

Grading

The course grade is comprised of 2 components: Experiments and a Final Quiz.

Experiments

Lab reports are graded out of 10 pts. Grading is based upon:

- 1) neatness/organization and clarity of writing,
- 2) lab skills and performance,
- 3) lab preparation and cleanup,
- 4) tardiness,
- 5) analysis.

Pre-labs are checked at the beginning of every lab. The **Post-lab** write-up **must be typed**. **Lab reports** are due at the **beginning of class the next week**. If you miss a lab, it is your responsibility to turn the due lab report within the week it is due **not at the next course meeting**, otherwise points will be deducted.

Grading Rubric

	<i>Pre-lab</i>	<i>In-lab</i>	<i>Post-lab</i>
<i>Presentation/Organization</i>			
<i>Lab Skills,Tardiness,Clean-up</i>			
<i>Data collection</i>			
<i>Analysis</i>			

Final Quiz

The final covers all of the principles from all the experiments done during the semester.

The table below breaks down the how grades will be assigned:

Assignment Types	# Assignments	Points Each	Total Points	% of Final Grade
Lab	12(1 report is dropped)	10	110	91%
Final Quiz			10	9%

Cleanup Points: In the organic chemistry teaching labs you are expected to take care of the equipment and lab space that you use. If you fail to return equipment to their proper place or leave your area untidy, you will be deducted points.

Academic Honesty

Academic dishonesty will not be tolerated. While collaboration in lab is allowed, written lab work is an individual effort.

Copying from any portion of the written work from other students is not allowed and constitutes academic dishonesty. For the college's policy towards academic integrity see the Lehman Undergraduate Bulletin.

<http://www.lehman.edu/undergraduate-bulletin/academicintegrity.htm>

Text: "Macroscale and Microscale Organic Experiments" Houghton Mifflin Publishing Company, 6th edition, 2011 ISBN-13: 978-0-538-73362-5

List of Experiments and Assignments

Meeting	Reading	Experiment
1	Chp 1 Chp 2	I. Check In. Lab Equipment and Glassware pp.12 (Fig. 1.13), II. Discussion of writing "The Laboratory Notebook." III. Discussion of Laboratory Safety and Waste Disposal chapter 2, pp. 26. IV. Sandbath calibration
2	Chp 3 Pp 41	Melting Points Determining the Melting Point pp.52 Melting Points of Pure Urea and Cinnamic Acid (experiment 2, pp.54), Melting Points of Urea-Cinnamic Acid Mixture (experiment 3, pp.54) & Unknowns(experiment 4, pp.54).
3	Chp 4 Pp 61	Recrystallization: Microscale Procedure for Phthalic Acid pp.79. Decolorizing a Solution With Decolorizing Charcoal (experiment 3, pp.80).
4	Chp 5 Pp 86	Distillation: Fractional Distillation of Cyclohexane-Toluene Mixture (experiment 2, pp.94,95)
5	Chp 6 Pp 102	Steam Distillation: Isolation of Citral (experiment 3, pp.108-110). Please use 1/4 of the amount of the lemon grass oil, indicated in the procedure pp. 109. Use alternative steam distillation set up. Here is the only place that you use the glassware for large scale experiments.
6	Chp 8 Pp 164	Thin-Layer Chromatography: Analgesics (experiment 1, pp.175-7).
7	Chp 7 Pp 131	Extraction of Caffeine from Cola Syrup (experiment 7, microscale) pp.158-9. Drying the organic layer pp.139-140 (step 3). Sublimation of Caffeine (a purification method); and pp.125 (part 3), (also see Fig. 7.13 & 7.15, page 152-3) Drying agents: pp.136-7, write a summary in your Lab Notebook
8	Chp 11 Pp 220	Infrared Spectroscopy. This chapter deals with the determination of functional groups. Write only one page introduction in your lab notebook. Instructor discretion for the method of presentation.
9	Chp 20 Pp 340	I. Continuation of Week 8 Experiment IR Spectroscopy II. Microscale Bromination of Cholesterol (experiment 1, microscale). pp.342.
10	Chp 17 Pp 318	Nucleophilic Substitution Reactions of Alkyl Halides Experiments: pp.323-5. Use only: 1-chlorobutane, 1-bromobutane, 2-chlorobutane, 2-chloro-2-methylpropane, 2-bromobutane, 1-chloro-2-methylpropane and bromobenzene (as negative reference).
11	Chp 19 Pp 334	Alkenes from alcohols: Cyclohexene from Cyclohexanol; Preparation of Cyclohexene (experiment 1, microscale) pp. 335. <u>Follow the experiment up to the 3rd line of the last paragraph page 335, do not add toluene and follow the special handout or instruction from your instructor.</u>
12	Chp 58 Page 680	The Synthesis of an Alkyne from an Alkene: meso-Stilbene Dibromide (experiment 2, microscale) pp.685 and Synthesis of Diphenylacetylene (experiment 3, microscale) pp.687.
13	Chp 9 Pp 185	Column Chromatography: chromatography of a Mixture of Ferrocene and acetylferrocene (experiment 4, pp.200-1). Apply and observe the separation of a 50:50 mixture following the handout procedure. For Slurry Packing Method see pp.187 and Fig. 9.1.
14		<ul style="list-style-type: none"> • Check out. All glassware and workspace must be clean and dry. • Final Quiz

Meeting	Experiment	Media
1	Orientation and Check In	<ul style="list-style-type: none"> • Online Safety Video #1 • Online Safety Video #2
2	Melting Points	I. Online Melting Pt Apparatus Tutorial II. Online Melting Pt Demo Video
3	Recrystallization:	I. Weighing A Solid Demo Video II. Recrystallization Demo Video III. Online Recrystallization Tutorial IV. Vacuum Filtration Demo Video
4	Distillation	<ul style="list-style-type: none"> • Simple Distillation (Informational Video) • Fractional Distillation (Informational Video)
5	Steam Distillation	I. How Steam Distillation Works (Informational Video) II. Evacuation Technique (how to dry your oil) Demo Video <ul style="list-style-type: none"> • Extra! Isolate your own essential oils with Steam Distillation
6	Thin-Layer Chromatography	I. TLC Online Tutorial II. TLC Demo Video
7	Extraction of Caffeine from Cola Syrup Sublimation of Caffeine	I. Extraction of Caffeine Demo Video II. Sublimation of Caffeine Demo Video III. Rewatch Evacuation video <ul style="list-style-type: none"> • Extra! Extracting Caffeine from Coffee grounds at home
8	Infrared Spectroscopy	I. Infrared Spectroscopy (Informational Video) II. IR Spectra (Informational Video) III. Online IR Tutorial
9	Microscale Bromination of Cholesterol	
10	Nucleophilic Substitution	Nucleophilic Substitution Informational Video
11	Alkenes from alcohols	Elimination Rxns (Informational Video)
12	The Synthesis of an Alkyne from an Alkene:	
13	Column Chromatography:	I. Column Chromatography (Informational Video) II. Column Chromatography Demo Video

Informational Videos: Background information for the experiment

Demo Video: Demonstrations of the techniques

Extra!: Cool videos that you may find interesting. Demonstrating chemistry in the home