New York University
Syllabus
Fall 2022

Office Hours: By Appointment, Tuesday (11 am), Thursday (11 am)
Office Location: 4th Floor Waverly Building Clinical Suite

Zoom
https://nyu.zoom.us/j/2563949127

Professor Acknowledgements
I reserve all rights to change any of the contents within the syllabus with advanced notice to you, if I feel any changes become necessary during the semester.

Course Description
The lab portion of the course is a companion to the lecture and recitations. It will provide chemical laboratory exercises, learning chemical laboratory skills, and how to properly handle and dispose of hazardous materials. You will also work with and share a lab drawer with a partner.

Course Requirements
This course is the laboratory part of the first semester General Chemistry-UA-122 and is in support of the lecture material, allowing for an information continuity to exist between them. It is required in taking it concurrently. This is an ON-CAMPUS lab course meeting. This is NOT a remote laboratory course although we have a virtual lab.

Learning Objectives
To understand the nature of the general chemistry lab, the application of theoretical chemical and physical concepts involved in the experimental setup, material properties, chemical reactivity, and handling of, and disposing of materials safely within the chemical lab structure and organization.

Lab Days, Times, and Sections
- Tuesday 2:45pm-7:00pm Waverly 967b (Select sections only)
- Thursday 2:30pm-6:45pm Waverly 967b (Select sections only)
- Friday 9:30am-1:45pm Brown 151 (Enter through Silver first floor)

Experiments
Posted in NYU Brightspace under the laboratory "tab"

Virtual Labs (ALEKS) - Requires Registration
Only, if necessary, in accommodating the course.

Videos
Ancillary materials only - if available.

Weekly Workload
Much of the work will be in preparing for the weeks assigned lab exercise and will include different assignments. If the assignment includes using Logger Pro, then individual printouts
must be submitted with the group submission. You will need to have Logger Pro installed on your home computer.

**Lab Submissions (105 pts)**
All experimental work must be completed and submitted by the end of the lab period. Both partners are responsible for the lab submission.

**Experiment Components**
- Prelab Quiz (30 pts), Lab Quiz (5pts), Experiment and Post Lab questions (60 pts), Lab Notebook (10pts).

**Pre-Lab Quiz (One for each Experiment) Individual Submission**

A 2-hour (120 minutes) timed, **30-point quiz**. It must be done by the night before each lab exercise and has a cut-off deadline of 11:59 pm. If you begin at 10:59 pm, this will give you only 60 minutes or 1 hour to complete it. Do not wait until the last minute to take the pre-lab quiz. **You must complete the quiz by the night before your lab meets. If you miss you will get a zero score for the experiment.**

- Tuesday Lab (Due Monday 11:59pm)
- Thursday Lab (Due Wednesday 11:59pm)
- Friday Lab (Due Thursday 11:59pm)

**University extended times will be followed for acknowledged students.**

I will be using McGraw Hill ALEKS (Lab is a separate login and registration) for the experimental pre-laboratory quizzes

**Prelab quiz Individual**
You will need to review the appropriate Silberberg sections for the general material topics we are covering in the lab for that week’s experiment. This means you may need to review material we have already covered in semester 1 and semester 2. The prelab quiz questions do not come directly from the lab exercise.

E.g., If we are titrating Pb(NO₃)₂ (aq) in the lab as an exercise, the pre-lab quiz will only generalize the topic in ALEKS as a titration concept and so will assess your understanding as an applied concept in titration, not just the titration of the lead(II) nitrate solution. This always includes the moles at the equivalence point and a balanced chemical equation.

**Lab Quiz (5pts) Individual**
A five-minute lab quiz (calculator required), beginning at 9:35 am, or 2:35 pm. (No make ups) This quiz will directly cover the laboratory experiment we are doing. Only for those students receiving university extended time, please inform your instructor before the quiz begins.

All students need to be ready and waiting outside the lab room to enter the lab space. This will allow us to immediately focus on starting the quiz. **I will always begin the quiz and stop it.**

Please be on time, since missing the quiz will give you a zero for the in-house lab quiz (5pts), and there will never be an allowance for any makeup. If you are late and miss it, you miss it.
It may include questions covering experimental setup, calculations, waste disposal, safety, material chemical composition, reactions, or balanced equations, etc. You must have a calculator **(NO Cell phones in lab)**

**Lab Notebook (Duplicating book) - Individual**

It is a hand-written outline organization including experiment sketches, tables, balanced reactions, data, and any assigned practice problems, glassware sketches, chemical equations, completed calculations, hazardous materials table, chemical structures) and a list of physical properties involved in the lab exercise.

