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Fall 2020

## CHEM 124-001: General Chemistry Lab

Carlos Pacheco

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**Chemistry:**  
**Fall 2020**  
**Course Syllabus**

**NJIT Academic Integrity Code:** The shift to remote and converged teaching due to the COVID-19 pandemic has required that both instructors and students make changes to their normal working protocols for courses. Students are asked to practice extra care and attention concerning academic honesty, with the understanding that all cases of plagiarism, cheating, multiple submission, and unauthorized collaboration are subject to penalty. Students must properly cite and attribute all sources used for papers and assignments. Students may not collaborate on exams or assignments, directly or through virtual consultation, unless the Instructor gives specific permission to do so. Posting an exam, assignment, or answers to them on an online forum (before, during, or after the due date), in addition to consulting posted materials, constitutes a violation of the university's Honesty policy. Likewise, unauthorized use of live assistance websites, including seeking "expert" help for specific questions during an exam, can be construed as a violation of the honesty policy. All students should be familiar with the [NJIT Academic Integrity Code](#).

All Students should be aware that the Department of Chemistry & Environmental Science (CES) takes the **NJIT Academic Integrity Code** very seriously and enforces it strictly. This means that there must not be any forms of plagiarism, i.e., copying of homework, class projects, or lab assignments, or any form of cheating in quizzes and exams. Under the University Code on Academic Integrity, students are obligated to report any such activities to the Instructor.

**COURSE INFORMATION**

**Course Description:** Chemistry 124 (General Chemistry Lab) is a laboratory course; it is designed to be taken concurrently with Chem 126. The experiments are designed to provide the students with practical experience and basic techniques in the chemistry laboratory. Also, they will help the students understand the underlying concepts covered in Chem 125 and Chem 126.

**Number of Credits:** 1

**Prerequisites:** Chem 125

**Course-Section and Instructors**

Course-Section	Instructor	Email	Office Hours
CHEM 124-001	Dr. Carlos Pacheco	<a href="mailto:carlos.n.pacheco@njit.edu">carlos.n.pacheco@njit.edu</a>	Tuesdays, 11-12 pm

**Lab time:** M, 12:30 PM - 3:20 PM, Tiernan 207

**Office Hours:** 1) IN-PERSON, by appointment, one-by-one, 15-min: Tuesdays, 11 am-12 pm;

**Email:** All emails should include **CHEM124-001** in the subject so that it can be filtered appropriately.

**Required Textbook:**

<b>Title</b>	General Chemistry Laboratory Experiments
<b>Author</b>	R.W. Klüber
<b>Edition</b>	8.4
<b>Publisher</b>	New Jersey Institute of Technology
<b>ISBN #</b>	-

**University-wide Withdrawal Date:** The last day to withdraw with a **W** is Monday, November 9, 2020. It will be strictly enforced.

**Learning Outcomes:**

- Comply with safety rules when working in a chemistry laboratory.
- Demonstrate the ability to use general chemistry laboratory equipment.
- Demonstrate the ability to follow lab manual instructions to perform chemistry experiments.
- Demonstrate the ability to use the knowledge of General Chemistry principles to solve the problem.
- Develop practices in recording experimental procedures and data.

**Required PPE (Personal Protective Equipment):**

- Face Mask (Face coverings with exhalation valves or vents are not effective and therefore not acceptable)
- Lab coat
- Lab book (available at NJIT Bookstore)

**POLICIES**

**All CES students must familiarize themselves with, and adhere to, all official university-wide student policies. CES takes these policies very seriously and enforces them strictly.**

**Grading Policy:** The final grade in this course will be determined as follows:

Lab Reports and Accuracy: **85%**

Pre-Quiz: **10%**

Cleanliness of lab bench and sink: **5%**

### Grading scheme:

<b>A</b>	90 - 100	<b>C</b>	70 - 74.5
<b>B+</b>	85 - 89.5	<b>D</b>	55 - 69.5
<b>B</b>	80 - 84.5	<b>F</b>	<55
<b>C+</b>	75 - 79.5		

