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Chem 126A-002: General Chemistry Lab II

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Chemistry: GENNERAL CHEMSITY LAB II (CHEM126A) Spring 2023 Course Syllabus

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

COURSE INFORMATION:

Course Description: Chemistry 126A (General Chemistry Lab II) is a laboratory course designed to be taken concurrently with Chem 126. Instructions are in the lab book, and concepts are from the text and lecture of the Chem 126 course. The experiments are designed to provide undergraduate students with further practical experience and continue to train students with laboratory techniques/equipment common to chemistry laboratories.

Number of Credits: 1

Course-Section and Instructors

Course-Section	Instructor	Email	Laboratory Time
CHEM 126A-002	Carlos Pacheco	carlos.n.pacheco@njit.edu	F, 8:30 AM-11:20 AM

Office Hours:

Please send an email to schedule an appointment. If you need assistance and wish to discuss this with your instructor, please email to schedule a Webex meeting. I will be more than happy to help.

Required Textbook:

Title	Laboratory Manual, Chemistry, a Molecular Approach
Author	John B. Vincent, and Erica Livingston
Edition	5 th edition
Publisher	Pearson
ISBN #	013498983X

University-wide Withdrawal Date: The last day to withdraw with a **W** is Monday, April 3, 2023. It will be strictly enforced.

Learning Outcomes:

- Comply with the safety rules when working in a chemistry laboratory.
- Continue to improve logical reasoning ability.
- Learn to integrate seemingly unrelated properties onto patterns.
- Apply some synthetic techniques in general chemistry.
- Continue to practice preparing a lab report.
- Prepare for continued studies in chemistry and related fields.

Required Materials (All the materials below must be purchased and brought to the lab by the students):

- Lab book
- Lab coat
- Safety goggles
- Disposable nitrile gloves

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-lab: 10%

Cleanliness of lab bench and sink: 5%

Grading scheme:

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

Attendance Policy:

- Attendance is mandatory. **A missed laboratory session without an excused absence will result in a grade of zero (0) for that experiment. A second unexcused absence will result in a grade of zero (0) for the course.** If a student has a legitimate reason for missing a lab, the student should contact the Dean of the Student's office and present written, verifiable proof of the reason for missing the lab, e.g., a doctor's note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the instructor through the Dean of the students.
- When arriving in the lab, students will be asked to sign the attendance sheet each week.
- For each experiment, a demonstration video will be shared with students. **Students should watch the video before attending the class.**

Pre-lab Questions:

For each experiment, students must complete pre-lab questions in the lab book before the class.

Lab Reports:

A lab report will be submitted for each experiment. The report consists of the completed Report Sheet and Questions found in the lab book, plus a separate page containing your calculations if needed. **Each student should submit a lab report of his/her work.** For some experiments, lab reports must be handed in immediately following the completion of the lab. Students will be given one week to complete the report for other experiments. **Late lab reports will not be accepted.**

Working in Groups:

- Students may perform experiments with **one or two** other persons. Any students working in a group larger than **three** will receive a **zero** for that lab grade.
- Students working in groups must arrive at the lab and begin the experiment simultaneously. Students must remain in the lab until the experiment is completed and the lab reports have been handed in.
- Students working in groups can perform the experiment and work on calculations **together**, but each student must hand in a separate lab report, which includes data and calculations based on their work.

Make-up Policy:

The last week of the semester will be reserved for students to make up a missed lab. Students will be permitted to make up **one missed experiment only**.

Cellular Phones: Cell phones must be switched off during all class times.

Safety and Clean-Up Policy:

- **WEAR SAFETY GOGGLES AT ALL TIMES IN THE LABORATORY.**
- Clothing that covers your legs and shoulders is required. No shorts or short skirts.
- Everyone will be required to wear lab coats and gloves during each experiment.
- Closed shoes must always be worn. 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 your workspace at the end of each lab session and wash your hands before leaving the laboratory. **A 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.

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 get in touch with Chantonette Lyles, Associate Director at the Office of Accessibility Resources and Services, at **973-596-5417** or via email at lyles@njit.edu. The office is 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/studentsuccess/accessibility>

Laboratory Schedule

Below is a tentative weekly schedule. Students will be notified of any changes in the syllabus throughout the course of the semester.

Week	Experiment
1 (Jan 20)	Check in, Introduction, and Safety
2 (Jan 27)	Colligative Properties: Freezing point depression (Experiment 18)
3 (Feb 3)	Activation Energy Determination (Experiment 19C)
4 (Feb 10)	Kinetics Lab (Handout)
5 (Feb 17)	Equilibrium Constant and Le Chatelier's Principle (Experiment 20)
6 (Feb 24)	Absorption Spectrum and Beer's Law (Handout)
7 (March 3)	Acid and Base Titration (Experiment 22)
8 (March 10)	Determining the Buffer Capacity of Antacids (Experiment 23)
9 (March 24)	Group I Cations (Experiment 27A)
10 (March 31)	Group IV Cations (Experiment 27D)
11 (April 14)	Anions (Experiment 27E)
12 (April 21)	Esters (Experiment 28)
13 (April 28)	Makeup