

CHEM3422L
Organic Chemistry II LAB
Spring 2018
Section 02: Thursdays, 2pm - 5pm

Dr. Megumi Fujita

TLC 2122
mfujita@westga.edu
678-839-6024
Office Hours:
M9-1, T12-3, F9-12 or by
appointment.

Course Material:

- **Organic Chemistry II Laboratory Manual for CHEM3422L (\$20.73):** This is a required material, available as a course pack at the UWG Bookstore.
- **Safety glasses** are required to be worn at all times and can be purchased (\$5) the first day of lab.
- **A lab notebook** to take notes during the pre-lab lecture and record laboratory data.

Co-requisite: Due to the co-requisite nature of CHEM 3422 and CHEM 3422L, **students withdrawing one of the two courses must withdraw from the other.**

Important note: Students with a special medical condition (pregnancy, respiratory condition, allergy...) should let the instructor know as soon as possible.

Objectives: Apply the knowledge obtained in CHEM 3422 to problem solving in the laboratory. Develop good laboratory techniques. Work safely. Take data carefully. Record observations. Use time effectively. Assess the efficiency of your experimental method. Plan for the isolation and purification of substances you prepare. Characterize substances you prepare by physical and spectroscopic means and synthesize organic substances.

Learning Outcomes

1. Demonstration of a working knowledge of organic 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:
 - Understand oral and written instructions to successfully complete laboratory assignments.
 - Understand the reason behind each step of a chemical procedure.
 - Draw conclusions according to data obtained during the experiments.
 - Write formal laboratory report as chemists write.

Safety: The hazards encountered in CHEM 3422L are significantly higher than those encountered in CHEM 2411L. You should be aware of safety hazards associated with each experiment before you begin to work. Read the experiment and review safety information on hazardous chemicals before starting each experiment. Safety glasses must be worn at all times: if you are found not without safety glasses you will be expelled from the lab and will suffer a reduced grade. **If you are late for class and miss a significant portion of the prelab lecture (including safety instructions), you may not be allowed to carry out the experiment, and you will receive zero for the missed lab.**

Tardiness / Missed Lab: Lab attendance is mandatory. Unexcused absences will result in a grade of zero.

Make-up labs will be permitted only with a valid excuse and subject to availability. At the beginning of each laboratory we will discuss the laboratory. You must be present. Lateness will be penalized by deduction from the grade for that lab. **If you miss a significant portion of the prelab lecture (including safety instructions), you may not be allowed to carry out the experiment, and you will receive zero for the missed lab.**

Preparation for Each Lab: The labs will require preparation. Read the handout and the relevant pages of the laboratory textbook, and answer all the prelab questions. The prelab sheet must be submitted at the beginning of the lab class.

During the lab: Most labs are to be performed individually at the designated work place. In some labs you may be instructed to work with one partner, but each individual must record all data and observations in his/her own notebook. Do not use the datasheet for your raw records. Datasheets are to be filled based on your raw records in a tidy, legible manner for submission after the lab. Use non-erasable ink, and never use white out.

After the lab: Clean up the lab space, clean the apparatus and put back to the drawer. Fill the datasheet, analyze the results and write a conclusion. Answer the assigned post-lab questions.

Reports: For most labs, prelab questions will be assigned, which must be turned in at the beginning of each lab. Laboratory reports are to be turned in at the **beginning** of the next lab. **Late submission will incur a 10% penalty for each day** after the due date. **If any assignment is not turned in by 2:30pm, your report will be considered late.**

Grades

- **Online Prelab Quizzes (20%)**
- **Post-lab Reports including one formal report (50%)**
- **Lab final exam (25%)** will be given at the end of the semester as a written closed-book test.
- **Instructor points (5%)** will be based upon your ability to work within the time assigned, respect for safety rules (e.g. goggles, shoes), respect for policies (e.g. cell phone), respect for the instructor, TAs and other students, cooperation, attitude, performance, and cleanliness. Repeated tardiness may result in lower Instructor points.

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

Academic Misconduct: Honesty in reporting results is one of the essential characteristics of your laboratory work. Any form of academic dishonesty or misconduct will be penalized to the fullest extent possible, including a grade of zero in the assignment or grade of F for the entire course, or in a serious case, expulsion from the university. **Falsifying data** includes (but is not limited to) fabrication of data for lab work you did not do, and changing poor data to better-looking data. Little of your grade depends on getting "good" quantitative results; you will be more severely penalized for misrepresenting results than for honestly reporting "poor" results. For lab reports (including formal reports), **you must write your own report as an individual work, and copying ANY part of other people's work is considered a serious academic misconduct.** This includes (but not limited to) experimental procedure, data, tables, reaction equation and mechanisms, discussion and conclusions, and answers to prelab/postlab questions. The penalty of academic misconduct will be to the fullest extent possible. The grade obtained for such reports will be zero for both the one who copied and the one who let the other copy. Any type of cheating for the final exam will result in a grade F for the entire course.

Other policies:

- **Do NOT use a cell phone and electronic devices** during class period. If you are found using a cell phone it will affect your “Instructor’s Point” grade.
- **E-mail and CourseDen:** Only UWG e-mails will be read and responded. The CourseDen will be used to post grades, the syllabus, and other supplemental materials. Please do NOT use the CourseDen e-mail.
- Follow all the safety rules described in the Safety Contract. Especially be mindful of the following:
 - You must wear safety glasses all the time. If you were found not wearing safety glasses, you will be expelled from the lab. I will strictly enforce this policy all year long.
 - Make sure to wear closed-toe shoes all the time during the lab. If you wear any open-toed shoes, you are not allowed to do a lab and you will receive a grade of zero.
- 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.

CHEM3422L-02 LABORATORY SCHEDULE (Spring 2018)

<i>Date</i>	<i>Exp #</i>	<i>Experiment</i>	<i>Notes</i>
Jan 11	*	Syllabus, check-in, safety	
Jan 18	1	Diels Alder reaction	
Jan 25	2	Friedel-Crafts alkylation	
Feb 1	3	Nucleophilic Aromatic Substitution	
Feb 8	4	Sodium borohydride reduction	
Feb 15	5	Grignard reaction 1	
Feb 22	6	Grignard reaction 2	Formal Report
Mar 1	7	Wittig reaction	
Mar 8	8	aldehydes and ketones	
Mar 15	9	Esterification	
Mar 22		No lab (Spring Break)	
Mar 29	10	Aldol condensation	
April 5		No lab. Turn in Post-Lab 10	
April 12	*	Check out and lab final exam	
Apr 19			
Apr 25			