Every experiment will require a lab notebook checked at the beginning and to be completed before coming to lab. **You will NEVER be allowed to complete it during lab.**

Any questions or calculations from the Lab module should be done and included in the lab notebook at the end and submitted in the group submission.

No more than 2 - 3 pages.

Students will work in groups of two, but as I stated, you will be submitting some work as **individual**, such as the lab notebook and remaining work as a share work or **group** work (Experiment and Post lab questions).

**Experiment Scores (105pts)**

**Composite sum = Exp (70pts) + (30) PLQ + LQ (5pts)**

**Experimental Lab Final Exam (ELFE) 300 pts**

**Written Lab final Exam (WLFE) 150 pts**

**Grade Equivalence to percentage**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>A 95-100%</td>
<td>A- 90-94%</td>
</tr>
<tr>
<td>B+ 87-89%</td>
<td>B 83-86%</td>
</tr>
<tr>
<td>B- 80-82%</td>
<td>C+ 77-79%</td>
</tr>
<tr>
<td>C 73-76%</td>
<td>C- 63-72%</td>
</tr>
<tr>
<td>F 0-62%</td>
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</tbody>
</table>

**Lab PPE Requirements Individual**

If you are expecting to work in the general chemistry lab, you will need to have the following items. This is the list of mandatory Personal Protection Equipment or PPEs.

- Gloves
- Laboratory Jackets (Keep in Locker)
- Face mask
- Goggles
- Duplicate Laboratory Notebook (Order Online through NYU Bookstore)
- University Vaccination Ready (Booster)

Each student will maintain the proper social distancing when possible, so please remain in the region of your work area and show respect when dispensing materials from the chemical hood. You can communicate with each other at the same bench, but you will be working strictly with one other student, as your partner.

You must still be mindful of Covid-19 variants, and how easily the pathogen is vectored. You should minimize talking in the lab, besides wearing an N95 mask. These are typical laboratory
restraints in bioengineering or genetic engineering where you do not speak while working at the bench.

While in the lab, each student must wear a face mask, goggles, gloves, and laboratory disposable jacket. No cloth lab jackets are allowed. All skin must be fully, including full ankle socks. The chemistry lab is never fashionable.

You will need to purchase your own face masks, as NYU will no longer provide them for your personal lab use. You must have one to do the lab, or you will not be allowed to remain in the room.

**Purchases from the Lab stock room** (151 Brown Building)
- Box of Gloves
- Goggles
- Disposable Jackets
- Spartan Software (See Link Below)

**NYU Brightspace**
We will be using NYU Brightspace for grades and laboratory course information. This includes lab exercises (manuals), and any ancillary videos.

**ALEKS**
To be made available (registration required)

**Zoom**
If we use zoom for anything, please launch the application from within NYU Brightspace.

**Lab Notebook Required**
NYU Bookstore or order online through the Amazon link - You will need the notebook for the first lab.

ISBN: 978-1930882744
Author: Hayden
Publisher: Hayden-McNeil Publishing
Formats: Spiral
Amazon

**Course Points**
The lab course will provide **25%** towards your General Chemistry course grade from Dr. M. You do not earn a letter grade in the lab course, only a percentage score. If you want to know what the letter score will be, then it translates to the same structure as Dr. M's course scale.
### Each Experiment Points

<table>
<thead>
<tr>
<th>Experiment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiments, Lab Notebook, Post-Lab</td>
<td>70pts</td>
</tr>
<tr>
<td>Prelab Quizzes ALEKS</td>
<td>30pts</td>
</tr>
<tr>
<td>Lab Quizzes (On campus)</td>
<td>5pts</td>
</tr>
<tr>
<td><strong>Lab total</strong></td>
<td><strong>105pts</strong></td>
</tr>
<tr>
<td>Experiments 10</td>
<td>1000pts</td>
</tr>
<tr>
<td>Lab Quizzes 10</td>
<td>50</td>
</tr>
<tr>
<td>Experimental Lab Final Exam (ELFE)</td>
<td>300</td>
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<tr>
<td>Written Final Lab Exam (WFLE)</td>
<td>150</td>
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<tr>
<td><strong>Lab Total Points</strong></td>
<td><strong>1500</strong></td>
</tr>
</tbody>
</table>

