

## Chemistry 268 • Spring 2019

Instructor: Dr. Chris McDaniel

Lab Coordinator: Mrs. Manju Sharma (msharma@cns.umass.edu).

Instructor Office: ISB 241 F

Instructor Phone: 413.545.8394

Instructor Email: [mcdaniel@chem.umass.edu](mailto:mcdaniel@chem.umass.edu) (Your email subject must contain “CHEM-268” without quotes. If it does not, it will be directed to an unmonitored SPAM folder.)

### **Things to Note About Lab:**

Before coming to lab, download and read the supplemental-to-the-lab-text experiment handout and any other necessary handouts from the Chemistry 268 course website. Based on all of this information, prepare a Prelab Outline. Downloads are found at our [Chemistry 268 website](#):

**Come to lab properly dressed** (see '[Safety Dress Code and Consequences](#)' handout) and bring with you copies of handouts, your safety goggles, and your laboratory notebook, in which the Prelab Outline has been written. The required laboratory notebook is one in which a carbon copy of each page can be made and torn out. Before you may begin work, a carbon copy of the completed Prelab Outline, a copy of the experiment handout and any other prelab material for that experiment must be presented to your TA. If you fail to have an acceptable Prelab Outline, you will not be allowed to work in the lab and will consequently lose credit. Some references given in the Schedule of Experiments are to Loudon, which refers to the lecture text in CHEM-266. These references provide background information for some experiments.

Carefully read the information on this page as well as the information on **Safety and Waste Disposal** on the [Chemistry 268 web page](#). These documents contain a great deal of important information. You are responsible for knowing the material and following the procedures provided in them. Review and refer to these documents throughout the semester. You must wear approved eye protection at all times while you are in the lab. Failure to do so will result in the loss of credit. Repeated failure to do so will result in expulsion from the course.

**Make-up Policy. The TA has no authority to authorize a make-up.** Requests to make up a missed experiment must be timely (within 2 days of being absent, including weekends); they will be considered on an individual basis. **Follow the link to the Google Form on the course website general handouts page.** The TA signature (not necessarily your TA) is required on all make-up work. Attach, to the Google Form, a letter of support from the appropriate person. For example, a doctor in the case of illness. Further information can be found on the Google Form.

**Lab Textbook (required).** Macroscale and Microscale Organic Experiments, 6th, Author: Williamson/Masters, Publisher: Brooks/Cole, Edition. ISBN 1111519293

**EMAIL.** Email is the best way to get ahold of me or your TA. I will respond within 24 hours of your message. If you do not receive a reply, check the subject line (see instructions at the top of this page). Communications via email are essential. Be sure that your email address in SPIRE is correct, is one that you use regularly, and is one that you keep maintained. Manju, Amanda and I are not responsible for any missed electronic communication by the student.

### **Notebook and Grading Policies.**

**REQUIRED NOTEBOOK.** One in which every other page is perforated so that a carbon copy of each page can be torn out and submitted to your Teaching Assistant (TA). One example of this type of notebook is the Hayden-McNeil Student Lab Notebook, which is available at the Textbook Annex. Others of that type are acceptable and are available at the University Store. A normal spiral-bound notebook is NOT acceptable. Loose sheets are not acceptable.

Your notebook provides a permanent record of your laboratory work. Keeping detailed notes makes it easier to analyze results, write a discussion, and understand why a problem may have occurred. The carbon copy of all notebook entries (pre-, during-, and post-lab entries) will serve as the SOLE REPORT that you will submit for each experiment. A separate report, which has been typed or rewritten will not be accepted. If kept properly, the notebook also provides documentation to show that you have done the work. All entries must be written directly into the notebook in ink. Do not write information on scraps of paper with the intent of transcribing it later on. By doing so,

information may become garbled or lost. Do not tear out pages. If a mistake is made, simply cross off the mistaken material. Copies of ALL written work must be submitted to your TA. More detailed instructions, along with an example, are given on the CHEM-268 website in the file “How to keep your notebook.”

**BEFORE COMING TO LAB.** Enter into your notebook the title of the experiment, reactions (if any), and structures and names of chemicals involved, showing correct stoichiometry if applicable, a table of relevant physical constants, and the Prelab Outline (described in more detail below). Good preparation is essential to safe and effective lab work. **Therefore, before you may begin work, you must present to your TA your Prelab Outline and your copy of the Experimental Procedure for that experiment.** The TA will check to see that the outline is acceptable and that you have a copy of the procedure. If the TA deems that you are insufficiently prepared, you will be asked to leave and credit will be lost. Physical constants which cannot be found in the lab text may be obtained from the Table of Physical Constants of Organic Compounds in the CRC Handbook of Chemistry and Physics (reference section of the Science and Engineering Library, on Library website, and in the Org Lab). If you have difficulty finding a compound by name, use the molecular formula index at the end of the Table. Chemfinder.com may also prove useful.

