CHEM-UA.125
General Chemistry I Laboratory

Instructor Information
- Prof. Stephanie Geggier
- 1001R Silver
- Monday 12 - 1 pm, Tuesday 3:30 - 4:30 pm
- geggier@nyu.edu

Course Information
- Welcome to the General Chemistry I laboratory! The objective of this course is to become proficient in techniques used by chemists, to carry out experiments safely and carefully, to obtain data and to analyze data correctly. You will learn many techniques such as paper chromatography, fractional crystallization, titration, qualitative analysis, colorimetry, calorimetry, and so on. Many of the experiments are scheduled to follow the topics of the lecture portion of the course. Try to see the connections between the two. Lab work will help you to understand the material covered.
- Laboratories will be held in room 151 Brown.

Course Requirements

Notebook Preparation
See “Notebook Guidelines” posted on NYU Classes

Laboratory Reports
At the end of each lab, all students are required to hand in a lab report. Specific requirements are given in the handout for each lab. The lowest lab report score will be dropped.

Tests & Quizzes
- Pre-lab quizzes are taken online on NYU Classes (Tests & Quizzes tab) and are due at 11:55 pm the evening before lab. You will have two hours to complete the Pre-Lab quiz once you have started (if you start after 9:55 pm you will have less time). It cannot be paused once you have begun. You will have one attempt at the assignment, so be prepared before starting. The lowest pre-lab quiz score will be dropped.
- The safety quiz is also taken on NYU Classes. Watch the ACS safety video (https://www.youtube.com/watch?v=0zHev9iM8kU) prior to attempting this quiz. You must get at least 80% correct but you can take the test as many times as you like until you get 100% up until the deadline. This grade is recorded as a pre-lab quiz grade.
- The nomenclature quiz is taken on NYU Classes and counts as one lab report grade.
• 5-min lab quizzes are given before every experiment in the lab at 9:30 am and 2:30 pm, respectively. There are no make-up quizzes. If you arrive after 9:35 am (or 2:35 pm), you will get a grade of zero for that quiz. The lowest quiz score will be dropped.
• The practical final exam will be administered in the laboratory. You will be evaluated on your technique, completion of a task, and results.
• The final exam written will be administered in a classroom (location will be announced the week before the exam).

Grading of Assignments
Your overall laboratory score will contribute to 25% of your overall general chemistry course grade. The grade for this course will be determined according to the following formula:

<table>
<thead>
<tr>
<th>Assignments/Activities</th>
<th>% of Final Grade</th>
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<tbody>
<tr>
<td>Online Pre-Lab Quizzes</td>
<td>15%</td>
</tr>
<tr>
<td>5-min Lab Quizzes</td>
<td>5%</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>50%</td>
</tr>
<tr>
<td>Final Exam Practical</td>
<td>10%</td>
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<tr>
<td>Final Exam Written</td>
<td>20%</td>
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</tbody>
</table>

If you score below 40% on the practical exam or the written exam, your final grade will be below a C grade (you will not be able to take General Chemistry II).

View Grades
You will be able to access your grade for the pre-lab quiz in the gradebook on NYU Classes right after completion. Answers will be available on the day after the whole class completed the quiz. You will also be able to see the grades for the lab reports and lab quizzes as they are recorded. It is your responsibility to make sure the grades recorded on NYU Classes are correct and consistent with the graded lab reports and quizzes returned to you. Final exam grades will also be posted on NYU Classes.

Course Correspondence
If you have questions regarding graded lab reports, pre-lab assignments, and upcoming labs, or any other concerns pertinent to the course, first email your section instructor. If you do not receive a response, or if your section instructor is unable to resolve the issue, please contact me directly. The following information must be included in email: 1) Name, 2) Section number, and 3) Subject including the words: “General Chemistry I Lab”.
# Course Schedule

