



蘇州大學
Soochow University

CHM 119 General Chemistry I Laboratory

Summer 2024

Course Credits: 4

Contact Hours: 56 hours

Instructor: TBA

Email: TBA

COURSE OBJECTIVES

This course is designed to provide students with a solid foundation in chemistry and hands-on laboratory experience. Topics cover such as atomic structure, chemical bonding, stoichiometry, chemical reactions, thermodynamics, and properties of matter. Throughout this course, students will be able to apply theoretical knowledge to real-world scenarios, enhance their problem-solving abilities, and gain proficiency in laboratory techniques.

Upon Completion of this Course, students will be able to:

1. Understand the fundamental principles of chemistry and their applications.
2. Learn about safety procedures and other safety reference materials, chemical and physical hazards associated with laboratory investigations.
3. Discover the importance of careful laboratory observations and thinking about chemistry.
4. Become proficient with a variety of common chemical analytical techniques.
5. Develop laboratory skills including proper handling of chemicals, use of laboratory equipment, and experimental techniques.

PREREQUISITES

CHM 109 General Chemistry I

GRADING

Grades will be determined by accumulating points, with 100 points being the



maximum, as follows:

ITEM	POINTS
10 Labs	50 Points
4 Lab Reports	20 Points
Midterm	15 Points
Final Exam	15 Points
Total	100 Points

Late submissions will be graded at the end of the course. Grades will be assigned according to the following rule:

$$A \geq 90 > B \geq 80 > C \geq 70 > D \geq 60 > F.$$

We reserve the right to make adjustments to the overall grading policy.

COURSE MATERIALS

Required Texts:

General Chemistry Laboratory Manual, Ruth J. Bowen, Barbara A. Burke, Jow Casalnuovo, Ed Walton, 2017.

Chemistry: The Central Science, Theodore L. Brown, H. Eugene LeMay, Pearson Education, 2013.

Recommended (Optional) Texts or Other Materials:

None

COURSE TOPICS

MODULE	TASKS
Module 1	Topics: Topic 1: Experimental Techniques Topic 2: Gravity Filtration; Suction Filtration Topic 3: Lab 1: Matter and Measurement Topic 4: Lab 2: Atoms and Molecules Assessments: Lab Report#1
Module 2	Topics: Topic 5: Use of a Crucible



	Topic 6: Lab 3: Stoichiometry Topic 7: Density Determination Topic 8: Lab 4: Nuclear Chemistry Assessments: Lab Report#2
Module 3	Topics: Topic 9: Synthesis of Alum from Recycled Aluminum Topic 10: Lab 5: Intermolecular Forces: Gases Topic 11: Analysis of Hydrated Metal Sulfate Topic 12: Lab 6: Intermolecular Forces: Liquids and Solids Assessments: Midterm
Module 4	Topics: Topic 13: Salt Solubilities Topic 14: Lab 7: Thermodynamics Topic 15: Solution Concentration by Spectrophotometric Analysis Topic 16: Lab 8: Chemical Kinetics Assessments: Lab Report#3
Module 5	Topics: Topic 17: Molar Volume of Oxygen Topic 18: Lab 9: Electrochemistry Topic 19: Paper Chromatography Topic 20: Lab 10: Stereochemistry Assessments: Lab Report#4 Final Exam

ATTENDANCE

1) Class attendance is required. Missing classes without permission will lead to decrease in overall grade.

Missing less than two classes: no penalty.

Missing more than two classes: 7% will be taken off from the overall grade.

If the instructor reports a student's frequent missing of class to the Soochow University Academic Administration Office, the student might get a written warning and might be prohibited from attending final exam.

2) Participants in this course are expected to arrive in class promptly and adequately prepared. The primary objective of this course is to critically engage with the readings



and the subject matter. Therefore, course participants are expected to have completed the reading prior to class and prepare thoughtful reflections/commentaries to share with fellow colleagues.

LEARNING REQUIREMENTS

- 1) Late assignments are not acceptable and are subjected to grade deductions.
- 2) Assignments submitted in the wrong format will be counted as not submitted.
- 3) Failure to submit or fulfill any required course component results in failure of the class.
- 4) Make-up for midterm and final exams only with valid excuses, as defined by the University.
- 5) In order to earn a Certificate of Completion, participants must thoughtfully complete all assignments by stated deadlines and earn an average quiz score of 50% or greater.

TECHNOLOGY POLICY

The use of electronic devices in class is distracting, both for the user and for the rest of the class. Only non-programmable calculators can be used in the tests and exam. Any attempts to use cell phones and other electronic communication devices will be seemed as cheating. Laptops are discouraged, unless you use them for activities DIRECTLY related to the course (eg., note taking, reading course documents).

ACADEMIC INTEGRITY POLICY

Soochow University highly values the academic integrity and aims to promote the academic fairness, honesty and responsibility. Any academic dishonesty behaviors and any attempts to cheats and plagiarism will be reported to the university administration office. A written warning and the relevant penalties will be imposed. The record might be shown on the official university transcript.

DISABILITY ACCOMMODATION

Soochow University is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at



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Soochow University. Students with disabilities who require accommodations for access to and/or participation in this course are welcome.

Note:

Please contact the University Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material.