Description: Chemistry lab is an exciting and fun experience when carried out in a safe and knowledgeable manner. Our goal is to increase your enthusiasm, to better your laboratory technique, and to supplement the information gained in lecture. You are expected to attend each lab prepared and on time. The lab course is a co-requisite of the three-credit lecture course. Should either course be dropped, both must then be dropped.

Learning Outcomes:
1. Students model the safety strategy learned in this course in everyday life.
2. Students perform simple organic reactions.
3. Students contrast the structure and nomenclature of organic molecules with different functional groups.
4. Students summarize experimental findings and relate the impact of structure of the organic molecules on their physical and chemical properties.

General Education Student Learning Outcomes:
1. Students apply physical/natural principles to analyze and solve problems.
2. Students will develop an understanding of the impact that science has on society.

General Education Assessment:
This course is part of a larger educational experience, and as such we will attempt to align the course with the overall vision for the college whose purpose states we should pursue and share knowledge through study, inquiry and creation in order to empower the individual and enrich society. The Gen Ed assessment will be a portion of the final exam that will count as 5% of your overall lab grade.

Materials Provided By Student:
1) Text – General, Organic, and Biological Chemistry 102L Lab Manual Custom Made (available free this semester posted on OAKS)
2) Approved safety gloves (nitrile)
3) Long lab coat
4) Calculator
Safety: Safety is of prime concern for the sake of each participant in the lab. Our strategy for achieving safe behavior is:

1. Know and follow the Safety Rules;
2. Look for and recognize safety hazards;
3. Take proactive steps to minimize the risk of injury from the hazards.

Each student is responsible for the following:

1. Starting the week of January 25, students MUST come to every lab properly dressed – including long pants, closed toed shoes, and lab coats – see Safety Policy for more details.
2. Read, understand, and follow the School of Sci & Math’s Safety Policy & Procedures which are reviewed during the 1st week of lab and posted on OAKS.
3. Complete the Safety Quiz embedded in the safety presentation. Students must pass the Safety Quiz with a 90% or greater in order to enter the lab. Lab instructors will email any student that did not score 90% or greater with the questions that were answered incorrectly so the student can answer them correctly prior to the next lab. Students’ recorded grade on the Safety Quiz will be the original score earned on the first attempt.

Blatant unsafe behavior, including failure to wear safety goggles, may result in expulsion from the laboratory and possible expulsion from the course. Expulsion from the lab will result in the grade of ZERO for that experiment. Two expulsions will result in an automatic “F” for the course.

In case of an emergency evacuation of the School of Science & Mathematics Building, all students in this class MUST REPORT to the front entrance of the Addlestone Library so that roll can be taken. The Library is on Calhoun St. directly across from the School of Science and Math Building. Since peoples’ lives are potentially at stake, a student’s failure to report for this roll will result in a grade of zero for that day’s lab report and a grade of zero for the semester deportment grade.

Pre-lab lectures/Labs: All pre-lab lectures will be done via asynchronous Zoom and posted on OAKS that students are to watch before coming to lab. For in-person labs, half of the students (assigned first day of lab) will attend the first 1.5-hour block (Group A) and the other half will attend the second 1.5-hour block (Group B) to ensure social distancing. During these 1.5-hour blocks, students will be collecting data only. Data workup is to be done after the student leaves the lab. Each lab will be due by the following week prior to the start of lab. Students are to turn in their lab report to the OAKS Dropbox. The lab report must be submitted as ONE PDF file. This is the only format that will be accepted. Failure to comply will result in a ZERO for that lab. There are several free apps (CamScanner, Adobe Scan, etc) that you may download to generate the one pdf file for submission.

If CofC moves to online only, the Zoom meetings will be synchronous. During the synchronous Zoom meetings, a pre-lab lecture will be given and then the lab will be assigned. Sometimes the lab will be completed during the three-hour window, other times the lab will be completed at a later time and due the following week. Instructions will be given weekly.
Attendance:

- Labs are experiential learning courses that emphasize the scientific method and data interpretation and they provide training in essential technical skills for chemists and other scientists. Thus, attendance in all lab periods is mandatory.
- That being said, **do not attend lab if you are sick or under quarantine**. If you have to miss lab, **you must notify your professor before the beginning of the scheduled lab period**. If you are unable to e-mail your professor, ask a roommate or family member to e-mail the professor on your behalf. In order to be eligible to do a makeup assignment for the lab, you must notify your professor before the beginning of the lab period. If you do not, you will be assigned a grade of **zero** for all items due that week.
- Chemistry lab requires students to participate in hands-on activities to master the material. You learn by doing the experiments in-person in the lab. **If you miss more than two weeks of lab for any reason, you will be assigned zeros** for all items due in any additional weeks you miss. If this happens, you are encouraged to discuss with your professor the option of withdrawing from the class and retaking it in a future semester when you are able to fully participate in the class.

Schedule: Students should refer to the schedule shown below to determine the required experiment number(s) and Pre-Lab assignment for each week. It is the student’s responsibility to come to lab prepared by reading and understanding the entire lab assignment (Discussion/Procedure/Report) and by completing the Pre-Lab assignment. Pre-labs will be initialed every lab for completion. Failure to complete the pre-lab assignment will cost you up to 20% of the lab report. Once initialed for completion, the pre-lab will be graded for accuracy along with the final report.

Lab Reports (60%): Lab reports will be due the following week of every lab and must be submitted as ONE PDF to the OAKS Dropbox folder. The report will include the pre-lab assignment as well as all report sheets for the lab.

