

Spring 2019

CHEM 126A-002: General Chemistry Lab II

A Castro

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Recommended Citation

Castro, A, "CHEM 126A-002: General Chemistry Lab II" (2019). *Chemistry and Environmental Science Syllabi*. 44.
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General Chemistry Lab II
Spring 2019 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

Requirements: General Chemistry Lab II is a continuation laboratory course of General Chemistry Lab I; it is designed to be taken concurrently with Chem 126 or Chem 122. Instructions are in the lab manual and concepts are from the text and lecture of the Chem 126/122 courses. 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 Instructor

Chem 126A-002 Dr. A. Castro

Laboratory: Tiernan Hall (TIER 204) T: 8:30-11:20 am

Office: Tiernan (TIER) 323A Email: castroa@njit.edu

Office Hours: T, 11:20-11:50 am, and 5-6 pm.

Required Lab Manual: Chemistry: A Molecular Approach. 4th Edition. Tro, N.J., Vincent, J.J., Livingston, E.J. Pearson Education, Inc., 2017. ISBN-13: 978-0-13-406626-4, ISBN-10: 013406626X

University-wide Withdrawal Date: The last day to withdraw with a **W** is Monday, April 8, 2019. It will be strictly enforced.

Learning Outcomes:

Upon completion of the course you should have a facility in accomplishing the following:

1. Continue to improve logical reasoning ability.
2. Learn to integrate seemingly unrelated properties onto patterns.
3. Apply some synthetic techniques in general chemistry.
4. Continue to practice preparing a lab report.
5. Prepare for continued studies in chemistry and in related fields.
6. Comply with the safety protocols.

Required Materials:

-Safety goggles -Disposable nitrile gloves -Lab coat

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.

-Attendance is mandatory. Students will be allowed only one make-up lab at the end of the semester. In the event that a student has a legitimate reason for missing a lab, the student should contact the Dean of 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 CES Department Office/Instructor that the lab will be missed so that appropriate steps can be taken to make it up. However, missing 2 labs for any reason will result in an automatic failure.

-All email communication should be done using the "njit.edu" domain.

-Students may choose a lab partner for the semester. However, each student will turn in separate pre-labs and lab reports. No more than 2 students will be allowed to work together.

-The use of cell phones is not permitted while lab is in session.

-Approved chemical splash goggles/safety glasses and lab coat must be worn in the lab at all times.

-Shorts, short skirts, sleeveless shirts, midriff tops, and sandals are not allowed in lab.

-Food and beverages are not to be brought to the laboratory.

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

Laboratory work: 25% total as follows:

5% each: punctuality, performance, lab technique, lab maintenance and safety procedures.

Pre-labs and lab reports: 75% total (pre-labs are due at the beginning of the scheduled lab session)

Lab reports are due immediately after the completion of the experiment, unless an extension is granted by the instructor. The penalty for late or incomplete pre-labs is 25 points off. The penalty for late lab reports is 10 points off per day. The average grade of the pre-lab and lab report constitutes the overall grade for each experiment.

Your final letter grade in this course will be based on the following tentative curve:

A (90-100%), B+ (85-89%), B (84-80%), C+ (79-75%), C (74-70%), D (69-65%), F (below 64%)

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 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:

- <http://www5.njit.edu/studentssuccess/disability-support-services/>

Important Dates: <https://www.njit.edu/registrar/spring-2019-academic-calendar/>

Tentative Course Content: Laboratory Assignments
(Please note: order and experiments listed below may change)

Week 1, 1/22: Check-in, Introduction and Safety Procedures

Week 2, 1/29: Experiment 18 (Colligative Properties)

Week 3, 2/5: Experiment 19C (Activation Energy Determination)

Week 4, 2/12: Experiment (Kinetics)-Handout

Week 5, 2/19: Experiment 20 (Equilibrium Constants and Le Châtelier's Principle)

Week 6, 2/26: Experiment (Beer's law)-Handout

Week 7, 3/5: Experiment 22 (Acid-Base Titration)

Week 8, 3/12: Experiment 23 (Determining the Buffer Capacity of Antacids)

Week 9, 3/19: **Spring Break**

Week 10, 3/26: Experiment 27A (Group I Cations)

Week 11, 4/2: Experiment 27D (Group IV Cations)

Week 12, 4/9: Experiment 27E (Anions)

Week 13, 4/16: Experiment 28 (Esters)

Week 14, 4/23: Check-out and Make-ups