Spring 2020

CHEM 126A-002: General Chemistry Lab II (Revised for Remote Learning)

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NJIT New Jersey Institute of Technology

THE COLLEGE OF SCIENCE AND LIBERAL ARTS

THE DEPARTMENT OF CHEMISTRY AND ENVIRONMENTAL SCIENCE

Chemistry:
Spring 2020 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: Chem 126A (General Chemistry Lab II) 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 126. It is an advancement of Chem 125A.

Course-Section and Instructors

Course-Section	Instructor
002	Liu, Chunyan

Office Hours: By appointment via email cliu1@njit.edu or through moodle

Required Textbook:

Title	Laboratory Manual, Chemistry, a Molecular Approach
Author	John B. Vincent, and Erica Livingston
Edition	4th edition
Publisher	Pearson
ISBN #	013406626X

Learning Outcomes:

- Comply with safety rules when working in 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.

Grading Policy:

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

- Pre-Labs, Lab Reports and Accuracy: 80%

- Performance: 10%
- Cleanliness of lab bench and sink: 10%

New Grading Policy for online learning:

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

1. The first 7 labs:
   - Pre-Labs, Lab Reports and Accuracy: 80%
   - Performance: 10%
   - Cleanliness of lab bench and sink: 10%
2. The last 4 labs:
   - Pre-Labs, Lab Reports and Accuracy: 90%
   - Performance (participation and online discussion): 10%

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. You must attend one section of lab each week.
- Students should sign the attendance sheet each week when arriving in lab.
- All experiments must be completed during the same lab period.

New Attendance Policy:

- Attendance is mandatory (the instructor will check attendance with Canvas). You must attend the online course at regular lab hours (8:30am~11:20am on Tuesdays)
- Videos/PPT will be sent to students before lab starts.
- Data set will be sent to students when lab starts, based on which the students need to prepare and submit the report by 11:20am.
- The instructor will stand by through the whole lab answering questions via emails or Canvas.

Pre-Labs and Lab Reports:

- Pre-labs are due at the beginning of the scheduled lab session. The penalty for late or incomplete pre-labs is **25 points off.**
- Lab reports are due at the end of each lab, unless an extension is granted by the instructor. The penalty for late lab reports is **10 points off per day**. The report consists of the completed data sheet found in your lab manual, plus a separate page containing your calculations.
- The average grade of the pre-lab and lab report constitutes the overall grade for each experiment.

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 lab and begin the experiment **at the same time. All** students must remain in lab until the experiment is completed.
- 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 of their own work.

Makeup Lab Policy:

The last week of the semester will be reserved for students to make-up a lab that is missed. At this time, students will be permitted to make-up **one experiment only.**

Cellular Phones:

All cellular phones and other electronic devices must be switched off during all class times. Such devices must be stored in bags during exams or quizzes.

Required Materials:

- Lab manual (available at NJIT bookstore).
- Safety goggles (available at the NJIT Bookstore or Homedepot).
- Disposable nitrile gloves (available at amazon.com or Homedepot).
- Lab coat (color in white, available at amazon.com).

Department of Chemistry has limited amount of PPE kits (lab coat, goggle and gloves).

Safety and Clean Up Policy:

- **WEAR SAFETY GOGGLES AT ALL TIMES IN THE LABORATORY.**
- Clothing that covers your legs and shoulders are required. No shorts or 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.
- Cleanup your workspace at the end of each lab session and wash your hands prior to leaving the laboratory.

10% 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: **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:

- http://www5.njit.edu/studentsuccess/disability-support-services/

Important Dates (See: https://www5.njit.edu/registrar/spring-2020-academic-calendar/)

Date	Day	Event
January 21	T	First Day of Classes
January 31	F	Last Day to Add/Drop Classes
March 15-22	Su-Su	Spring Recess-No Classes
April 6	M	Last Day to Withdraw
April 10	F	Good Friday - University Closed
May 5	T	Friday Classes Meet
May 5	T	Last Day of Classes
May 16	Sa	Final Grade Due

Laboratory Schedule

Below is a tentative weekly schedule. I will try to stick to this schedule as closely as possible. Students will be consulted with to reach an agreement on any modifications or deviations from the syllabus throughout the course of the semester.

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 Constant and Le Chatelier's Principle(Experiment 20)
6 (2/25)	Absorption Spectrum and Beer's Law (Handout)
7 (3/3)	Acid and Base Titration (Experiment 22)
8 (3/10)	Determining the Buffer Capacity of Antacids (Experiment 23)
9 (3/17)	Spring Break
10 (3/24)	Group I Cations (Experiment 27A)
11 (3/31)	Group IV Cations (Experiment 27D)
12 (4/7)	Anions (Experiment 27E)
13 (4/14)	Esters (Experiment 28)
14 (4/21)	Checkout and Make-ups