### Converged Learning Policies:

- **Chem124 is offered in converged learning mode.** The class will meet at the scheduled time with some students physically in the lab and others joining remotely. In order to maintain social distance, a maximum of eight students is allowed to work in the lab simultaneously. The times that students will be physically attending will be communicated to you by your lab Instructor. Students will have to follow a particular procedure if you do not want to attend labs when it is your turn physically. If you have health-related issues that prevent you from physically attending, you should notify the **Office of the Dean of Students**.
- **Attendance is mandatory.** The Instructor of the class will present a pre-lab lecture. Students physically attending the course will perform the experiments individually. A face covering will be required in the lab. You will **NOT** be allowed to enter the lab without wearing a face mask! Students remotely attending the lab, should log in onto [njit.webex.com](https://njit.webex.com) and enter the session number provided by the Instructor to join the class. *Online students will have the opportunity to ask questions through Webex.*
- **Video.** For each experiment, a demonstration video will be shared with students. Students should watch the video before attending the class.
- **Prelab quizzes.** For each experiment, students must complete a pre-lab quiz in Canvas before the class. The completed pre-lab quiz accounts for 10% of each lab grade.
- **Lab Reports.** A lab report will be submitted for each experiment. The report consists of the completed data sheet found in the lab materials, plus a separate page containing your calculations. Each student should submit a lab report of his/her own work. For most experiments, lab reports must be handed in **immediately following completion of the lab. For these experiments, late lab reports will not be accepted.** For the final three experiments of the semester, students will be given one week to complete the report. Any report turned in late will lose 10 points per week. Students physically attending the lab will complete the experiment and submit the lab report to the Instructor in the class. Experimental data will be provided to online students via Assignments of Canvas at the beginning of the lab class. Students should complete the report, take pictures of all pages, and upload the pictures to Assignment of Canvas.
- **Make-up Policy.** The last week of the semester will be reserved for students to make-up a lab that was missed. At this time, students will be permitted to make-up **one experiment only**. All make-ups will be conducted online only.

- **Cellular Phones:** All mobile phones must be switched off during all class times.

**Safety and Clean Up Policy:**

- WEAR SAFETY GOGGLES and FACE MASK AT ALL TIMES IN THE LABORATORY.
- Clothing that covers your legs and shoulders are required: no shorts or short skirts will be accepted.
- Everyone will be required to wear lab coats and gloves during each experiment.
- Closed shoes must be worn at all times. No sandals.
- Food or drink is not allowed in the lab.
- Turn off cell phones. Texting is not permitted in the lab.
- Properly dispose of waste materials.
- Clean up your workspace at the end of each lab session and wash your hands before leaving the laboratory. **5% PENALTY WILL BE APPLIED TO YOUR LAB REPORT SCORE FOR FAILURE TO CLEAN UP PROPERLY!**

**ADDITIONAL RESOURCES**

**Chemistry Tutoring Center:** Located in the Central King Building, Lower Level, Rm. G12. Hours of operation are Monday – Friday 10:00 am - 6:00 pm. For further information, please click [here](#).

**Accommodation of Disabilities:** Office of Accessibility Resources and Services (*formerly known as Disability Support Services*) offers long term and temporary accommodations for undergraduate, graduate, and visiting students at NJIT.

If you need accommodations due to a disability, please contact Chantonette Lyles, Associate Director at the Office of Accessibility Resources and Services at 973-596-5417, or via email at [lyles@njit.edu](mailto:lyles@njit.edu). The office is located in Fenster Hall, Room 260. A Letter of Accommodation Eligibility from the Office of Accessibility Resources Services office authorizing your accommodations will be required.

For further information regarding self-identification, the submission of medical documentation and additional support services provided, please visit the Accessibility Resources and Services (OARS) website at <https://www.njit.edu/studentssuccess/accessibility>

**Laboratory Schedule**

Below is a tentative weekly schedule. CHEM 124 - GEN CHEMISTRY LAB will try to follow this schedule as closely as possible. Students will be consulted to reach an agreement on any modifications or deviations from the syllabus throughout the semester.

Week	Experiment
1	Check-in, Introduction, and Safety
2	Measuring the Density of a Solid and a liquid
3	Water of Hydration
4	The Solvay Process
5	Paper Chromatography and Completion of the Solvay Process Lab
6	Calorimetry: Experiment Based on Thermodynamics
7	Analysis of Acidic Substances by Titration
8	Molecular Weight of a Volatile Liquid

9	Molecular Weight Determination by Freezing Point Depression
10	Kinetics: the Clock Reaction
11	Spectrometric Analysis for Phosphate
12	pH, Buffers and the Dissociation Constant, $K_a$
13	No class: Thanksgiving recess
14	Make-up (online only)

*Updated by Pin Gu – 8/2020  
Department of Chemistry & Environmental Sciences  
Course Syllabus, Fall 2019*