

CHM 121 General Chemistry I Section xxxx Syllabus

INTRODUCTION TO COURSE AND INSTRUCTOR

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| Semester Fall 2022 | Program/Department Chemistry |
| Course Name General Chemistry I Lab | Instructor Name xxx E-Mail: xxx@csi.cuny.edu |
| Credits and Hours 1 credit, 3 labhours | Office Location 6S-xxx Office Hours: xxx |
| Mode of Instruction In Person | Course Website CUNY Blackboard |
| Section xxx | |
| Time xxx | Location 6S-xxx |
| <i>If there are questions or concerns that you have about this course that you and I are not able to resolve, please feel free to contact the Chair of the department to discuss the matter.</i> | |
| CHAIR/PROGRAM DIRECTOR'S NAME | Qiao-Sheng Hu |
| DEPARTMENT NAME | Chemistry |
| CHAIR/PROGRAM DIRECTOR'S EMAIL | Qiaosheng.Hu@csi.cuny.edu |
| DEPARTMENT/PROGRAM PHONE NUMBER | 718-982-3900 |

COURSE DESCRIPTION AND PRE/COREQUISITES

Experiments illustrate crucial chemical concepts discussed in lectures and highlight current interpretations of experimental data, based on modern lab techniques.

Pre-requisites: One-year of high school chemistry or (CHM 100 and CHM 101)

Co-requisite: CHM141

REQUIRED COURSE MATERIALS

- *Chemistry 121 Custom Lab Manual, Cengage Learning*, ISBN: 978-1-305-01125-0. Available ONLY at CSI bookstore. DO NOT rent the lab manual online because you are required to use the original data sheets and post lab pages from the lab manual in the lab. Photo copies are not accepted. Online book order link: <https://csi.textbookx.com/institutional/index.php>
- *CSI Handout*. Will be available on Blackboard.
- CUNY Blackboard Access
- Scientific calculator with logarithm function
- Lab safety goggles (see Safety Handout)

COURSE GOALS

- (1) The student will learn how to work safely in a chemical laboratory

- (2) The student will demonstrate knowledge of the use of chemical experimental setups
- (3) The student will be able to collect and analyze data
- (4) The student will communicate his or her findings by writing concise reports

STUDENT LEARNING OUTCOMES

- (1) The student can conduct experiments safely with fundamental lab skills.
- (2) The student demonstrates an understanding of fundamental principles of chemistry.
- (3) The student can collect, analyze and interpret data.
- (4) The student conveys facts, theories, and results about chemistry in concise reports.

COURSE REQUIREMENTS/ASSIGNMENTS

Safety and Cleanliness:

- **We strictly follow CUNY and CSI safety guidelines, including mask wearing, social distance and vaccination guidelines.**
- Safety is extremely important in chemistry laboratory. To be safe, you should be aware of the safety policies and practices in your laboratory manual safety section **Page 1-9**. You must sign the lab safety agreement on Page 9 and be checked by your instructor before you perform any experiment in the lab.
- Lab bench should be wiped clean before you leave the lab. All glassware should be cleaned and stored in the original location before you leave the lab.
- Safety goggles should be worn at any period of the class. You are not allowed to be in the laboratory without wearing the safety goggles. Gloves should be worn when you handle any chemicals. Cell phone usage is not allowed during the lab including phone charging. Please keep your cell phone in your bag to avoid contamination by chemicals and distraction. **Scientific calculator** is required for calculation.
- You will be deducted 1 point for each violation from your final score.

Class Attendance and Withdraw Policy:

- You are required to attend each class **on time**. A discussion of each experiment will be provided before you start the experiments and the in-class quizzes will also be held at the beginning of your class. No make-up lab, quiz and exam will be arranged. Lateness is not acceptable.
- You need to complete the experiments during the class hour in order to receive credit for the course.
- If you miss **two** lab classes, you will receive an **F** grade regardless your final score of the course.
- According to CSI's Fall 2022 Academic Calendar, the last day to withdraw with the grade of "W" is December 13, 2022.

