

ORGANIC CHEMISTRY I LAB (CHEM 2411L), Spring 2018

W: 2 – 5 pm

Instructor: Dr. Vickie Geisler

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Office: TLC 2120

Office Hours: M 1-4, W 1-2, T, R 10-12:15

Student Assistants: Andre Jackson

Jayla Mays

Course Material:

- **Organic Chemistry I Laboratory Manual For CHEM2411L:** This is a required material, available as a course pack at the UWG Bookstore.
- **Organic Chemistry model kit:** This is a required material for this course, and is useful for the lecture course as well. Available at the UWG Bookstore or http://www.maruzen.info/hgs/catalog/product_info.php?products_id=651
- **Safety glasses** are required to be worn at all times and can be purchased (\$5) the first day of lab.

Please Note: This course should be taken with CHM 2411, which is a co- or pre-requisite. This means that if you drop the lecture class you should also drop the lab.

Learning Outcomes

1. Demonstration of a working knowledge of organic laboratory techniques for synthesis and characterization by successfully completing laboratory assignments.
2. To communicate organic chemistry with clarity. Attainment of this learning outcome will be reflected by the students' abilities to:
 - Follow oral and written instructions to successfully complete laboratory assignments.
 - Record and analyze data, and discuss the outcomes of each experiment with clarity.
 - Write formal laboratory report as chemists write.

Safety: The hazards encountered in CHEM 2411L are significantly higher than those encountered in CHM 1211 and 1212. You should be aware of safety hazards associated with each experiment before you begin work. Read the experiment and review MSDS safety information on hazardous chemicals before starting each experiment. The safety contract handed out on the first day of lab must be completed, signed, and turned in before you will be allowed to begin experimental work. Students with known conditions (i.e. respiratory problems, allergies, pregnancy, etc.) should consult with the instructor for special precautions.

Tardiness / Missed Lab: Lab attendance is mandatory. Unexcused absences will result in a grade of zero. You may attend another section of CHM 2411L to make up a missed lab if you have been sick or miss a lab with an institutional excuse. The makeup lab must be the same week as your missed lab. To attend another lab section you must get your instructor's approval to attend a makeup lab. At the beginning of each laboratory we will discuss the laboratory. You must be present. Lateness will be penalized.

Preparation for Each Lab: The labs will require preparation and careful work to complete in the allotted time. Read all laboratory material before coming to lab and take the on-line pre-lab quiz. The deadline for the prelab quizzes will be before class (12 pm, noon of the lab day). You do not need to complete the relab from the lab manual. **Late submission of prelab reports will incur a 10% penalty per day.**

During the lab: All labs are to be performed individually.

After the lab: Clean up the lab space, clean the apparatus and put back to the drawer. Fill the lab data-sheets (where appropriate) in a legible, tidy manner and answer the assigned post-lab questions.

Reports: Laboratory reports and answers to the post-lab questions are to be turned in at the beginning of your next scheduled lab class after the lab is completed. The majority of the labs will require a completed data-sheet and post-lab questions. **Scientific report writing is a critical skill.** You will write a formal report for experiments 9. If you have any questions regarding reports, talk to your instructor. **Late reports will incur a 10% penalty for each day the report is late.**

Academic Misconduct: Honesty in reporting results is one of the essential characteristics of your laboratory work. Little of your grade depends on getting "good" results. You will be more severely penalized for misrepresenting results than for honestly reporting "poor" results. The most common form of academic misconduct observed in this course is plagiarism, to take some or all of the information from another student's laboratory report as part of your own report. You must write your own reports regardless of whether you work with another student in a team on an experiment or not. Copying another student's data when you did not do an experiment is also unacceptable. Students who are found guilty can expect to suffer consequences appropriate to the extent of the violation. This can involve being receiving a zero for the report for the first offense, or failing the course for any additional offenses. Any type of cheating for the final exam will result in a grade F for the entire course.

Grades

Prelab quizzes (10%)

Postlab reports (60%),

Lab final exam (20%)

Instructor points (5%)

RTK (5%)

Instructor points: your instructor will assign points based upon your readiness for each lab, punctuality, ability to work within the time assigned, respect for safety rules, respect for the instructor, TAs and other students, cooperation, attitude, performance, and tidiness.

Online Environmental Health & Safety: Complete the following TWO programs under <http://www.usg.edu/facilities/resources/training> **by the second lab period.**

1. [Right-To-Know Basic Awareness with the Global Harmonized System](#)
2. [Hazardous Waste Awareness](#)

*At the end of each online training, a **Certificate will be displayed with your name on.** Instead of printing them, please take a digital picture of the screen (or use Print Screen function), and **save the screen images as "Lastname basic" or "Lastname hazardous"** (use your own last name, of course), and deposit the images to the dropbox in the CourseDen

Grading Scale: 90-100 A, 80-89 B, 70-79 C, 60-69 D, <59 F

More policies:

- You need to wear your safety glasses (even for a couple of minutes, even if you are not handling chemicals but others are) at all time in the lab.
- The use of cell phones, iPods, etc. is strictly forbidden at any time during the class.
- You are supposed to work at the station that has been assigned to you at the beginning of the semester and nowhere else.
- You are supposed to perform your own experiment, unless otherwise stated at the beginning of the lab. The time required to perform the experiment is usually 3 hours, if you leave before the end of the lab, you must have all the data proving that you have actually performed the experiment and you must ask me if it is OK for you to leave. I will check from time to time if you have really done everything you are supposed to do during the session (and nothing else), if you are unable to show me the products you are working with, this will be considered as a failure of respecting this policy.
- Any failure of respecting this policy will result in you being expelled of the lab for the day, as well as a grade of zero for the experiment.

LABORATORY SCHEDULE

<i>Week of</i>	<i>Lab #</i>	<i>Experiment</i>	<i>Report type</i>
Jan17	1	Melting Points of an Unknown Solid	Data Sheet
Jan 24	2	Molecular Modeling	Data Sheet
Jan 31	3	Recrystallization of an Unknown Solid	Data Sheet
Feb 7	4	Thin Layer Chromatography (TLC)	Data Sheet
Feb 14		Column chromatography: Separation of plant pigments	Data Sheet
Feb 21	6	Extraction: Separation of a mixture of 3 unknown solids	
Feb 28	7	Extraction continued	Data Sheet
Mar 7	8	Reactivity of alkanes/alkenes	Data Sheet
Mar 14	9	Bromination of <i>E</i> -stilbene and stereochemistry	Formal Report
Mar 28	11	IR and MS Spectroscopy	Data Sheet
April 4		NO LAB	
April 11	10	Nucleophilic Substitution Reactions of Alkyl Halides	Data Sheet
April 18		Check out and final exam.	