Experimental Chemistry I, 361 & 361H

Course Schedule--Fall 2022

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	Reading Assignment		Activity
Week 0: Sept. 21-22	Mohrig [1]: Ch. 1 and Ch.3, Sections 3.1, 3.3. Lab Manual [2]: Background information	Lec: Lab:	No lecture period, but view Introductory modules/videos Orientation to safety in the lab; waste disposal; keeping a lab notebook
Week 1: Sept. 26-29	Mohrig [1]: Ch. 4, esp. Secs. 4.1, 4.4; Sec. 5.1 Lab Manual [2]: Experiment 1, introduction and procedure IIA.	Lec: Lab:	Course Introduction and carboxylic acid chemistry; Separations/filtration, decolorization and acidification of free acid
Week 2: Oct. 3-7	Mohrig: Ch. 5, sections 5.1-5.4; Ch. 15, sections 15.1-15.5 and 15.8; Ch. 14. Lab manual: Exp 1 procedures IIB, C, and D.	Lec: Lab:	Melting points, recrystallization & yield PreLab 1 due Sunday midnight. Recrystallization, melting points and titrations
Week 3: Oct. 10-14	Mohrig: Ch. 3, section 3.2 only.	Lec: Lab:	Titrations, pK_a and interpretation of data. PreLab 2 due Sunday midnight. Finish bulk recrystallization, titrations
Week 4: Oct. 17-21	Mohrig: Ch. 10, sections 10.1, 10.3-10.5, 10.7. Lab manual: Reports p. 1-4, Exp. 1: IIE and III	Lec: Lab:	Derivatives, writing reports, PreLab 3 due Sunday midnight. Finish titrations, make derivatives, mp derivatives.
Week 5: Oct. 24-28	Lab manual : Exp. 2: sections I, II and III Your OChem text: the Grignard reaction section (Vollhardt & Schore, Chapter 8, Sections 8.7-8.8); nucleophilic addition to C=O (Section 17.5); description of Wittig reagents (Sections 17.12)	Lec: Lab:	The synthesis of dimethylbutenes: Grignard reaction, extraction/workup. Finish Exp. I, put glassware in oven (T/W); Begin Exp. II (do Grignard) on (R/F) (all hoods in use). PreLab 4 due Sunday midnight.
Week 6: Oct. 31-Nov. 4	Your OChem text: dehydration of alcohols (Vollhardt & Schore, Section 9.2, but also Chapter 7 for general background and Section 7.6 for the E1 elimination mechanism in particular) Mohrig: Ch. 12, sections 12.1-1.2, 12.4 and 12.8 Lab Manual: Exp 2: section IV and V	Lec: Lab:	Dehydration of alcohol; distillation. PreLab 5 due Sunday midnight. Report 1 due Wednesday, Nov. 2 Hydrolyze Grignard; workup/distill ether
Week 7: Nov. 7-11	Mohrig: Ch. 20	Lec: Lab:	Gas chromatography PreLab 6 due Sunday midnight. Elimination reaction to make butenes. Note: Nov. 11 is a University holiday. We will have no lab period either on Nov. 10 (Thursday) nor Nov. 11 (Friday). We'll pick up next week.
Week 8: Nov. 14-18	Lab Manual: Exp 2: section VI Lab Manual: Last section ("Thermo. of Equilibrium")	Lec.: Lab:	Thermodynamics. PreLab 7 due Sunday midnight. Elimination (Tues/Wed);
Week 9: Nov. 21-23	Web pages on statistics (and pages linked from this initial page).	Lec.: Lab:	Error Analysis; Data manipulation for Expt. II. Report 2 due Monday, Nov. 21 Making stock solutions, sealing ampules, thermal equilibration.

Nov. 24-25			**Thanksgiving**
Week 10: Nov. 28-Dec. 2		Lec.: Lab:	Conclusion/ Tips for Final Report Last PreLab 8 due Sunday midnight. Finish Expt. II;
Finals Week: **Dec. 8**			**Report 3 (group report) due for both sections is WEDNESDAY by 5 pm on Canvas.**

[1,2,3]Reading assignments:

You should read the background material before coming to lecture. **"Mohrig"** refers to Mohrig, Hammond, Schatz and Morrill, "Techniques in Organic Chemistry" (blue, 4th Ed.); if you purchased an earlier edition we can provide a "mapping" of the current assignments to what you have. **"GNS"** denotes Garland, Nibler, Shoemaker, "Experiments in Physical Chemistry," 7th or 8th or 9th edition; . **"Lab Manual"** denotes background material in the Experimental Chemistry I lab manual (lab procedures must be read before each lab period). Vollhardt & Schore refers to the text for CH 334-5-6, "Organic Chemistry", 8th Ed., by K. P. C. Vollhardt & N. Schore.

Chemistry 361 Homepage
Link to Learning Outcomes for CH 361/CH 361H

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