### Course Lab Schedule

<table>
<thead>
<tr>
<th>Dates</th>
<th>Experiment</th>
<th>Experiment Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Check-In</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sept 1, 2, 6</td>
<td>Exp 1</td>
<td>Basic Laboratory Skills</td>
</tr>
<tr>
<td>Sept 8, 9, 13</td>
<td>Exp 2</td>
<td>Chemical Bonding (Spartan Software)</td>
</tr>
<tr>
<td>Sept 15, 16, 20</td>
<td>Exp 3</td>
<td>Water Softening</td>
</tr>
<tr>
<td>Sept 22, 23, 27</td>
<td>Exp 4</td>
<td>Iodine Clock Part A</td>
</tr>
<tr>
<td>Sept 29, 30, Oct 4</td>
<td>Exp 5</td>
<td>Iodine Clock Bart B</td>
</tr>
<tr>
<td>Oct 6, 7</td>
<td>Exam 1</td>
<td>No Lab</td>
</tr>
<tr>
<td>*Oct 11, 13, 14</td>
<td>Exp Virtual</td>
<td>Buffer Lab (Multiple Component)</td>
</tr>
<tr>
<td>Oct 18, 20, 21</td>
<td>Exp 6</td>
<td>Le Chateliers Equilibria</td>
</tr>
<tr>
<td>Oct 25, 27, 28</td>
<td>Exp 7</td>
<td>Acid-Base Titrations</td>
</tr>
<tr>
<td>Nov 1, 3, 4</td>
<td>Exp 8</td>
<td>Bromophenol Blue</td>
</tr>
<tr>
<td>Nov 15, 17, 18</td>
<td>Exp 9</td>
<td>Electrochemistry</td>
</tr>
<tr>
<td>Nov 8, 10, 11</td>
<td>Exam 2</td>
<td>No Lab (Buffer Lab Due before TGB)</td>
</tr>
<tr>
<td>Nov 22, 24, 25</td>
<td>TGB</td>
<td>No Lab</td>
</tr>
<tr>
<td>Group A Nov 29, Dec 1, 2</td>
<td>Individual</td>
<td>ELFE Group A</td>
</tr>
<tr>
<td>Group B Dec 6, 8, 9</td>
<td></td>
<td>ELFE Group B</td>
</tr>
<tr>
<td>Group A Nov 29, Dec 1, 2</td>
<td>Individual</td>
<td>WLFE</td>
</tr>
<tr>
<td>* Due Nov 22</td>
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</table>
Course Policies

Attendance
Laboratory attendance is required. No unexcused absences will be accepted, and all absences must be accompanied by a legitimate excuse (Medical note, etc.).

No unexcused work will be acceptated.

Excused experiments allowed to miss: 1

Excused Pre-lab quizzes allowed to miss: none

Exp V: Virtual lab must be done by everyone

ELFE
If missed (Excused or Unexcused) you cannot earn a Grade < 90% or (20/25)% lab percentage points applied towards your final course grade.

You can upload any medical excuse using the assignments tab and will be available the entire semester to upload any of your missed absences and excuses.

Academic Integrity
In this course we will follow all university policies on academic integrity - no exceptions. Poor academic integrity will be dealt with through the proper channels. If you are involved in academic misconduct, it will be forwarded to the Dean of the College of Arts and Science. Currently, remote test taking has increased in dishonest behavior using online platforms, such as Chegg. Although the appeal is to search for test questions, the consequences may be expulsion from the university. Do not use online resources, such as Chegg unless the instructor provides links to them for you to use.

https://cas.nyu.edu/content/nyu-as/cas/academic-integrity.html

No Lab Quiz Makeups
Including your complete name, lab section, instructors name, and the date and experiment number you missed. It is your responsibility to get me the information when you return.

A missed quiz is a zero, unless excused. Excuses are defined by the University - Religious observances, scheduled University events, and illness.

No experiments
There are 10 experiments and one ELFE. Each experiment includes the actual laboratory experimental manual and the objectives, the bench procedures, prelab questions, and post lab question. You need to bring (print) the experiment manual, datasheets, and post lab questions. The total score for each experiment is worth 105 points.

No Experiment Makeups. (Not even virtual)

Pre-Lab Quizzes (MH ALEKS)
There will be a pre-lab quiz for each experiment, and it will include general laboratory information provided in the lab manuals and Silberberg. You should follow through with all concepts and connect them as more complex concepts. This is the learning part - digging for information and then putting it together to see both the detain, and context of it.
Each quiz is worth 30 points of the 105 points counting towards each lab exercise. This is ~ 30% of the lab grade, and you will be given 2 hours to complete it once you begin. You will have the entire week to prepare for it and can take it at any time before the deadline. There will only be one attempt allowed.

When you begin the quiz, you must complete it within 2 hours and the timer begins upon opening the assessment. You need to have everything with you before you press start.