Lab Reports

- Lab report is very important for the lab course. Each lab report is 100 points (including 20 points of pre-lab quiz (in class), 40 points of data sheet and calculations (hand written), 30 points of post-lab assignments (hand written) and 10 points of experiment discussion (typed)).
- You should be prepared before you attend the lab course. To understand the purpose and the procedure of the experiment, you need to read the lab manual, text book, take pre-lab notes and study pre-lab assignment before the class. **Weekly in-class close-book quizzes will be given at the beginning of each lab.** The quiz will be given at the beginning of the class in classroom. You need to be present in class to take the quiz. Questions may come directly from the pre-lab questions in your lab manual. On the days of midterm exam, you will have a regular quiz and a midterm exam. No make-up quiz will be arranged.
- Write your result directly on the data sheet on the day of your experiment. Your data sheet and calculations needs to be checked and signed by your instructor before you leave the lab of the day to earn the credit. To earn the full credit (40 points) of the data sheet, your data and results need to be accurate with proper formulas, units and significant figure numbers. Calculation without showing your work receives no credit.
- Answer all the assigned questions from post-lab questions section in your lab manual. Write your answers clearly on the lab manual.
- Type your experiment discussion double spaced in 12pt font using the template on Page 8. The following information should be included: (a) title; (b) your name and your partner's name; (c) date of the experiment; (d) the purpose of the lab; (e) the fundamental principle or theory behind the experiment; (f) the brief procedure(s) or methods to reach the goal of the experiment; (g) your experimental results and finding and discussion about the possible experimental error(s); (h) conclusion. Do NOT give detailed procedures in discussion.
- Post lab report packet should be submitted on the following week class day in a single packet. You must turn in your lab report packet before the beginning the class to earn the credit. Arrange the post-lab in the order of *experiment discussion sheet, data sheets/calculation and post-lab assignment*. If you are absent, no post-lab including data sheet, post-lab assignment and experiment discussion of the lab will be accepted and graded.
- The lab report (pre-lab quiz and post-lab packet) counts 60% of the lab grade. Late report packet will be accepted but you will receive a penalty by losing 3 points per late day per assignment (9 points will be deducted if you turn in your post-lab packet one day late). Lab reports later than one week will not be accepted.

Midterm Exam and Final Exam

- One midterm exam will be given in the middle of the semester in class. Midterm exam date will be announced in class.
- Departmental final exam will be held during December 14 – December 21.
- No make-up labs, quizzes and exams will be arranged.

Attitude:

- Disruptive behavior is unacceptable in the lab, and will NOT be tolerated. Late arrival, noisy devices, inconsiderate behavior, and talking during lectures, will not be tolerated. Discussion of scientific issues is highly welcome to advance our knowledge, but emotional arguments and quarrels are prohibited.

GRADING POLICY AND EVALUATION

The course final grade is based on the following:

Lab reports: 60 %

Midterm Exam: 10 %

Final Exam: 25 %

Attendance and class participation: 5 %

SUBJECT TO CHANGE STATEMENT

This syllabus and course calendar/schedule are subject to change in the event of extenuating circumstances.

CUNY POLICY ON ACADEMIC INTEGRITY

Academic dishonesty is prohibited in The City University of New York. Penalties for academic dishonesty include academic sanctions, such as failing or otherwise reduced grades, and/or disciplinary sanctions, including suspension or expulsion. This policy also defines example of academic dishonesty: cheating, plagiarism, obtaining unfair advantage, and falsification of records and official documents. Please visit the following website to read the full policy:

https://www.csi.cuny.edu/sites/default/files/pdf/privacy/cuny_academic_integrity.pdf

You will work with your lab partner during the experiment. You help with each other while doing the experiment. However, you must work independently on your pre-labs, data sheet/calculation and post-labs. You shouldn't copy any other person's work including any online resources as your own. Students must work independently on all quizzes and exams. Any forms of cheating or plagiarism in lab report or tests will result in a zero point for your assignment and may result an **F** grade of the course. Also, any academic dishonesty will be reported to the college authority.

REASONABLE ACCOMODATIONS AND ACADEMIC ADJUSTMENTS

The City University of New York, in compliance with Section 504 of the Federal Rehabilitation Act of 1973 ("Rehabilitation Act"), the Americans with Disabilities Act of 1990 ("ADA"), New York State Executive Law §296, and New York City Human Rights Law, provides qualified individuals with disabilities the opportunity to participate in programs, activities, or employment.

For more information and access to the full policy please visit: <https://www.csi.cuny.edu/about-csi/diversity-csi/office-diversity-compliance/reasonable-accommodations-and-academic-adjustments>

STUDENTS WITH DISABILITIES

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe that you have a disability requiring an accommodation, please contact the Center for Student Accessibility at 718.982.2510/ CSA@csi.cuny.edu. For more information please visit: www.csi.cuny.edu/csa/.

