Organic Chemistry II Laboratory Syllabus
Spring 2012 CHEM 328L-M051

Wednesday 2:00 pm – 4:50 pm
Friday 2:00 pm – 4:50 pm
Room 116

Instructor: Dr. Tsvetanka Filipova
Office hours: Tuesday, Thursday 10:30-11:30pm or by appt.
Office: CHEM120, 605-394-1698
Email: Tsvetanka.Filipova@sdsmt.edu

TA: Matthew Pepin
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Prerequisites: CHEM 326L
Corequisites: CHEM 328

Catalog Description: (2 credits)
Laboratory designed to accompany CHEM 328. Syntheses of organic compounds. Structural characterization is performed by instrumental methods of analysis including infrared and nuclear magnetic resonance spectrometry.

Required Supplies and Text
- Composition laboratory notebooks with gridlines are available from the SDSM&T bookstore.
- Approved safety goggles (see Safety Guidelines in the Lab Manual).

Outcomes: The student who completes this laboratory will be able to:
- Identify chemical and physical hazards indigenous to the first-semester-sophomore-level organic laboratory which pertain to the safe handling of chemical reagents, glassware, and equipment;
- Discuss how the dangers of any particular laboratory operation can be minimized;
- Have fundamental knowledge of chemical safety in the organic laboratory;
- Identify fundamental bench-scale techniques necessary for the synthesis, separation, isolation, and purification of organic compounds;
- Acquire knowledge of analytical techniques including infrared and nuclear magnetic resonance spectroscopy, structure determination, and organic compound purity as well as scientific/technical writing skills;
- Maintain a laboratory notebook in correct format;
- Demonstrate a molecular, mechanistic understanding of each laboratory synthetic attempted;
- Begin to appreciate the challenges, significance, and satisfaction of organic laboratory work.

Laboratory Safety
Safety goggles are required for all laboratories. Contact lenses are prohibited in the laboratory. No student will be permitted to work in the laboratory outside of the scheduled time. Students may not come in on days other than their scheduled period.
Attendance/Missed Lab Policy

In the organic chemistry labs students must complete work for every laboratory experiment. Unexcused absences will result in a grade of zero for the lab missed. If the student must be absent from the laboratory due to a school sponsored event prior notification must be given at least one week in advance so that a make-up date can be arranged. If a student does not do this and the experiment is missed then no credit will be awarded for that lab.

In order for an absence to be excused, the student must:

1. Contact the Instructor, Dr. Tsvetanka Filipova (Tsvetanka.Filipova@sdsmt.edu) or the TA before the lab period starts.
2. Excused absences will only be granted for things outside of student control; e.g., medical emergencies.
3. Upon returning to lab, student must bring proper justification of the absence; e.g., a doctor’s note.
4. If possible, excused absences must be made up by attending another lab section later during the same week; see the instructor to schedule a make-up period. In the event that a student has more than two unexcused absences, or excused absences that are not made-up, the student must either drop the course or obtain permission to take an incomplete.

Make-Ups

There are no make-up periods or experiments. Under no circumstances are students permitted to be in the laboratory other than during the scheduled hours.

Grading

1. Laboratory Notebooks (30%). Adhere strictly to the format provided for your notebooks. Guidelines can be found in *Macroscale and Microscale Organic Experiments Sixth Ed.*, Brooks/Cole Cengage Learning, pp 18-25, 2011. Follow this format closely as there will be deductions for deviations and incomplete notebooks. Notebooks must be bound, with consecutively numbered pages. All data is to be recorded directly in the notebook. Data includes all observations, any scale reading, and a running notation on the course of an experiment and must be recorded at the time read in ink. Lab books will be kept in the lab at all times.

2. Laboratory Quizzes (30%) Approximately 10 to 15 minutes of pre-lab discussion meetings will be devoted to a quiz on the previous or next experiment. No make-up quizzes will be given.

3. Formal Reports (40%). A total of four formal reports will be expected. They must be completed in the manner set forth in class.

Formal Reports

This class fulfills 0.5 of the 1credit of writing intensive course work for the Bachelor of Science degree in Chemistry. For this student must complete several formal reports during the semester. These reports shall be written in the lay out set forth by the *Journal of Organic Chemistry*. Formal reports must be prepared according to the guidelines which may be found at [http://pubs.acs.org/page/joceah/submission/index.html](http://pubs.acs.org/page/joceah/submission/index.html)

Grading of these reports is based on quality and quantity of samples, technique and neatness, format, content, understanding, and outcome of experiment. It is very important that student complete the experiment and receive the necessary data to include in these reports. Plagiarism is taken very seriously! If for any reason the instructor believes that a student is copying the assigned work the paper will be returned and no points will be awarded or a chance for resubmission. A repeat of the offense will be cause for failure in the class.
Library Days

During this semester there are scheduled library days that are for the preparing of reports and gathering research materials. Attendance is noted and it is expected that students use this time wisely for the benefit of this lab.

The grading scale is as follows:
A = 90-100%  
B = 80 – 89%  
C = 70 – 79%  
D = 60 – 69%  
F = 0 – 59%

Attendance is required. Students must be on time and are expected to follow safety procedures and protocols including wearing goggles. Failure to do so will result in deduction of points from the laboratory notebook.

Fines for Failing to Check-in or Return Padlocks

Students who have checked out a lab locker and drawer key are required to check the locker and key in at the end of the semester or earlier if withdrawing from the course. A fine of $30.00 will be assessed for failure to check-in and a fine of $30.00 will be assessed for each padlock lost or damaged. If circumstances force a student to withdraw from a lab before the end of the semester, arrangements must be made with the storeroom manager to check student’s desk and padlock in order to avoid the fines.

Clean-Up

Before leaving the laboratory, work area must be clean (any spills must be cleaned up immediately). Turn off running water. Clean out material from the sinks (only water soluble liquids are to dispose at in the sinks at the instruction of the TA, solids and other waste will have a designated receptacle). If keeping product in the drawers, make certain it is sealed tightly to prevent loss by evaporation.

ADA Statement

Students with special needs or requiring special accommodations should contact the instructor, (Tsvetanka Filipova, at 605-394-1698 or Tsvetanka.Filipova@sdsmt.edu) and/or the campus ADA coordinator, Jolie McCoy, at 394-1924 at the earliest opportunity.

Freedom in learning

Under Board of Regents and University policy student academic performance may be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. Students who believe that an academic evaluation reflects prejudiced or capricious consideration of student opinions or conduct unrelated to academic standards should contact the dean of the college which offers the class to initiate a review of the evaluation.

Electronic devices

No electronic devices are allowed in the laboratory.

Final Word

This syllabus outlines how it is planned to present this course. If circumstances warrant, changes may be made and students will be notified by a message to your official SDSM&T e-mail address.