## Topics and Assignments

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
<th>Assignment Due</th>
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</thead>
<tbody>
<tr>
<td>Sep 3 - 9*</td>
<td>CHECK-IN and Safety in the Chemistry Laboratory</td>
<td>Safety in Academic Chemistry Labs: Chaps. 1,2, and 5</td>
<td>N/A</td>
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<tr>
<td>Sep 10 - 16</td>
<td>Density of Liquids and Solids</td>
<td>Exp #1</td>
<td>ACS Safety Video Safety Quiz Pre-lab Quiz 1 Notebook prep</td>
</tr>
<tr>
<td>Sep 17 - 23</td>
<td>Paper Chromatography of Food Dyes</td>
<td>Exp #2</td>
<td>Pre-lab Quiz 2 Notebook prep</td>
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<tr>
<td>Sep 24 - 30</td>
<td>Fractional Crystallization</td>
<td>Exp #3</td>
<td>Pre-lab Quiz 3 Notebook prep</td>
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<tr>
<td>Oct 1 - 7</td>
<td>Back-Titration of a Commercial Antacid</td>
<td>Exp #4</td>
<td>Pre-lab Quiz 4 Notebook prep</td>
</tr>
<tr>
<td>Oct 8, 9, 10 &amp; 15</td>
<td>Qualitative Analysis Nomenclature (online quiz)</td>
<td>Exp #5 Exp #6</td>
<td>Pre-lab Quiz 5 Notebook prep</td>
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<td></td>
<td>Note: NYU runs a Monday Schedule on Oct 15 (Tuesday)</td>
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<td>Nomenclature Quiz</td>
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<tr>
<td>Oct 21 - 24</td>
<td>Vitamin C (Redox Titration)</td>
<td>Exp #7</td>
<td>Pre-lab Quiz 7 Notebook prep</td>
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<td>ChemDraw Assignment</td>
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<tr>
<td>Oct 28 - 31</td>
<td>Calorimetry</td>
<td>Exp #8</td>
<td>Pre-lab Quiz 8 Notebook prep</td>
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<tr>
<td>Nov 4 - 7</td>
<td>Beer’s Law</td>
<td>Exp #9</td>
<td>Pre-lab Quiz 9 Notebook prep</td>
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<tr>
<td>Nov 11 - 14</td>
<td>Determination of the Ideal Gas Constant &amp; Check-Out**</td>
<td>Exp #10</td>
<td>Pre-lab Quiz 10 Notebook prep</td>
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<tr>
<td>Nov 18 - 21</td>
<td>Lab Practical Exam</td>
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<tr>
<td>Nov 25 - 28</td>
<td>No Lab (Thanksgiving Recess)</td>
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<tr>
<td>Dec 2 - 5</td>
<td>Molecular Modeling with Spartan (Take-home lab)</td>
<td>Exp #11</td>
<td>Exp #11 due in lab and on NYU Classes</td>
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<td>Dec 9 - 12</td>
<td>Lab report pick-up</td>
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<td>Dec 16</td>
<td>Written Lab Final Exam (4:00 – 5:45 pm, rooms TBA)</td>
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* Lab runs from Tuesday to Monday until Exp #5, then from Monday to Thursday

** If you don’t check out, you will get an incomplete.
Course Materials

Required Materials

- Laboratory Notebook (available at NYU bookstore): Student Lab Notebook, General Chemistry, 100 Carbonless Duplicate Sets, Hayden McNeil.
- Personal Protective Equipment (PPE) must be purchased in the chemistry stockroom using NYU CAMPUS CASH only.
  - 12 disposable lab coats ($18)
  - Full coverage safety goggles ($5)
  - 1 box of disposable nitrile gloves ($8)
- Software:
  - Logger Pro®, available for free download from NYU Classes (Sec001, Resources tab, Laboratory folder, Course software folder, password: conservation)
  - Spartan Software Version 7 (for experiment 11); Instructions for purchase at a special discounted price ($25) will be posted on NYU Classes
  - ChemDraw, available for free download via the NYU library site. Instructions will be posted on NYU Classes.

Resources

- Access your course materials: NYU Classes (nyu.edu/its/classes), Gen Chem I & Lab, Fall 19, Resources tab, Laboratory folder
- Databases, journal articles, and more: Bobst Library (library.nyu.edu)
- Obtain 24/7 technology assistance: IT Help Desk (nyu.edu/it/servicedesk)

Course Policies

Laboratory Safety & Policies

Safety is of paramount importance in the laboratory. If you do not follow the safety rules presented to you, you will be removed from the lab and you will lose credit for the experiment.

1) PPE and Attire

- **Goggles** are required in the laboratory at all times, even when you are not directly handling chemicals.
- **Gloves** must be used when handling chemicals and equipment within the laboratory. You will need multiple pairs per session. When removing gloves, do so in a way that avoids the contaminated exterior contacting the skin. Wash hands after removing gloves. Dispose of contaminated gloves in the container for broken glass. Do not attempt to re-use disposable gloves. Never wear possibly contaminated gloves outside of the laboratory or to handle telephones, computer keyboards, etc. Latex gloves are not permitted.
- **Laboratory coats** are required in the laboratory, and must be disposed of in the regular trash prior to leaving the lab space.
Clothing that covers your legs and shoulders are required for this course. This does not include tights or ripped jeans. Skin between your pants and shoes should not be exposed. No shorts or short skirts and no exposed bellies. Closed shoes must be worn at all times. No ballet flats, flip flops, or open shoes of any kind are permitted. If you come to lab improperly dressed, you will be sent home.

