Fall 2019

CHEM 244A-101: Organic Chemistry II Lab

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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:
Fall 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

Course Description: Chem 244A is designed to acquaint and educate students on the basics of organic preparations and analytical techniques such as distillations, sublimations, purifications of products, liquid-liquid extractions and preparation of organic compounds.

Also the experiments will help students to understand and learn the instrumental analytical techniques including gas chromatography, thin layer chromatography, infrared-, and UV spectroscopy.

Course-Section and Instructors

Course-Section	Instructor
101	Lu, Chunmeng
103	Lu, Chunmeng

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

Required Textbook:

Title	Organic Chemistry II Laboratory Manual (244A)
Author	Dr. Chaudhery Hussian, Mr. Yogesh Gandhi and Dr. Edgardo T. Farinas
Edition	Fall 2019
Publisher	
ISBN #	

Procedure

Demonstration will be given to the students and there would be a discussion on the theory and the procedure before each experiment. Students are required to attend all the labs, perform all scheduled experiments, take the quizzes and follow the required safety guidelines and laboratory rules and ethics to pass this course.

Learning Outcomes:

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

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

Attendance and performance: 10%
Lab Reports and Accuracy: 50%
Quizzes: 30% (Three quizzes)
Cleanliness of lab bench and sink: 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.

Lab Reports:

Lab reports is due one week after each lab, unless an extension is granted by the instructor. The penalty for late lab reports is 10 points off per day. The format of the report can be found in the manual.

Working in Groups:

- Students will perform experiments in groups of three or four.
- Students working in the same group must arrive in lab and begin the experiment **at the same time. All** students must remain in lab until the experiment is completed.
- Students working in the same group can perform the experiment together, work on calculations together, and only a group report is required for submission.

Makeup Lab Policy:

There is no makeup section for this course, but students who miss any lab can go to other sections to watch and record observations with ther permission of the instructor.

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 (includinng one lab coat, one goggle and 20 pairs of 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 all experiments.
- Closed shoes must be worn at all times.
- 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: Fall 2019 Academic Calendar, Registrar)

Date	Day	Event
September 3	T	First Day of Classes
September 13	F	Last Day to Add/Drop Classes
November 11	M	Last Day to Withdraw
November 26	T	Thursday Classes Meet
November 27	W	Friday Classes Meet
November 28 – December 1	R - Su	Thanksgiving Break - University Closed
December 11	W	Last Day of Classes
December 12-13	R - F	Reading Day
December 14-20	Sa - F	Final Exam Period

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 (9/6)	Check in, Introduction, and Safety
2 (9/13)	Caffeine: Natural product extraction, distillation, sublimation, TLC (Exp. #1)
3 (9/20)	Caffeine: Natural product extraction, distillation, sublimation, TLC (Exp. #1)
4 (9/27)	Caffeine: Natural product extraction, distillation, sublimation, TLC (Exp. #1)
5 (10/4)	Pinacolone reduction: reaction, extraction, distillation, IR (Exp. #2)
6 (10/11)	Pinacolone reduction: reaction, extraction, distillation, IR (Exp. #2)
7 (10/18)	Pinacolyl alcohol dehydration: reaction, distillation, GC (Exp. #3)
8 (10/25)	Pinacolyl alcohol dehydration: reaction, distillation, GC (Exp. #3)
9 (11/1)	Esterification: reaction, extraction, distillation, IR (Exp. #4)
10 (11/8)	Esterification: reaction, extraction, distillation, IR (Exp. #4)
11(11/15)	Aldol: reaction, UV (Crossed Aldol Condensation, If need two weeks/cancelled next week) (Exp. #5)
12 (11/22)	Aldol: reaction, UV (Crossed Aldol Condensation, If need two weeks/cancelled next week) (Exp. #5)
13(11/29)	Thanksgiving Recess
14(12/6)	Aspirin synthesis: reaction, extraction, recrystallization (Exp. #6)
15(12/13)	Checkout and Make-ups