

EXPERIMENTAL CHEMISTRY II - CH 463 & CH 463H

(Baccalaureate Core - Writing Intensive Course*)

TENTATIVE SCHEDULE (updated 4/26/2018) Version 3 – changes in Green

Spring Term 2018 - Meets W & F ; 1-4:50 pm; lecture 1-2 in GBAD 211; lab: GBAD 209 & 309.

Course Instructors:	Christine Pastorek , 7-6732, Gilb 247; Office hours: by appointment. Amila Liyanage, 7-2374, Gilb 349, Office hours: by appointment. GTAs: Louis Lu, Zoe Zhu, Wei Xu, Lulu Zhang, Gary Points, Joe Harper & Jason Schindler (WIC).
Required texts:	(1) ACS Style Guide, 2 nd or 3 rd Ed., Dodd, J.S., Ed.; American Chemical Society: Washington D.C., 1997; 2007. (2) Mohrig, Jerry R., et al, Techniques in Organic Chemistry, W.H. Freeman and Company, New York, 2004 (or newer); Harris, Quantitative Analysis.
Optional texts:	(3) Garland, Nibler and Shoemaker, Experiments in Physical Chemistry, 8 th ed.(4) Strunk and White, The Elements of Style, 4th Ed, Longman, San Francisco, 2000.

WEEK	DATE / DAY	ACTIVITIES
1	Apr 4 Wed	<i>Lec:</i> 1:00 p.m. GBAD 211. Introduction to Experiment 1: Synthesis of substituted benzophenones and library work. You will be assigned a compound to synthesize and method to use in lecture. <i>Lab:</i> Start research proposal work today. Meet in GBAD 311 & 313 & 212 for a tutorial using electronic science databases. You can use computers in these three rooms.
1	Apr 6 Fri	<i>Lab:</i> Check into lockers after lecture if you need to do this. Continue researching the literature and working on proposal. Order primary journal articles by interlibrary loan and/or request material from storage as needed, etc.
2	Apr 9 Mon	Submit a first version for your research proposal covering your synthesis based on the results of your search of the literature thus far. Due by noon Monday, pdf by email to Pastorek. This Draft Report is expected to be about 300 words of text (complete sentences) and include: a reaction scheme, your proposed procedure including amounts and conditions for your synthesis, a procedure for running tlc, and a reference section according to guideline sheet. Include a flowchart for the work-up step to separate and isolate the ketone as much as you know at this point.
2	Apr 11 Wed	<i>Lec:</i> Overview of Friedel Crafts and other reactions and Safety reminders. <i>Lab:</i> If your proposal passes inspection, setup for benzophenone synthesis, put glassware in oven (see Fig. 1, p. 10); otherwise, continue working on your proposal and revise it. Submit a revised copy.
2	Apr 13 Fri	<i>Lab:</i> Start/continue synthesis, tlc; if reaction proves done by tlc, start workup (steam distillation & separatory funnel work up mandatory).
3	Apr 18 Wed	Literature search continues while you work in lab! Continue updating your Research Proposal on synthesis, workup, and purification. A revision is due next week Friday. This should include all new information on characterizations (mp, bp, IR, GCMS, NMR). Your Revised Report on Synthesis should be about 600 words of text and should include an updated synthesis with actual amounts you used, conditions, etc., and an updated reference section. Keep searching for information on UV spectroscopy and photochemistry: UV absorption, emission, excitation, lifetimes, expectations for photochemistry, phosphorescence and photochemical quantum efficiencies, etc.

