

SYLLABUS

Teaching Assistant: _____

Organic Chemistry Laboratory B
Chemistry 226: Summer II 2014
Instructor: Mr. Timothy Thomas, MS, MLIS

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

Pre-requisites: Prior completion of and a grade of 'C-' or better in CHEM 223 and 225.

Co-requisite: CHEM 224.

Materials: Making the Connections² By Anne B. Padrias (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 9 of 10 Pre-lab Quizzes, 5 pts each	45 pts
Best 8 out of 9 Pre-Lab Notebooks, 5 pts each	40 pts
Best 8 of 9 Products, 5 pts each	40 pts
Best 8 of 9 Post-lab Homework, 10 pts each	80 pts
Safety Points	45 pts
Exam	100 pts
	350 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 advanced preparation. The experiments marked with an asterisk on the calendar will involve wet chemistry and therefore some preparation must be done before coming to lab. One major component of your pre-lab preparation is to thoroughly read and understand the experimental procedure. 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 will be based on the experimental procedures as well as the assigned readings from the technique book. The quizzes must be completed on Sakai 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. **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 include relevant pre-lab information. This includes a page with the experiment title, objective, table of reagents, and a balanced chemical equation (when relevant). You will turn in one copy of this page from your notebook at the start of each experiment. Late pre-lab notebook pages will not be accepted. **Due to safety reasons, anyone who fails to complete the pre-lab portion of the notebook will not be allowed to perform the experiment.**

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. Post-lab assignments will not be accepted late. Students who did not complete the experiment will not be allowed to submit the questions for credit.

Exam: There will be one exam covering all portions of the course—the assigned readings, laboratory procedures, topics discussed in class, pre-requisite material, etc. — and will be taken partially via Sakai and partially on the last day of class. Points will be deducted for not following the instructions on exams.

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. Students also must arrive to lab on time and be present for the pre-lab lecture because important safety-related information is covered. **Any student who misses any portion of the pre-lab lecture will not be allowed to perform the experiment.**

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.

Zero-Tolerance Policy on Safety: Read the safety rules carefully and follow them throughout the course. Anyone who does not adhere to the rules will lose safety points and, in extreme cases, will not be allowed to remain in the laboratory. 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 not only attend the pre-lab lecture, but also pay attention. 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. Failure to obey the lab safety rules will result in a loss of safety points and possible dismissal from the lab.

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 the student not being allowed to perform the experiment.

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 226-section number and TAs name.

Contact: Timothy Thomas, LSB-124, (773) 508-8115, tthoma1@luc.edu

Experiments:

1. Dehydration of Cyclohexanol
2. Sodium Borohydride Reduction of Benzophenone
3. Potassium Permanganate Oxidation of Benzyl Alcohol
4. Diels-Alder Reaction of Anthracene and Maleic Anhydride
5. Nitration of *N*-acetyl-*p*-toluidine
6. Ketone Derivatives
7. Acylation of an Aromatic Amine
8. Fischer Esterification
9. Synthesis of Nylon

Organic Chemistry Laboratory A, Chemistry 226, Summer II 2014
Tentative Schedule—Subject to change

June

30 Syllabus, Check-In				
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July

Monday	Tuesday	Wednesday	Thursday	Friday
	1	2 Cyclohexene	3	4
7 Reduction	8	9 Oxidation	10	11
14 Oxidation continued	15	16 Diels-Alder	17	18
21 Nitration	22	23 Ketone Derivatives	24	25
28 Acylation	29	30 Esters	31	

August

4 Nylon, Check-Out	5	6 Exam	7	8
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