Final Exam (25%): The final exam will cover all the subject matter included in lab. It will be a departmental exam that will include 30-50 multiple choice questions. The exam is scheduled for the last week of lab at the regularly scheduled time for each lab section. Discussing final exam questions with students from another section prior to them taking the exam is a violation of the Honor Code and strictly prohibited.

Quizzes (10%): There will be four quizzes throughout the semester including the Safety Quiz. All quizzes will be administered online via OAKS. Quizzes 2-4 will be assigned during the normally scheduled three-hour time block of the lab. **There will be a designated amount of time to take the quiz within that time frame.** Therefore, if a student is scheduled to attend the lab in-person during the first hour and a half block, they would take the quiz in the second 1.5 hr block. If a student is attending the second block for in-person lab, they would take the quiz during the first block.

OAKS: OAKS, including Gradebook, will be used for this course throughout the semester to provide the syllabus and class materials and grades for each assignment, which will be regularly posted.
SNAP (Special Needs Advising Plan): Any student eligible for and needing academic adjustments or accommodations because of a disability is requested to speak with the professor in a timely manner so that your needs can be addressed. The student must provide the instructor a copy a letter from the SNAP office indicating the student’s registration in SNAP.

Honor Code: Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student’s actions are related more to a misunderstanding will handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student’s file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student’s transcript for two years after which the student may petition for the X to be expunged. The student may also be placed on disciplinary probation, suspended or expelled from the College by the Honor Board.

Students should be aware that unauthorized collaboration--working together without permission--is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others’ exams, fabricating data, and giving unauthorized assistance. For this particular laboratory, students will be allowed to ask questions of the instructor and to collaborate with other students on the lab experiment during the lab period. The Student must read, sign and return the Policy of Scientific Integrity prior to conducting experiments in the lab. Please consult the instructor if you have any questions about the Honor Code or Policy on Scientific Integrity.

Inclement Weather, Pandemic or Substantial Interruption of Instruction
If in-person classes are suspended, faculty will announce to their students a detailed plan for a change in modality to ensure the continuity of learning. All students must have access to a computer equipped with a web camera, microphone, and Internet access. Resources are available to provide students with these essential tools.

<table>
<thead>
<tr>
<th>Grading Scale:</th>
<th>93 - 100</th>
<th>90 - 92</th>
<th>87 - 89</th>
<th>83 - 86</th>
<th>80 - 82</th>
<th>78 - 79</th>
<th>75 - 77</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>73-74</td>
<td>A-</td>
<td>B+</td>
<td>B</td>
<td>B-</td>
<td>C+</td>
<td>C</td>
</tr>
<tr>
<td>D+</td>
<td>72</td>
<td>71</td>
<td>70</td>
<td>Below 70</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grading Scheme:
- Lab Reports: 60%
- Quizzes: 10%
- Final Exam: 25%
- Gen Ed: 5%
- Total: 100%
### Organic and Biochemistry Lab Syllabus – CHEM 102L – Spring 2021

**This syllabus is subject to change by the instructor.**

<table>
<thead>
<tr>
<th>WEEK OF</th>
<th>PRE-LAB ASSIGNMENT</th>
<th>LAB EXPERIMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 11</td>
<td>Read syllabus on OAKS</td>
<td>Syllabus/Safety/Safety Quiz</td>
</tr>
<tr>
<td>Jan. 18</td>
<td>Exp #1 PreLab pg. 7</td>
<td>Exp. #1 Hydrocarbons -Due Week of 1/25</td>
</tr>
<tr>
<td>Jan. 25</td>
<td>Review Lecture Notes on Color</td>
<td>UV/Vis Exp/Maillard Reaction (Handout)</td>
</tr>
<tr>
<td>Feb. 1</td>
<td>Exp #2 PreLab pgs 23-24 <strong>QUIZ 1</strong></td>
<td>Exp #2 – Hydrocarbon Reactions</td>
</tr>
<tr>
<td>Feb. 8</td>
<td>Exp #3 PreLab pg 39</td>
<td>Exp #3 – Alcohols</td>
</tr>
<tr>
<td>Feb. 15</td>
<td>Exp #4 PreLab pg 51</td>
<td>Exp #4 – Aldehydes and Ketones</td>
</tr>
<tr>
<td>Feb. 22</td>
<td>Exp #5 PreLab pg 65</td>
<td>Exp #5 – Carboxylic Acids and Esters</td>
</tr>
<tr>
<td>Mar. 1</td>
<td><strong>QUIZ 2</strong></td>
<td></td>
</tr>
<tr>
<td>Mar. 8</td>
<td>Exp #12 PreLab 169</td>
<td>Exp #12 – Aspirin</td>
</tr>
<tr>
<td>Mar. 15</td>
<td>Exp #6 PreLab pg 81</td>
<td>Exp #6 – Amines and Amides</td>
</tr>
<tr>
<td>Mar. 22</td>
<td>Review Lecture Notes and Polymers Handout</td>
<td>Polymers Experiment (Handout)</td>
</tr>
<tr>
<td>Mar. 29</td>
<td>Exp #7 PreLab pg 97 Exp #8 PreLab pgs 109-110 <strong>QUIZ 3</strong></td>
<td>Exp #8 – Carbohydrate Tests</td>
</tr>
<tr>
<td>Apr. 4</td>
<td>Exp #10 PreLab pgs 141 - 142</td>
<td>Exp #10 – Protein Reactions and Tests</td>
</tr>
<tr>
<td>Apr. 12</td>
<td>Study for Final Exam</td>
<td><strong>Final Exam and Gen Ed Assignment Due</strong></td>
</tr>
</tbody>
</table>

*pink denotes online*