3	Apr 18 Wed	<i>Lec:</i> Finish aspects of synthesis; workup (separatory funnel and steam distillation); purification (recrystallization and/or vacuum distillation). <i>Lab:</i> Continue synthesis, work up and purification.
3	Apr 20 Fri	<i>Lab:</i> Continue. Goal is to have crude product by the end of the lab today. If you did not get a sufficient yield or have other problems, see Pastorek right away.
4	Apr 25 Wed	<i>Lec:</i> Details on performing characterizations to be included with Report 1. Start UV absorption spectroscopy of benzophenones; Beer's Law. <i>Lab:</i> Continue workup and purification and characterizations, or if you have purified compound, move on to prepare analytical solutions for UV spectroscopy and photochemistry. Sign up for instrument use after your solutions are prepared.
4	Apr 27 Fri	Revised Report 1 on Synthesis due by 5 pm. This should be about 800 words of revised text plus new text. Report 1 covers the synthesis - what you actually did in the lab as compared/contrasted with your proposal - plus any work-up and characterizations that you have completed so far. Use ACS journal style and cite the references you refer to in your text in the order you cite them. Include a separate document, and list any new references you found on the UV spectroscopy and photochemistry for your compound. Peer Review. You will receive 2 or 3 papers to review with directions on to do this on Canvas.
4	Apr 27 Fri	<i>Lab:</i> Continue Expt. Work on data analysis and report writing as you go along.
5	May 2 Wed	<i>Lec:</i> MO's from HyperChem; <i>Lab:</i> Continue
5	May 4 Fri	Report 1 with feedback is returned to you. Your Peer Reviews are due today using Canvas. Please read through our comments and the Peer Reviews and make revisions as
5	May 4 Fri	<i>Lab:</i> Continue
6	May 9 Wed	<i>Lec :</i> UVVis spectrometers, Jablonski energy diagrams and curve fitting UV absorption spectra. <i>Lab:</i> Continue work on Expt.
6	May 11 Fri	Final version of Report 1 on Synthesis through purification and characterizations i.e., mp, IR and NMR due by 5 pm. Please write about 1000 words of text; professional ACS journal style and use posted template. Please include previously marked revised copies of Report 1 with your final report so we can track your progress.
6	May 11 Fri	<i>Lab:</i> Work on spectroscopy and photochemistry, including data analysis.
7	May 16 Wed	First Draft on Report 2 Spectroscopy and Photochemistry due 5 pm today. Please see Guidelines for Report 2.
7	May 16 Wed	<i>Lec:</i> Selections rules: symmetry and forbiddenness. Start Excited state spectroscopy - emission, excitation, & lifetimes; Luminescence spectrometers. Finish excited state details. Start photochemistry and photoreduction efficiency.
7	May 18 Fri	<i>Lab:</i> continue Expt.
8	May 23 Wed	Receive feedback on Report 2.

8	May 23 Wed	<i>Lec: Mechanism for photochemistry; qualitative (small reactor) and quantitative photoreduction (large reactor and FTIR). Quantum efficiency. Discuss Posters.</i> <i>Lab: continue Expt.</i>
8	May 25 Fri	<i>Lec: Catch up</i> <i>Lab: wrap up spectroscopy and photochemistry measurements and data analysis.</i>
9	May 30 Wed	Revised copy of Report 2 due today by 5 pm. Final Report 2 is due Wednesday of finals week.
9	May 30 Wed	<i>Lec: Catch up.</i> <i>Lab: Continue Expt & work on Posters.</i>
9	June 1 Fri	Submit drafts or your poster abstract and your poster for review by 5:00 pm.
9	June 1 Fri	<i>Lab: Clean up gear, please turn in remaining sample, labeled, return stuff to issue room, and check out of lockers & return keys. Receive feedback on your poster.</i>
10	June 4 Mon	Memorial Day – University Closed.
10	June 6 Wed	Send posters to Information Services for free printing by 1:30 TODAY--48 hr turn-around time.
10	June 8 Fri	<i>Lab: 1:30-3:30 Chemistry in Action! Poster session open to the Department. Location to be announced. After poster session, everyone is invited to convene for pizza at American Dream.</i>
11	June 13 Wed	All remaining reports due by 5 pm Wednesday of Finals week. Thank you!

*Writing Intensive Course Student Learning Outcomes

1. Develop and articulate content knowledge and critical thinking in the discipline through frequent practice of informal and formal writing.
2. Demonstrate knowledge/understanding of audience expectations, genres, and conventions appropriate to communicating in the discipline.
3. Demonstrate the ability to compose a document of at least 2000 words through multiple aspects of writing, including brainstorming, drafting, using sources appropriately, and revising comprehensively after receiving feedback on a draft. One typed double-spaced page of 12 pt. text = approximately 250 words.