Dates: January 14 to February 25, 2020
Lectures: TR 8:00 am – 8:50 am, 362 PSC; Read assignments before lecture
Lab: TR, 9:00 am -12:50 pm., 357 PSC, Note: The lab meets immediately after the lecture

Texts
Optional: Experimental Organic Chemistry, By Wilcox and Wilcox.

Instructor: Dr. Suazette Mooring
Office: 519A Science Annex
Tel: 404-413-5527
E-mail: smooring@gsu.edu
Office hours: by appointment – email or in-person

Course Outcomes:
At the end of the course students should be able to:

- Demonstrate proper Safety procedures when working in the laboratory
- Demonstrate accurate and appropriate notebook keeping practices
- Apply techniques to perform the synthesis of an organic compound
- Describe methods to purify a crude organic compound
- Describe methods to characterize the identity and purity of a synthesized organic compound
- Perform a literature search when conducting organic synthesis
- Analyze proton and carbon NMR spectra
- Effectively communicate scientific results by writing a comprehensive final report

Grading:
Final Exam* - 100 points
Final Report* - 100 points
Preparation, HW, Quizzes and Lab Notebook** - 100 points
Total Points: 300
Letter Grades:
A+ = > 96%
A  = 90% - 96%
A- = 86% - 89%
B+ = 82% - 85%
B  = 78% - 81%
B- = 74% - 77%
C+ = 70% - 73%
C  = 66% - 69%
C- = 62% - 65%
D  = 54% - 61%
F  = < 54%

*Must be submitted to receive a passing grade
**Notebooks must be picked up within TWO weeks after final grade deadline (after which time they will be discarded)

Important Notes:
1. Department of Chemistry Statement on Student Integrity applies to this course (see statement below).
2. A bound lab notebooks is required on the first day of class
3. Entries in the lab notebooks must be recorded at the time the measurements are made to be graded!
4. Attendance to lecture and lab will be recorded. Absences can result in loss of points and lower grades (Sign-in/out of lab required).
5. Safety 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.
6. Students must bring safety glasses/goggles and closed toe shoes on the first day as synthesis will begin immediately after check-in
7. Failure to follow safety procedures will result in expulsion from that lab session with no make-up allowed and loss of credit.
8. No make-up Final Exam

Students who are successful in this course:
1. Review material after and before lab so they are prepared for the upcoming experiment
2. Attend the pre-lab lecture
3. Ask questions for clarity from other student, the TAs and the instructor
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.

Policy For Working In The Laboratory:
Students in 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 that require over-night heating may be turned off, allowed to cool and then secured [work-up (lab work) will not be allowed].

Tentative Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Tentative Lecture topics</th>
<th>Lab work</th>
<th>Reading Assignments (Please read before lecture - Wilcox &amp; Wilcox)</th>
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<tbody>
<tr>
<td>Jan 14</td>
<td>Safety Video, Objectives of course, Chalcone preparation</td>
<td>Check-in; begin lab: chalcone preparation</td>
<td>3-24 (read before lecture)</td>
</tr>
<tr>
<td>Jan 16</td>
<td>Safety Exam, Recrystallization, purity, melting point, yield, Lit. Search; Naming chalcone</td>
<td>Recrystallization of chalcone</td>
<td>84-102 and lab manual</td>
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<tr>
<td>Jan 21</td>
<td>Overview of synthetic routes</td>
<td>Epoxide and/or dibromide preparation</td>
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<tr>
<td>Jan 23</td>
<td>Overview continued; structure proof NMR, IR</td>
<td>Epoxide and/or dibromide preparation</td>
<td>234-253 (IR)</td>
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<tr>
<td>Jan 28</td>
<td>Structure proof continued IR, NMR Format of Final Report 1</td>
<td>Isoxazole preparation</td>
<td>263-288 (NMR)</td>
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# Deviations from this schedule and the syllabus may be required

*There will be a quiz at least once per week.*

### Students with Disabilities:
Students who wish to request accommodation for a disability may do so by registering with the Office of Disability Services. Students may only be accommodated upon issuance by the Office of Disability Services 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.

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Jan 30</td>
<td>UV spectroscopy</td>
<td>Complete preparations and purifications or begin optional procedures</td>
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<tr>
<td>Feb 4</td>
<td>Optional procedures</td>
<td>Continue additional procedures</td>
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<tr>
<td>Feb 6</td>
<td>Optional procedures continued</td>
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<td>Isoxazolene, etc.</td>
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<tr>
<td>Feb 11</td>
<td>$^{13}$C NMR</td>
<td>Continue additional preparations</td>
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<tr>
<td>Feb 13</td>
<td>$^{13}$C NMR continued</td>
<td>Final day to begin new synthesis</td>
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<tr>
<td>Feb 18</td>
<td>Format of Final Report 2</td>
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<tr>
<td>Feb 20</td>
<td>Format of Final exam</td>
<td>Complete lab work</td>
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<tr>
<td>Feb 25</td>
<td>Final Exam</td>
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<td></td>
<td>Submit Final Report and Notebook</td>
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