Description: A one-semester-hour laboratory course designed to accompany organic chemistry lecture courses.

Pre-requisites: Prior completion of and a grade of 'C-' or better in 1 year of General Chemistry Lecture and Lab.

Co- requisite: CHEM 223

Materials: *Making the Connections*^{2} by Anne B. Padias (ISBN: 978-073804135-3)

Laboratory Notebook: Hayden-McNeil (ISBN: 978-1429224543)

Safety goggles are provided on the first day of class and must be brought to every lab. A full-length lab coat is also required and must be purchased prior to the first experiment.

Course Homepage: Course announcements, the current grade book, online assessments, etc. are posted on the course homepage (http://sakai.luc.edu/). You are responsible for this material, so you should check Sakai frequently.

Grading: Course grades consist of the following components:

Best 7 of 8 Pre-lab Quizzes, 5 pts each	35 pts
Best 7 out of 8 Pre-Lab Notebooks, 5 pts each	35 pts
Best 8 of 9 Results Sheets, 5 pts each	40 pts
Best 8 of 9 Post-lab Homework, 10 pts each	80 pts
Library Assignment	15 pts
Practical	50 pts
Written Exam	100 pts
Safety Points	45 pts
	400 pts total

Course grades will be assigned on the following scale: A>94%, A->90%, B+>88%, B>84%, B->80%, C+>78%, C>72%, C->70, D+>68%, D>60%, F<60%

Pre-Lab Preparation: Success in organic lab depends on advance preparation. Therefore, there are several things you must do before coming to lab. The wet chemistry experiments are listed on page 3. One major component of your pre-lab preparation is to thoroughly read and understand the experimental procedure and the assigned pages from the text. If you have questions, consult your Teaching Assistant or the Lab Coordinator well before your lab section -- do not wait until the few minutes before class. Additional work to be completed before wet chemistry labs includes the following:

Quizzes: Pre-lab quizzes are posted on Sakai and must be completed before coming to lab. You will be allowed as many tries as you wish to complete the pre-lab quizzes, but late pre-lab quizzes will not be accepted. Quizzes are based on the experimental procedures as well as the assigned readings from the technique book.

Due to safety reasons, anyone who fails to complete the pre-lab quiz on Sakai before lab starts will not be allowed to perform the experiment.

Notebooks: Your lab notebook should also be prepared **before you come to class.** Relevant pre-lab information includes a page with the experiment title, objective, and table of reagents. Also include a balanced chemical equation and initial calculations when relevant. The duplicate copy of your notebook preparation is due at the start of each experiment. **Not turning something in means you will not be allowed to complete the experiment.**

Results: At the end of each experiment, you must submit a Results sheet before you leave the lab. This sheet summarizes your laboratory results and is posted on Sakai or distributed in class.

Post-Lab Homework: Short questions pertaining to the experiment you have just completed will be posted on Sakai. These should be completed after lab ends and are due at the beginning of the next lab period. Students who do not complete the experiment are not eligible to complete the post-lab assignment for credit.

Library Assignment: The library assignment is completed via Sakai. It covers resources for finding reliable, authoritative information about the physical properties of organic compounds and about safety. Detailed instructions and the due date for the assignment will be covered in class and will also be posted on Sakai.

Late Policy: Materials that are submitted in person will receive a 10% deduction if they are late but turned in on the same day as they were due. There will be an additional 25% deduction for each day or portion of a day, including weekends, they are late after that. Materials submitted electronically via Sakai are not accepted late.

Practical: The lab practical allows students to demonstrate their ability to understand and perform the organic laboratory techniques covered in previous experiments. Students complete the practical individually during the designated lab period.

Exam: The written exam will cover all portions of the course—the assigned readings, laboratory procedures, topics discussed in class, pre-requisite material, etc. Points will be deducted for not following the instructions.

Re-grades: All requests to have items re-graded must be submitted in writing within one week after the graded materials are returned to the student.

Attendance: You are expected to attend every lab session. Due to safety constraints and size limitations, you will not be allowed to make up an experiment in another section. Missing a lab period will result in a zero for all work related to that experiment.

All students must be present at the beginning of class because important safety-related information is covered in the introduction to the experiment. Any student who misses any portion of this pre-lab lecture will lose safety points for that experiment. An attendance sheet will be placed at the entrance to the lab, and students must sign-in as they enter. The pre-lab notebook preparation will be turned in at this time/location each week as well.

