CHEM 9
Organic Chemistry Laboratory
Spring 2014

Instructor: Dr. David Brook
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Office hours: TTh 1000-1130
Class days/time: F 1030-1320
Final Exam: Thursday May 15, 0945-1200
Classroom: SCI 154
Prerequisites: Chem 8

Copies of the course syllabus, lab schedule and handouts may be found on my faculty web page:

http://www.sjsu.edu/people/david.brook/courses/chem9/

Updates and information will also be distributed by e-mail. Make sure I have a working email address for you by sending a message to my email address with REGCHEM9 in the subject line. You may also use my email address, david.brook@sjsu.edu, for questions, etc. Please put CHEM9 in the subject line of any emails related to this class

Required:

• Hart, Craine, Hart and Vinod, Organic Chemistry Lab Manual - A Short Course

From the instructor you will receive:

Laboratory Schedule (for at least the first portion of the semester)
Locker Inventory Card

From the Service Center (S-150) you should obtain:

Equipment Pad
Service Center Procedure Sheet
Price List - available upon request

General Course Description: This course is intended to acquaint the student with the most commonly used procedures for preparation, purification and analysis of organic compounds.
Although results - yield, purity, accuracy of data, etc. - shall be considered as part of the report grade as appropriate, the primary emphasis is on understanding the theory and application of these techniques.

Course Learning Objectives:

• To understand and apply basic techniques used in the organic laboratory for preparation, purification and identification of organic compounds
• Major techniques include melting point determination, extraction, chromatography, infrared spectroscopy, distillation and chemical characterization tests
• At least one organic compound will be synthesized
• Calculation of reaction yield will be practiced
• Understanding the techniques employed and phenomena observed in terms of the physical and chemical properties of organic substances will be emphasized
• Development of proficiency in the above to the point where one can suggest reasonable ways of improving a given procedure
• To better understand the organic chemistry behind everyday observations (colors of dyes or action of soap, for example)

Organization: A Schedule of Experiments shall be distributed, listing the tentative scheduling of experiments from the text (HCHV), along with assigned chapter sections and questions, and report due dates. The schedule is subject to change. The theory behind a particular experiment will normally be covered briefly the week before the allotted lab period in order to lay groundwork for the assigned reading. The student is expected to read and understand the assigned sections prior to the allotted lab period for that experiment. At the beginning of the period there will be a question and answer period and perhaps more detailed instructions regarding the experiment shall be given. Reports shall be submitted as scheduled (see below). The overall grade shall depend primarily on the individual lab reports, a midterm exam and a final exam, as explained below.

Modification of Procedures: Frequently, the instructor will modify procedures from HCHV - these will be announced in class and/or handouts. Be sure to follow the modified procedures - and to alter your report accordingly.
**Grading:** The grading scheme consists of the final grade being a weighted average of report, midterm and final exam grades in the proportions:

- Reports: 50%
- Midterm: 20% (Friday, March 21 – subject to change with notice)
- Final Exam: 30% (Thurs May 15, 0945-1200)

Individual scores shall be translated into letter grades and it is the letter grades which shall be averaged according to the weighting scheme above; this is done so that you will always have a clear idea of where you stand in the course. The report composite grade will consist of the average of the individual report grades with each report counting equally unless otherwise noted (some reports count double).

Because this is a laboratory class, and one in which we work with hazardous materials, coming to lab prepared is an essential element for success and safety in the course, and if you come unprepared you may be asked to leave and given a grade of fail for that particular experiment.

**Reports:** Laboratory reports shall be due at the **beginning** of the period of the due date (see Schedule of Experiments).

**Lab reports consist of the following:**
1. Pre-lab exercises - these will be collected at the beginning of the lab period in which you are performing the experiment and will account for 50% of the report grade. You may not begin the experiment unless these are turned in with all questions answered.
2. All tear-out pages from the assigned experiment with all spaces for the observations filled in and all questions answered (unless otherwise noted – see schedule for report questions required).
3. Any additional lab report forms provided by the instructor.
4. Any product or material purified in the experiment in a clean vial labeled as follows:

   Your Name, Date  
   Name of the Product  
   Melting Point/Boiling Point  
   Weight, in grams, % yield  
   Tare (weight of the vial, cap, and label)

If your report includes the data of someone else, you must reference the person who supplied the data. Failure to do so will be considered plagiarism and will be handled accordingly.
Lab reports are due at the **beginning** of the lab period on the day indicated in the schedule below. Reports turned in after the beginning of lab but prior to 5:00 PM the Thursday before the next lab meeting will have two letter grades deducted from the grade that would otherwise be received. Reports will not be accepted after 5:00 PM the Thursday before the next lab meeting (grade of fail).

**Laboratory Safety:** Department policies regarding safety in teaching labs are on the chemistry department web site:

http://www.sjsu.edu/chemistry/Academic_Programs/chemical_safety.html

Anyone who seriously or persistently disregards safety shall be withdrawn from the class with a grade of F. Any student who behaves in an abusive, belligerent or confrontational manner toward the Service Center personnel may face academic and/or administrative sanctions.

**Attendance:** Because most presentations by the instructor will be done at the beginning of the period, you must attend laboratory regularly *and on time*. No work is permitted during the presentations (lockers must be kept *closed* during presentations).

Attendance is mandatory in this laboratory course. Absence without a documented medical reason will result in a fail for that experiment. There is only one section of the course, and the lab is set up specifically for each experiment, so there can be no make-up work. There will be adequate time for the well-prepared student to complete the work during scheduled hours.

**Drop Policy:** You should familiarize yourself with the current University drop policy as described in the Schedule of Classes.

**Service Center:** Your instructor does not make Service Center policy. However, the Service Center is essential to the smooth operation of our already overburdened laboratory facilities. Therefore, any student who behaves in an abusive, belligerent, or confrontational manner toward the Service Center personnel shall be considered to be disrupting the class and will face academic and/or administrative sanctions according to University Policy #41301 (d) and (k).

**Academic Integrity:** Your own commitment to learning, as evidenced by our enrollment at SJSU, and the University’s Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Conduct and Ethical Development. The Policy on Academic Integrity can be found at http://sa.sjsu.edu/student_conduct

**Other Greensheet Items:** See accompanying Department Greensheet Supplement.