

TIM THOMAS

SYLLABUS

TA: _____

Organic Chemistry Laboratory A
Chemistry 225: Fall 2009
Life Sciences Building 115

Description: A one-semester-hour laboratory course designed to teach basic organic chemistry laboratory techniques and to illustrate some of the topics covered in organic chemistry lecture courses.

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

Materials: Catalyst by Tim Thomas, Chem 225 (ISBN: 0-5369-4370-2)

Goggles will be provided on the first day and must be brought to every class. A lab coat or apron is recommended.

<u>Grading:</u>	10 experiments, 10 pts each	100 pts
	1 Practical Exam	100 pts
	1 Written Exam	<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 background material and the experimental procedure. A reading list is attached to this syllabus. If you have questions, consult with your Teaching Assistant or the Lab Instructor well before your lab section. Do not wait until the few minutes before class.

Quizzes: A short quiz will be administered during the first 5 minutes of class. These are based on the assigned reading. All quizzes will be collected after 5 minutes. STUDENTS WHO ARRIVE LATE WILL NOT BE GIVEN EXTRA TIME. During the quiz, sharing of calculators will not be allowed. Be sure to bring your own. The quizzes are **closed book**. However, you may use your answers to the pre-lab exercises—provided you remove them from the manual. Quizzes count for 2 of the 10 points for an 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. The results sheet counts for five of the 10 points for an experiment.

Technique: Your success in lab goes beyond what appears on paper. Attention to safety, housekeeping, level of preparation, ability to work with others, ability to follow directions, and ability to work independently are also important. The technique score counts for 3 of the 10 points allotted to each experiment.

Practical Exam: The practical exam is a hands-on assessment. It is station based and is performed in lab.

Written Exam: A written exam will be given during the last week of class. The exam will cover all portions of the course—the assigned readings, laboratory procedures, topics discussed in class, etc.

Lab Drawers: The lab drawer is a shared space. At least one other section will be using it. Therefore, you should not leave any personal items in your drawer. You should also leave the drawer in a good condition at the end of the lab period. The Teaching Assistant will not accept your Results sheet until she/he has inspected your lab drawer. The Teaching Assistant may also deduct Technique points if the drawer or other areas of the lab—such as balances, sinks, etc.—are not left in a satisfactory condition at the end of the lab period.

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. If you miss an experiment for a justifiable reason—court summons, death in the immediate family, serious illness, etc.—you must notify the lab instructor in writing within 24 hours. Documentation will be required. If your absence is approved, the experiments portion of your grade will be based on the experiments for which you were present. However, you are still responsible for all of the material on the written and practical exams. If you miss a second experiment, you have missed a significant portion of the course and should either drop or request an incomplete. A maximum of one and only one excused absence will be allowed for each student for each semester.

You should also come to lab on time. For safety reasons and fairness to your lab partner, you must arrive in time to hear the pre-lab lecture. **Any student who is late by 10 minutes or more will not be allowed to perform the experiment and will be marked absent.**

Safety Rules: These are contained the textbook and will be read aloud in class. 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. Failure to adhere to the safety rules will also be reflected in the technique score.**

Registration: You must attend the section for which you are officially registered. Any change of section must be accomplished through the Registrar.

Equipment: When you are using equipment (the glassware in your drawer, hot plates, heating mantles, voltage controllers, etc.), you are responsible for it and you may be charged if items are missing or damaged.

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

Anyone caught in an act of academic dishonesty will receive a zero on the assignment in question and will have her/his final grade in the course lowered by a letter. Any subsequent incidents will result in an 'F' in the course. The incident will also be reported to the Chair of the chemistry department and, at the Chair's discretion, to the Office of the Dean-- where additional sanctions, including expulsion from the university, may also be imposed. Consult the current Undergraduate Studies catalog for a complete description of University policies regarding academic dishonesty.

Email: You must use your Loyola email address when contacting the TAs or instructor for this course. Emails from outside sources are often blocked automatically.

Blackboard: 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.

Schedule: Organic Chemistry Laboratory A, Chemistry 225, Fall 2009

August

Monday	Tuesday	Wednesday	Thursday	Friday
24 Orientation	25 Orientation	26 Orientation	27 Orientation	28 Orientation
31 Safety/ Modeling/ Chem. Information				

September

Monday	Tuesday	Wednesday	Thursday	Friday
	1 Safety/ Modeling	2 Safety/ Modeling	3 Safety/ Modeling	4 Safety/ Modeling
7 LABOR DAY	8 Chemical Information	9 Chemical Information	10 Chemical Information	11 Chemical Information
14 Organic Chemical Behavior	15 Organic Chemical Behavior	16 Organic Chemical Behavior	17 Organic Chemical Behavior	18 Organic Chemical Behavior
21 Melting Point	22 Melting Point	23 Melting Point	24 Melting Point	25 Melting Point
28 Distillation	29 Distillation	30 Distillation		

October

Monday	Tuesday	Wednesday	Thursday	Friday
			1 Distillation	2 Distillation
5 FALL BREAK	6 FALL BREAK	7 FALL BREAK	8 FALL BREAK	9 FALL BREAK
12 Crystallization	13 Crystallization	14 Crystallization	15 Crystallization	16 Crystallization
19 Extraction	20 Extraction	21 Extraction	22 Extraction	23 Extraction
26 TLC and Review	27 TLC and Review	28 TLC and Review	29 TLC and Review	30 TLC and Review

November

Monday	Tuesday	Wednesday	Thursday	Friday
2 Practical Exam	3 Practical Exam	4 Practical Exam	5 Practical Exam	6 Practical Exam
9 2-Chloro-2-Methylpropane	10 2-Chloro-2-Methylpropane	11 2-Chloro-2-Methylpropane	12 2-Chloro-2-Methylpropane	13 2-Chloro-2-Methylpropane
16 Octenes	17 Octenes	18 Octenes	19 Octenes	20 Octenes
23 NO LAB	24 Thanksgiving	25 Thanksgiving	26 Thanksgiving	27 Thanksgiving
30 Written Exam and Check Out				

December

Monday	Tuesday	Wednesday	Thursday	Friday
	1 Written Exam and Check Out	2 Written Exam and Check Out	3 Written Exam and Check Out	4 Written Exam and Check Out

Chem 225 Reading Assignments¹

Introduction		169
Safety/ Modeling		171-176 Modeling Handout
Chemical Information		Handout
Organic Chemical Behavior	Operation 1:	pp. 3-4
	Procedure:	pp. 177-184
Melting Point	Operation 30:	pp. 137-143
	Procedure:	pp. 185-192
Distillation	Operations 5, 27:	pp. 13-16, 122-135
	Procedure:	pp. 193-200
Crystallization	Operations 7, 12, 13, 25:	pp. 20-32, 40-43, 43-46, 104-118
	Procedure:	pp. 201-206
Extraction	Operations 15, 22:	pp. 48-57, 93-98
	Procedure:	pp. 207-214
Chromatography	Operations 19, 20	pp. 80-87
	Procedure	pp. 215-224
2-Chloro-2-methylpropane	Operations 6, 11:	pp. 16-19, 37-39
	Procedure:	pp. 225-230
Octenes	All of above	
	Procedure:	pp. 231-236

Lab Coordinator: Tim Thomas, LSB 124, (773) 508-8115, TTHOMA1@LUC.EDU

¹ All experiments are Standard Scale.