Chemistry 5a: Advanced Techniques of Synthesis and Analysis

Winter 2016

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Laboratory: (5 sessions per week) Mead Lab

Lab Check-in
Monday, January 11, 4 pm Mead Lab (Please attend!)

Mondays 8 am -12 noon and 1 pm-5 pm
Thursdays 1 pm-5 pm
Fridays 8 am -12 noon and 1 pm-5 pm
(Make the most of all the time slots by appointment with TA when you have no class, you are required to attend at least TWO of the five possible laboratory sessions per week)

Lectures: 201 Church
Time TBD

Optional Texts: (all suggested to students that are interested in pursuing synthetic chemistry)
2. Corey, E. J.; Cheng, X.-M. "The Logic of Chemical Synthesis"
5. Greene, T. W.; Wuts, P. G. M. "Protective Groups in Organic Synthesis"

Model Sets: HGS molecular model sets are available in the Crellin stockroom from Joe Drew. The cost is $25 per set. Students are strongly encouraged to purchase at least one set.

Other relevant texts and references:
1. Larock, R. C. "Comprehensive Organic Transformations"
2. The Merck Index
3. The Aldrich, Strem, and Lancaster Catalogs
4. Beilstein, Sci-Finder (Chemical Abstracts Service) and Web of Science online. (see the Caltech Library homepage at: http://library.caltech.edu/)
5. Paquette, L. A. "Encyclopedia of Reagents for Organic Synthesis, 8 Volume Set" (also available online through the Caltech Library)
Overall Course Grade: Your grade in Chemistry 5a will be determined as follows:

- Report 1, due Monday, February 8: 25% (*After finishing Step 3*)
- Notebook Check 1: 5%
- Report 2, due Monday, February 29: 45%
- Notebook Check 2: 5%
- Participation: 10%
- Quality of product: 10%

Laboratory Reports:
Handouts describing the format and content of the reports will be provided.

Notebook Checks:
The teaching assistants will check your *pre-lab before each lab*, and *lab notebooks after the lab*, grading on a check minus/check/check plus system. Please refer to pages 4-5 in the Chemistry 5a Laboratory Manual for details on proper laboratory notebook format. Any questions may be answered by the teaching assistants. Twice during the semester (immediately following report hand-in) the notebooks will be collected and graded based on the check(s) received.

Participation:
This segment of your grade reflects how well you perform in the laboratory environment. Performance includes courtesy toward your fellow students and teaching assistants, safe laboratory practices, familiarity with the experimental procedures, and efficient work habits. This grade will also incorporate growth and development; that is, you may be rewarded for improvement in your performance over the course of the semester.

HOWEVER, you are required to attend at least TWO of the five possible laboratory sessions per week, regardless of your overall performance in the laboratory. You must work on laboratory chemistry when in the laboratory (i.e., not other homework!). Failure to meet this requirement will result in the reduction of your final grade by one letter grade per missed week. You may (of course) attend as many laboratory sessions as you see fit. Our experience over the past few years is that you will have to put in more than the required time to succeed in this course. You will receive a single one day pardon on this attendance requirement during the term.

Late Policy:
Professor Grubbs is the only person who will grant extensions. All assignments are due in the hands of a TA or Professor Grubbs by 5:00 p.m. on the due date. It is not sufficient to leave assignments on desks, in mailboxes, or in any personal space of the TA’s, because the TA must actually record the time and day the assignment was received.

A penalty of 25% will be assessed for each day the assignment is late.