If you arrive late, you must see the instructor for an individual safety briefing before starting work.

Safety Rules: Read the safety rules carefully and follow them throughout the course. Anyone who does not adhere to the safety rules will lose safety points and may be asked to leave the laboratory to maintain the safety of themselves and others.

Academic Integrity: Each student is expected to do her/his own work. Although the lab is constructed so students may work in pairs during an experiment, all work submitted for a grade must be an individual effort. The penalty for academic dishonesty is a grade of 'F' for the course.

Email: You must use your Loyola email address when contacting the TAs or the instructor for this course. Emails from outside sources are often blocked automatically. In the subject line of your email, put Chem 225- section number and TAs name.

Eye Protection: You will be provided a pair of safety goggles at the beginning of the course. You must bring your eye protection with you to every class. You may not leave your eye protection in your drawer because it may become contaminated. For several reasons—especially hygiene—you also may not borrow eye protection from your TA or the chemistry stockroom.

Electronic Devices: For safety's sake and in order to prevent contamination, the use of cell phones, laptop computers, MP3 players, etc. is not permitted in the lab. Use of these devices in lab will result in safety point deductions.

Zero-Tolerance Policy on Safety: Safely working with organic chemicals requires your complete attention. One important part of lab safety is the pre-lab lecture at the beginning of class-- when the TAs and the instructor discuss the chemicals that are going to be used that day. You must pay careful attention during the pre-lab. **Activities that indicate that you are not paying full attention will result in you not being allowed to perform the experiment**. Such activities include talking to classmates, using one's phone or other electronic devices (which are not allowed in lab in the first place), sleeping, doing homework, etc.

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Experiments with Required Notebook Preparation and Pre-lab Quiz

1. Introduction to Functional Groups
2. Boiling Point Determination
3. Melting Point Determination
4. Chromatography
5. Distillation
6. Crystallization
7. Extraction
8. Unimolecular Substitution

Tentative Schedule—Subject to change

August

Monday	Tuesday	Wednesday	Thursday	Friday
25 Syllabus, Information Resources	26 Syllabus, Information Resources	27 Syllabus, Information Resources	28 Syllabus, Information Resources	29 Syllabus, Information Resources

September

Monday	Tuesday	Wednesday	Thursday	Friday
1 LABOR DAY	2 Lab Safety, Molecular Modeling	3 Lab Safety, Molecular Modeling	4 Lab Safety, Molecular Modeling	5 Lab Safety, Molecular Modeling
8 Lab Safety, Introduction to Functional Groups	9 Introduction to Functional Groups	10 Introduction to Functional Groups	11 Introduction to Functional Groups	12 Introduction to Functional Groups
15 Boiling Point Determination	16 Boiling Point Determination	17 Boiling Point Determination	18 Boiling Point Determination	19 Boiling Point Determination
22 Melting Point Determination	23 Melting Point Determination	24 Melting Point Determination	25 Melting Point Determination	26 Melting Point Determination
29 Chromatography	30 Chromatography			

October

Monday	Tuesday	Wednesday	Thursday	Friday
		1 Chromatography	2 Chromatography	3 Chromatography
6 FALL BREAK	7 FALL BREAK	8 NO LAB	9 NO LAB	10 NO LAB
13 Distillation	14 Distillation	15 Distillation	16 Distillation	17 Distillation
20 Crystallization	21 Crystallization	22 Crystallization	23 Crystallization	24 Crystallization
27 Extraction	28 Extraction	29 Extraction	30 Extraction	31 Extraction

November

Monday	Tuesday	Wednesday	Thursday	Friday
3 Practical	4 Practical	5 Practical	6 Practical	7 Practical
10 Unimolecular Substitution	Unimolecular Substitution	12 Unimolecular Substitution	13 Unimolecular Substitution	14 Unimolecular Substitution
17 Exam	18 Exam	19 Exam	20 Exam	21 Exam
24 NO LAB	25 NO LAB	26 Thanksgiving	27 Thanksgiving	28 Thanksgiving

December

Monday	Tuesday	Wednesday	Thursday	Friday
1 Calculations, Check out	2 Calculations, Check out	3 Calculations, Check out	4 Calculations, Check out	5 Calculations, Check out