DEPARTMENT OF CHEMISTRY

Intermediate Organic Chemistry Lab II
(CHEM 3110, CRN 12825, 2 credits)

Spring 2020

Instructor: Dr. Joan Mutanyatta-Comar
Office: PSC381; Tel.# 404-413-6544
E-mail: jmutanyattacomar@gsu.edu
Office hours: **MWF:** 10:45-12:15 pm.
Any other time by appointment.

Pre-Lab Lecture: Tuesday/Thursday - 8:00 am - 8:50 am, PCS 362
Lab: Tuesday/Thursday - 9:00 am - 12:50 pm, PSC 355

Required Text: **GSU CHEM 3110 Lab Manual**
(Included in the price of supply card).
Optional Text: **Experimental Organic Chemistry**, by Wilcox and Wilcox.
Organic Chemistry, by **John McMurry** (9th Edition)

Communication:

1. Please send emails to me from your GSU e-mail account, (e.g., jcole1@student.gsu.edu). Please put the course name in the subject of your email. (**Please do not email me from iCollege)**
2. **Please check iCollege daily for class announcements and updates**

Learning outcomes: Students in this class will:

- Demonstrate the ability to safely and effectively perform synthetic organic reactions, using proper glassware set-up, handling of hazardous chemicals, and following the prescribed experimental procedures.
- Demonstrate mastery of basic organic chemistry laboratory techniques, including recrystallization, filtration, and melting point determination.
- Gain an understanding of how to determine the structure of organic molecules using ^{1}H and ^{13}C NMR spectroscopy.
- Learn how to search the scientific database for journal articles.
- Demonstrate their ability to effectively communicate scientific results by writing a final report.

Grading Scheme:		
	Final Exam*	100 pts
	Final Report*	100 pts
	Homework, Notebook, quizzes, preprn. *,**	100 pts
	Total Pts	**300**

Tentative Letter Grades:

A+	=	95%
A	=	90%
A-	=	87%
B+	=	84%
B	=	80%
B-	=	77%
C+	=	74%
C	=	70%
C-	=	67%
D	=	60%
F	=	<60%

*Must be submitted to receive a passing grade

**Notebooks, final exams and final reports will not be returned to students. However, you can come and see your notebook, report and final exam in my office.

Notes:

1. Pre-lab and lab are a single unit, for safety and operational reasons pre-laboratory attendance is mandatory. Any student who misses pre-lab will not be allowed to attend the laboratory session for that day. Students who miss more than two labs will incur a 5% penalty of the overall lab grade for each absence over two.
2. Attendance to **lecture** and **lab** will be recorded (sign-in/out of lab required). Absences can result in loss of points and lower grades
3. Bound lab notebooks are required the first day of lab. All entries **MUST** be made in ink at the time the experiment is being carried out. **Notebooks must be submitted with the Final Report. Both the final report and notebooks will not be returned to students. You can come and see them in my office during office hours.**
4. S**afety glasses/goggles:** These may be purchased at the GSU bookstore, the Georgia Bookstore, and most hardware stores. Students who are unable or forget to bring their glasses may **buy** a pair from the Lab Coordinator by filling out a breakage form in the lab. Students who obtain glasses in this manner will pay for them at the time they check-out of the lab. Safety glasses/goggles must be worn at all times. Students will not be allowed into the lab without their glasses/goggles.
5. Students must bring safety glasses/goggles and closed toe shoes on the first day as synthesis will begin immediately after check-in. No shorts or short skirts will be allowed in the lab.
6. Failure to follow safety procedures will result in expulsion from that lab session with no make-up allowed and loss of credit.
7. Final Report and Final Exam grades will not be posted on iCollege. But you can come and see your report and exam in my office during office hours.
8. Final grades are only available on PAWS/GoSolar. They will not be posted on iCollege. Please note that grades cannot be given to students by phone, or email.
9. **No make-up for Final Exam**

Impt. Dates:	**March**. 3rd	Lab begins
	Mar. 16th - 22nd	Spring Break
	Mar. **27th**	**Last day to withdraw with grade "W"**
	Apr. 21st	**Last day of lab, checkout**
	Apr. 21st	**Final Exam (8:00 am - 10:00 am), submission of final report and notebook.**

Class Preparation and attendance:
Students are **expected** to attend all lab sessions. Please arrive on time as important pre-lab advisories will be given at the beginning of each session. Students are individually responsible for the timely completion of all assignments, absence being no excuse. Suggested reading assignments given during the course of a lecture should be completed before the next lecture and will constitute quiz material.

