CHEMISTRY 278
Fall 2017

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Office Hours: 1:30 PM – 2:30 PM on Monday, Wednesday and Friday. You can also stop by my office at any time to see if I am available.

WWW: http://danstelck.weebly.com/chemistry-278-fall.html

Textbook: Organic Chemistry Laboratory I, J. H. Cooley and R.V. Williams

Chemistry 278 is the first semester of a two semester organic chemistry lab course. The intent of this course is to provide a setting where the student can make observations and experiment with the principles and theories of organic chemistry. Specifically, this course will teach students the principle techniques used by organic chemists.

GENERAL COURSE INFORMATION

Web Site (http://danstelck.weebly.com/chemistry-278-fall.html**)**

An essential component of this course is the course web site. Familiarize yourself with this site as soon as possible. A schedule of the laboratory experiments, portions of the experiment to be performed and supplemental material will be found here.

Laboratory:

The beginning of each laboratory experiment will begin with a short five to ten minute lecture from your teaching assistant which will outline that week's lab. New techniques and/or training on organic equipment and relevant safety considerations will be given at this time.

Safety:

Safety goggles and appropriate clothing must be worn at all times in the laboratory. Failure to do so will result in your dismissal from the lab.

Attendance:

Attendance is mandatory. Missing more than one experiment for an unexcused reason will result in a failing grade. Due safety considerations, missing more than two experiments for excused reasons will result in a falling grade.

Grading:

Your grade in this course will be determined by your attendance and the quality of your laboratory report for each experiment. Attendance is defined by showing up to each experiment prepared, having the procedure transcribed into your lab book, following all safety protocols and correctly disposing of any chemicals used or produced.

Learning Outcome:
By the end of this course students should be able to:

- Use a refractometer and interpret the values obtained.
- Correctly set up and use a boiling point apparatus.
- Experimentally determine the melting point of an organic compound.
- Analyze a mixture using thin layer chromatography.
- Collect the infrared spectrum of an organic compound.
- Isolated a pure organic product using recrystallization.
- Construct a distillation apparatus and use it to separate compounds of differing boiling points.
- Use solubility and/or acid-base to develop a method to successfully extract one of the compounds from a mixture.
- Use infrared spectroscopy to analyze organic compounds.
- Use proton and carbon NMR spectroscopy to propose the correct structures or organic compounds.
- Synthesize organic products and correctly elucidate their structure.
- Synthesize organic products under refluxing conditions.
- Develop an understanding of the principles of chemical safety and know how to apply these principles in a working laboratory.
- Recognize common laboratory hazards and be familiar with the hazard rating system.
- Access the risk of possible laboratory hazards.
- Use of Safety Data Sheets to determine possible risks.
- Be knowledgeable of proper hazardous waste disposal.

In any environment in which people gather to learn, it is essential that all members feel as free and safe as possible in their participation. To this end, it is expected that everyone in this course will be treated with mutual respect and civility, with an understanding that all of us (students, instructors and teaching assistants) will be respectful and civil to one another in discussion, in action, in teaching, and in learning.

Should you feel our classroom interactions do not reflect an environment of civility and respect, you are encouraged to meet with your instructor during office hours to discuss your concern.