This means you need the following:

- Calculator (scientific)
- Periodic Table (Silberberg)
- Data Tables (Silberberg - if needed)
- Drink
- Power bar

YOU CANNOT BEGIN THE QUIZ AND LEAVE. IT IS A QUIZ AND YOU MUST FINISH IT ONCE YOU START IT.

NO MAKEUPS if you miss the deadline.

Pre-lab Questions
Include in your laboratory notebook.

Post Lab Questions
Each experiment will involve answering several pre-lab and post-lab questions. Their point values are included as part of the 70 points for each lab exercise.

Final Exam
A missed final exam will need to be taken in the next available semester and will give you an incomplete until you complete the requirements.

The Experimental Lab Final Exam is worth 25% of your lab score. You must score >60% to earn credit for the lab. If your Lab Final Exam (ELFE) score is less than 60%, you will receive a failing grade for the lab course. An unexcused missed experimental final lab exam earns you a failing grade for the course.

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Accommodations

Disability Disclosure Statement: Academic accommodations are available for students with disabilities. The Moses Center website is www.nyu.edu/csd. Please contact the Moses Center for Student Accessibility (212-998-4980 or mosecsd@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.
Academic Integrity

Academic Integrity, Plagiarism, and Cheating *(adapted from the website of the College of Arts & Science, https://cas.nyu.edu/content/nyu-as/cas/academic-integrity.html)*:

Academic integrity means that the work you submit is original. Obviously, bringing answers into an examination or copying all or part of a paper straight from a book, the Internet, or a fellow student is a violation of this principle. But there are other forms of cheating or plagiarizing which are just as serious — for example, presenting an oral report drawn without attribution from other sources (oral or written); writing a sentence or paragraph which, despite being in different words, expresses someone else’s idea(s) without a reference to the source of the idea(s); or submitting essentially the same paper in two different courses (unless both instructors have given their permission in advance). Receiving or giving help on a take-home paper, examination, or quiz is also cheating, unless expressly permitted by the instructor (as in collaborative projects).

Student Wellness

In a large, complex community like NYU, it's vital to reach out to others, particularly those who are isolated or engaged in self-destructive activities. Student wellness *(https://cas.nyu.edu/content/nyu-as/cas/academic-programs/student-wellness.html)* is the responsibility of all of us.

Course Software Required and Their Links

We will be using **Logger Pro** and **Spartan** software, and so everyone will need to download them from their links below. We may not use any of the other software, but ChemDraw is used in more advanced chemistry courses and the link is available below.

Located within **NYU Brightspace** under the laboratory tab for General Chemistry-UA-125-001. You will need to install logger pro, so please use the latest version for your system. There are only two versions available. For the Mac and Windows OS. There is no version for the Chrome OS. So, you cannot use the **Chrome OS** with **Logger Pro**.

**Spartan Software (Required)**

We will be using Spartan software to calculate the Molecular Orbital Energy levels for a variety of different chemical substances to determine their energies. You do not need to purchase the Spartan Software.

https://www.wavefun.com

The first link below is available for you as an online IT service from NYU **VCL** (Virtual Computer Lab). You must be continuously connected to the internet to use the software. Notice this link forces you to log into the system. You will need to use your **NYU Net ID login** information. Use the following links for **Spartan**, and other software offered through the Virtual Computing Lab (VCL)
Follow this link for the NYU VCL Login Portal for Spartan Software (Use your NYU login information)

Adobe Scan for iPhone or Android (Download)
Required to upload files in PDF format from your phone

******************************************* NOT Required but available *******************************************

ChemDraw
This link takes you to the NYU library site where ChemDraw information can be found. Please follow the instructions on this page to download ChemDraw. You will need to register for the software. It is free for students to use during the semester. The second link is the form you will need to fill out at Perkin Elmer. Use the account ID provided (Account ID = 3088SL).
https://guides.nyu.edu/c.php?g=276594&p=1844910

https://gallery.cambridgesoft.com/register.html?FlexeraAccountId=3088SL

Excel
If you do not have Excel on your computer, you may use the one found at NYU VCL

Follow this link and click on previous VCL link within the document paragraph. It will take you to the login portal for the VCL software available to use as students.
https://vcl.nyu.edu


Use this link if you need help from IT with VCL
https://nyu.service-now.com/servicelink/kb_search.do?id=041213019263437

This link takes you to the IT software page "location web page" for VCL.
https://www.nyu.edu/life/information-technology/getting-started/software/software-by-nyu-it-location.html

If you want a Spartan desktop version of your own, you can purchase the software at the following link:
https://store.wavefun.com/product_p/spstudent.htm

Adobe Acrobat Software for Students (Download)
https://nyu.service-now.com/servicelink/kb_search.do?id=KB0018090