

SYLLABUS

Teaching Assistants: Cory Reidl and Alexander Gale

Organic Chemistry Laboratory
Chemistry 221L: Fall 2012
Tuesday and Thursday: 2:30-5:15 PM

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

Description: A one-semester-hour laboratory course designed to accompany Chem 221.

Materials: Catalyst by Tim Thomas, Chem 225 (ISBN: 0-536-94370-2)

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

Course Homepage: Course announcements, the current grade book, handouts, etc. are posted on the course homepage (<http://blackboard.luc.edu/>). You are responsible for this material, so you should check Blackboard frequently.

Grading: Course grades consist of the following components:

Best 10 of 11 results sheets, 5 pts each	50 pts
Best 11 of 12 discussion questions, 5 pts each	55 pts
8 Online quizzes, 5 pts each	40 pts
Library Resources Worksheet	5 pts
Practical exam	50 pts
<u>Written Exam</u>	<u>100 pts</u>
	300 pts total

Pre-Lab Preparation: Success in organic lab depends on advance preparation. Therefore, there are several things you must do before coming to lab. One major component of your pre-lab assignment 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.

Online quizzes: A pre-lab quiz must be taken via Blackboard before each experiment. Students who do not complete the online quiz before lab will not be allowed to perform 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 contained in your lab manual or distributed in class.

Discussion Questions: Discussion questions are posted on Blackboard. These should be completed after class and are due at the beginning of the next class period. No late work will be accepted.

Practical Exams: The practical exam consists of a hands-on assessment of your laboratory technique, your ability to name and utilize glassware and equipment, etc.

Written Exam: The written exam will cover all portions of the course—the assigned readings, laboratory procedures, topics discussed in class, pre- and co-requisite material, etc.

Re-grades: All requests to have items re-graded must be submitted in writing within one week from when the graded materials were 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 must 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 and will be marked absent.**

Safety Rules: Read the safety rules carefully and follow them throughout the course. Anyone who does not adhere to the safety rules will not be allowed to remain in the laboratory.

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 0 for the lab portion of 221.

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 221L 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 the student not being allowed to perform the experiment.

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.

Tentative Schedule—Subject to change

August

Monday	Tuesday	Wednesday	Thursday	Friday
27	28 No Lab	29	30 Glassware	31

September

Monday	Tuesday	Wednesday	Thursday	Friday
3 LABOR DAY	4 Lecture	5	6 Safety and Modeling	7
10	11 Lecture PSS1	12	13 Organic Chemical Behavior	14
17	18 Library Training	19	20 Melting Point	21
24	25 Midterm Exam No Lab	26	27 Distillation	28

October

Monday	Tuesday	Wednesday	Thursday	Friday
1	2	3	4 Crystallization	5
8 FALL BREAK	9 FALL BREAK	10	11 PSS 2	12
15	16 Lecture	17	18 Extraction	19
22	23 Midterm Exam No Lab	24	25 TLC	26
29	30 Column Chromatography	31		

November

Monday	Tuesday	Wednesday	Thursday	Friday
			1 Practical Exam	2
5	6 Review	7	8 Lecture and PSS3	9
12	13 2-Chloro-2-Methylpropane	14	15 Lecture	16
19	20 Midterm Exam No Lab	21 Thanksgiving	22 Thanksgiving	23 Thanksgiving
26	27 Cyclohexene	28	29 Cyclohexanol	30

December

Monday	Tuesday	Wednesday	Thursday	Friday
3	4 Review, Lab Checkout, and PSS 4	5	6 Written Exam	7

Chem 225 Reading Assignments*

Safety		Handout
Modeling		Modeling Handout
Organic Chemical Behavior	Operations: 1, 5, 6	pp. 3-4, 13-19
	Procedure:	pp. 177-184
Library Training	Operations:	Handout
	Procedure:	Handout
Melting Point	Operation 30:	pp. 137-143
	Procedure:	pp. 185-192
Distillation	Operations 7-9, 27:	pp. 20-35, 122-135
	Procedure:	pp. 193-200
Crystallization	Operations 12, 13, 25:	pp. 40-46, 104-119
	Procedure:	pp. 201-206
Extraction	Op. 15, 21-22:	pp. 48-57, 91-98
	Procedure:	pp. 207-214
TLC	Operations 19, 20	pp. 80-87
	Procedure:	pp. 215-224
Column Chromatography	Operations:	Handout
	Procedure:	Handout
2-Chloro-2-methylpropane	Operations 6, 11:	pp. 16-19, 37-39
	Procedure:	pp. 225-230
Cyclohexanol	Operations:	Handout
	Procedure:	Handout
Cyclohexene	All of above	
	Procedure:	Handout

* All experiments are Standard Scale.