TUTORING AND ACADEMIC ASSISTANCE

The College offers tutoring to students, free of charge. For a complete list of the Tutoring Centers please visit <https://www.csi.cuny.edu/students/academic-assistance/tutoring>

CAMPUS (CIX) EMAIL

Students are expected to check campus (cix) email regularly. Students must recognize that certain communications, may be time-sensitive, and they may be required to monitor email on a more frequent basis than determined by instructional needs. If students have issues accessing their campus (cix) email please email the helpdesk@csi.cuny.edu or visit the [Virtual Computer Lab](#).

General announcements and course related materials will be posted on Blackboard. If you are from another school, make sure your email address on Blackboard is up to date. All announcements will be either announced in class or emailed through Blackboard.

Lab Schedule

| Week | Date | Experiment | Reading | Quiz/Exam | Reports | Due dates |
|------|------|--|--------------------------------------|------------------------------|-----------------------------------|-----------|
| 1 | | Lab Safety | Lab manual (pp.1-12) CSI Handout | | Laboratory safety quiz (pp.11-12) | |
| 2 | | Relating Mass and Volume | Lab manual (pp.13-26) | Pre-lab Quiz | Report 2 | |
| 3 | | Physical and Chemical Changes | Lab manual (pp.55-66) | Pre-lab Quiz | Report 3 | |
| 4 | | Separating and Identifying FD&C Dyes Using Paper Chromatography | Lab manual (pp.27-42) | Pre-lab Quiz | Report 4 | |
| 5 | | Determining the Empirical Formula of a Compound | Lab manual (pp.43-54) | Pre-lab Quiz | Report 5 | |
| 6 | | Properties and Reactions of Acids and Bases | Lab manual (pp.85-92) | Pre-lab Quiz | Report 6 | |
| 7 | | Observing Single Replacement Reactions | Lab manual (135-146) | Pre-lab Quiz | Report 7 | |
| 8 | | Precipitating Calcium Carbonate | CSI Handout | Pre-lab Quiz Midterm exam | Report 8 | |
| 9 | | Determining the Molar Concentration of a Sodium Hydroxide Solution and Dilution | Lab manual (pp.67-84) CSI Handout | Pre-lab Quiz | Report 9 | |
| 10 | | Charles's Law | Lab manual (pp.105-120) | Pre-lab Quiz | Report10 | |
| 11 | | Evaluation of the Gas Law Constant | Lab manual (pp.93-104) | Pre-lab Quiz | Report 11 | |
| 12 | | Temperature Change, Heat of Reaction and Enthalpy Change of Neutralization Reactions | Lab manual (pp.121-134) | Pre-lab Quiz | Report 12 | |
| 13 | | Seeing is believing: Models of Molecular Structure | CSI Handout | Pre-lab Quiz | Report 13 | |
| 14 | | Review and Check out | | | | |
| | | | | Final exam | | |

Student Agreement

CHM 121 GENERAL CHEMISTRY I LABORATORY

Spring 2022

Section: xxxx

Please read the laboratory syllabus and policy carefully. Sign and return this form to your instructor.

By signing this form, you agree to abide by the following rules:

(1) I have thoroughly read the information above and I understand the policies of the laboratory.

(2) I agree that cheating, copying or plagiarism of any laboratory reports and tests will result in a failing grade

Print Name: _____

Signature: _____

Date: _____

CHM121 Experiment Discussion (10 points scale)

Title: _____ (0.5 points)

Name: _____, Section _____

Partner's name: _____

Instructor: _____

Date of Experiment: _____

Purpose (1 points)

In your own words state the experiment purpose in one or two sentences. Don't copy from the manual.

Fundamental principle or theory behind the experiment (2.5 points)

Describe basic chemistry principle you used in the experiment, include any balanced chemical equations and formula.

Method: (1 points)

Do not give detailed procedures (no credit will be given if you copy the procedure from manual). Just briefly describe procedure(s) or methods to reach the goal of the experiment.

Discussion: (4 points)

Use your data to explain why and how your data support your findings. Your data should be reported and analyzed here. Discuss about the possible experimental error(s) and what you have learned from this experiment.

Conclusion: (1 points)

Briefly conclude your results.