NJIT New Jersey Institute of Technology

THE COLLEGE OF SCIENCE AND LIBERAL ARTS

THE DEPARTMENT OF CHEMISTRY AND ENVIRONMENTAL SCIENCE

Chemistry:
GENERAL CHEMISTRY LAB II (CHEM126A)
Spring 2025 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 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 126A (General Chemistry Lab II) is a laboratory course; it is designed to be taken concurrently with Chem 126. Instructions are in the lab manual 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	Lab Time and Location
Chem 126-006	Dr. Castro	castroa@njit.edu	8:30-11:20 am; TIER 208

Office Hours: After the lab period as needed. Also by appointment.

Required Textbook:

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

University-wide Withdrawal Date: The last day to withdraw with a **W** is Monday, April 7, 2025. 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 in related fields.

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

Lab manual Lab coat Safety goggles Disposable nitrile gloves

https://chemistry.njit.edu/laboratory-safety-information

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 of the results: 80%
Pre-lab questions: 15%
Safety agreement, Punctuality and Cleanliness of lab bench/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.** In the event that a student has a legitimate reason for missing a lab, the student should contact the Dean of the Students 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.
- Students may be asked to sign the attendance sheet each week when arriving to the lab.
- For each experiment, a demonstration video may be shared with students during the pre-lab talk.

Pre-lab Questions:

For each experiment, students must turn in the pre-lab questions from the lab manual or handout before the lab period in person or through Canvas.

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 manual or handout, plus a separate page containing your calculations if needed. Each student should submit a lab report of his/her own work. For some experiments, lab reports must be handed in immediately following completion of the lab. For other experiments, students will be given one week to complete and submit the report in person or through Canvas. **Late lab reports will not be accepted**.

Working in Groups:

- Students may perform experiments with **one or two** other persons. Any students found 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 **at the same time.** 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 together and work on calculations together, but each student must hand in a separate lab report, which includes data and calculations based on their own work.

Make-up Policy:

After all the labs have been completed, there will one more week reserved for students to make-up a lab which was missed. At this time, students will be permitted to make-up **one missed experiment only.**

Cellular Phones: All cellular phones must be switched off during the lab period.

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 be worn at all times. No saddles.
- 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 prior to leaving the laboratory. **5% PENALTY WILL BE APPLIED TO YOUR LAB REPORT SCORE FOR FAILURE TO CLEAN UP PROPERLY!**

ADDITIONAL RESOURCES

Chemistry Learning Center: Located in the Central King Building, Lower Level, Rm. G12. For further information please visit https://chemistry.njit.edu/students

Accommodation of Disabilities: **O**ffice of **A**ccessibility **R**esources and **S**ervices (***formerly known as Disability Support Services***) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

If you are in need of 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. 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/accessibility/**

Important dates: https://www.njit.edu/registrar/spring-2025-academic-calendar

Laboratory Schedule

Below is a tentative weekly schedule. Students will be notified via email of any changes.

Week	Experiment
1 (1/21)	Check in, Introduction, and Safety
2(1/28)	Colligative Properties: Freezing point depression (Experiment 18)
3 (2/4)	Activation Energy Determination (Experiment 19C)
4 (2/11)	Kinetics Lab (Handout)
5 (2/18)	Equilibrium Constants & Le Chatelier's Principle (Experiment 20)
6 (2/25)	Absorption Spectrum and Beer's Law (Handout)
7 (3/4)	Acid and Base Titration (Experiment 22)
8 (3/11)	Determining the Buffer Capacity of Antacids (Experiment 23)
9 (3/18)	No lab: Spring Recess
10 (3/25)	Group I Cations (Experiment 27A)
10 (4/1)	Group IV Cations (Experiment 27D)
11 (4/8)	Anions (Experiment 27E)
13 (4/15)	Esters (Experiment 28)
14 (4/22)	Make up