Chemistry Departments Student Integrity Policy:
The Department of Chemistry follows the University policy on academic honesty published in the "Faculty Affairs Handbook" and the "On Campus: The Undergraduate Co-Curricular Affairs Handbook". All tests taken must represent the student's individual, unaided effort. Any suspected offense may be referred to the Department's Chairman for appropriate action.

All tests taken must represent your individual, unaided efforts. To receive or offer information during any examination is cheating. The use of unauthorized supplementary materials during tests is also cheating. All laboratory work performed during this course must reflect your individual effort. Only original data obtained by your own laboratory experimentation are permitted to be used, except when specifically authorized by your laboratory professor. Data from supplementary sources (handbooks, reference literature, etc) must be clearly referenced (title, author, volume, page(s), etc). Falsification or destruction of data constitutes cheating.

The University requires that faculty members must, on a date after the mid-point of the course to be set by the Provost (or his designee)

1. Give a **WF** to all students who are on their rolls but are no longer taking the class and
2. Report the last day the student attended or turned in an assignment. Students who are withdrawn may petition the Departmental Chair for reinstatement into their classes.

Policy for working in the laboratory:
Students in CHEM 3110 lab classes have permission to be in the laboratory other than their regularly scheduled lab period only when the lab is officially open and only to perform IR or Melting Point Determinations. No experiments are to be done outside of

the scheduled lab time. Experiments which require over-night heating may be turned off, allowed to cool and then secured [work-up (lab work) will not be allowed].

Keys for success in the organic chemistry lab:

Students who do well in this course possess the following characteristics:

- **Attend pre-lab lecture and lab:** There is a very good correlation between class attendance (on time) and how well a student will do in this course.
- **Are prepared:** You will get the most out of class if you have reviewed the experimental procedures before coming to each pre-lab session.
- **Ask questions:** If you don't understand something, ask the instructor in class, during lab, after class, or during office hours.
- **Collect all returned graded quizzes**. They go over the questions they got wrong and ask the instructor for clarification. This way they don't make the same mistake again.

Tentative Laboratory Schedule

The lab/lecture schedule listed in the GSU, Chemistry Department laboratory manual will be adhered to as far as is possible. Below is a detailed, tentative schedule.

Lecture & Lab Dates	**Tentative Lecture Emphasis (labwork)**	**Reading Assignments (Read before lecture) pp. Wilcox & Wilcox**
March 3	Safety Video, Objectives of course (check-in; begin lab = chalcone preparation)	3-24
March 5	Safety Exam, Recrystallization of chalcone, purity (m.p), Yield, Lit. Search	84-102 and lab manual
March 10	**Quiz 1**, Overview of synthetic routes (Epoxide and/or dibromide preparation)	
March 12	Overview continued; structure proof (Epoxide and/or dibromide preparation)	234-253 (IR)
March 24	**Quiz 2**; Structure proof continued (Isoxazole preparation)	263-288 (NMR)
March 26	UV Spectroscopy (Complete preparations and purifications)	254-262
March 31	**Quiz 3**; UV Spectroscopy continued; Optional procedures (Begin optional procedures)	
April 2	Optional procedures continued	
April 7	**Quiz 4**; ^{13}C NMR (Synthesis of optional compounds continued)	263-288
April 9	^{13}C NMR continued (Synthesis of optional compounds continued)	
April 14	**Quiz 5**Synthesis of optional compounds	

	continued	
April 16	Format of Final Report; Format of Final Exam; (Clean –up, check-out)	
April 21	**Final Exam** Submit Final Report and Notebook	

NOTE:

***Students requiring testing accommodations: Students who wish to request testing accommodations may do so by registering with the Access & Accommodations CEnter (AACE). Students may only be accommodated upon issuance by AACE of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which an accommodation is sought.**

***A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent for the observance of a religious holy day shall be allowed to take an exam or complete an assignment scheduled for that day within a reasonable time after the absence.**

***Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take time to fill out the online course evaluation.**

***Deviations from this syllabus may be required.**