**DURING THE LAB SESSION.** Enter directly into the notebook, as the work is being done, procedures actually carried out (this will differ somewhat from procedures in the Prelab Outline), detailed observations, data obtained, and calculations. Items such as detailed procedures, sketches of apparatus, physical data of compounds isolated (e.g., melting points (MPs) and boiling points (BPs)), and weights of reagents and products are entered at this time. Before you leave the lab, to document your work, you must have your instructor sign your notebook after the last entry. **Unsigned work will not be given credit.**

**BEFORE THE NEXT LAB PERIOD.** A summary of results, an analysis of data, a brief discussion, and answers to assigned questions will be entered into your notebook. This post-lab material will normally be limited to about two pages. The carbon copy of the complete write-up must be submitted to your instructor at the beginning of your next lab period. Late submissions

will result in the loss of 1 point per day, unless you have a valid excuse and special arrangements have been made with your TA or course instructor.

### **LAB REPORT GRADING:**

All experiments in chem-268 are synthetic experiments, with the exception of column chromatography. Therefore, you should use the formal report grading rubric posted on the course website.

**Final letter grades.** The final grade will consist of the following: Lab Reports (100%).

**Experiment Handouts.** In addition to the experimental procedures in the lab text (see schedule of experiments' on the course website), you are required to download copies of experimental guidelines for each lab. These handouts are found on the Chemistry 268 web site.

For most experiments, besides the "Experiment Handout," the web site will provide additional information, such as photos of apparatus set-ups and procedures. Downloading handouts well in advance will lessen the likelihood of running into last minute computer problems. Make sure to use the handouts from spring 2018.

**Notes on the Prelab Outline.** You should apply the principles you learned in 267. The outline should be written in your own words, in outline form, and in *enough detail so that you could do the experiment by following the outline only*. You may be required to follow only your outline at a random point in the semester. The outline should be short, but complete, and in a form that is easy to follow as you work. A well-prepared outline will allow you to carry out the lab work efficiently and effectively. The outline must also include a summary of safety considerations and waste disposal procedures for chemicals used in that experiment. A test of a good outline is to read it over and see if you could actually carry out the experiment using only the outline. If the TA deems that the outline is poorly prepared, you will lose credit (1 point) and will be required to leave the lab, returning only after you have rewritten the outline in a way that is acceptable to your TA. In such a case the remaining lab time will likely be insufficient to complete the experiment, resulting in the loss of additional credit. A poorly prepared lab worker is a danger to everyone in

the lab and will not be allowed to work in the lab. Note that working directly from the downloaded experiment handout is not acceptable. **An example of an outline is shown in the Chemistry 268 course website file: “How to keep your notebook.”**

**Limited-Use Lab Hours.** The Organic Lab will be open during scheduled hours on certain days of the week. The hours and days will be posted on the web and at the lab. During these hours, the only lab operations that may be done are the determination of melting points and weighings. This time may also be used to consult with the TA on duty. Under no circumstances can make-ups be done during these hours.

**Due Dates.** After an experiment is finished, all completed material must be submitted to your TA at the beginning of the lab period on the date given on the Schedule of Experiments. Late submissions result in the loss of 1 point per day (including weekends). Occasionally a sample needs time to dry. In such a case its weight and melting point (MP) may be obtained during limited-use lab hours.

**Students Registered with Disability Services** - The University of Massachusetts Amherst is dedicated to providing equal opportunity/accommodations and access for every student. If you would like to request such accommodations because of a physical, mental, or learning disability, please contact your instructor or the Office of Disability Services, DS, (161 Whitmore Administration Building) within the first two weeks of class. Their phone number is 413.545.0892. "Any student with a disability who needs a classroom accommodation, access to technology or other academic assistance in this course should contact Disability Services (ds@educ.umass.edu) and/or the instructor. DS serves students with a wide range of disabilities including, but not limited to, physical disabilities, sensory impairments, learning disabilities, attention deficit disorder, depression, and anxiety." You cannot have time extensions on a lab experiment. We have neither the space nor resources or capability for a student to stay after the lab period ends.