- Current. Previous versions will remain.

Lab Submissions

- Pre-lab assignments will be conducted and graded on Blackboard. Assignments for all sections are due one hour before the start time of the lab section. **Students that do not complete the pre-lab on time will receive a 25 point penalty on the lab report. A score of 100% is needed before you are able to attend the lab.**
- Laboratory assignments & exams will be graded on Gradescope.
- Lab assignments will be submitted on the lab manual report sheets at the end of the laboratory period.
- Reports must be written in ink on the report sheets torn from the lab manual. **Do not erase or white-out data.** If a digit is to be changed, draw a single line through the incorrect digit and write the correct digit **above**, not over, the crossed-out digit. “Erasable ink” is graded as **pencil**.
- The faculty member may, if circumstances dictate and a sincere effort has been made to complete the lab on time, decide to allow student(s) to complete an assignment after the end of the laboratory period. The report will be due as directed by the faculty member. Teaching assistants may not allow late submissions.

Version 1.0

Date May 27, 2022

This version of the syllabus supersedes all previous versions of the syllabus.