2) Clothing Lockers
Personal belongings are not permitted in the lab. Coats, book bags, purses, etc., will have to be placed in a hall locker. These lockers are located on the 4th floor of the Silver building. How to use the clothing lockers...
   a. Go to any locker on the 4th floor.
   b. Place your items inside and close the door.
   c. On the keypad press C, then any 4 number combination you will remember, then the key (lock button). The lock will engage. I suggest you take a picture of your locker as a record.
   d. To open the locker, simply repeat the earlier steps – Press C, then the same 4 number combination that you entered earlier, followed by the key (lock button). The lock will release. After you have removed your items, please leave the locker as it is, you do not need to re-engage the lock.
   e. Please note that once the lock engages it will only remain locked for 5 hours. You must return as soon as possible following your lab and reclaim your belongings. After 5 hours have passed, the lock will disengage automatically, and the contents will be accessible to anyone. Items left in a locker past their removal time are subject to removal and disposal.
   f. If your locker does not open, the stockroom staff will be able to help you open your locker if you can prove it’s your locker (take a picture). Otherwise you will have to wait until the locker opens automatically after 5 hours.

3) Waste Minimization
In an effort to minimize costs and to reduce any environmental damage, we all will make a concerted effort to avoid wasting laboratory materials and to dispose of all chemicals and other materials properly. With this in mind, you must observe the following rules in the lab:
   a. When you obtain a reagent for use in an experiment, read the label on the bottle; make sure that the substance name, its chemical formula, and its concentration match those specified in the directions for the experiment.
   b. Take only the amount that you need, and DO NOT RETURN any reagent to the bottle.
   c. Dispose of all materials in the proper waste container. DISPOSABLE PIPETS, WEIGHING BOATS, USED NITRILE GLOVES and (of course) BROKEN GLASS MUST be disposed of in the "Broken Glass" container (not the regular trash). Liquid chemical waste must be disposed of into the hazardous or the non-hazardous waste container. There are solid waste containers for solid waste. Used paper towels and used lab coats go into the regular trash. Further details for each experiment are given in the section "Waste Disposal" in the handout.
4) Laboratory Policies
   a. You may not consume food, gum, or beverage in the laboratory.
   b. Cell phone usage is not allowed in the laboratory.
   c. Communal laboratory glassware, balances, and equipment must be returned and properly cleaned prior to the end of the lab session.

Attendance and Tardiness
Depending on your class time, you should arrive in the lab by 9:30 am (morning sections) or 2:30 pm (afternoon sections). The quiz will be given from 9:30 to 9:35 am and 2:30 to 2:35 pm, respectively. If you arrive later, you will not be able to make up the quiz and receive a grade of zero for it. If you arrive after 9:50 am (or 2:50 pm), you will not be allowed to start the experiment and receive a grade of zero for the lab report.
To receive a passing laboratory grade, you are required to complete 8 out of 11 labs as well the written lab final and the lab practical. THERE WILL BE NO MAKEUP LABS. You will receive a score of zero for all missed quizzes and laboratory sessions. If you are too ill to attend lab, see a doctor or go to NYU Health Services. You are required to bring to me documentation that will verify your illness. The documentation must be on a physician's stationary. Excused labs will not count when we evaluate your grade. Similarly, if you must miss a lab because of religious observance, you should provide some documentation to be excused. Missed pre-lab quizzes will not be excused but can be made up if documentation is provided. THERE WILL BE NO EXCEPTIONS TO THESE RULES.
You must attach a DOCUMENTATION COVER SHEET to your documentation (downloadable from our NYU Classes site).

Academic Honesty/Plagiarism
All students are required to comply with the NYU Academic Integrity policies and the Honor Code, which can be found at:

http://cas.nyu.edu/page/academicintegrity
http://cas.nyu.edu/page/honorcode

Plagiarism is to use someone else’s ideas, words, or figures as your own. That means that you cannot use current or old lab reports, data, figures (such as chemical structures), etc. from your lab partner, friend, textbook, the Internet, or anyone other than yourself.
You will do experimental work together with your lab partner and may discuss concepts and ideas with each other. However, work submitted must be original and authentic. Copying post-lab answers is considered cheating. If your section instructor recognizes plagiarism, you will receive a zero for the assignment, and the instance will be reported to the dean’s office. This score will not be eligible as a dropped lab score for calculation of the final grade.

Disability Disclosure Statement
Academic accommodations are available for students with disabilities. Please contact the Moses Center for Students with Disabilities (212-998-4980 or mosescsd@nyu.edu) for further information. Students who are requesting academic accommodations are advised to reach out to the Moses Center as early as possible in the semester for assistance.