Syllabus
General Chemistry Lab – CHEM 101L – Fall 2021

LAB SCHEDULE – all sections in Rm 127 SSMB for prelab and room 125 SSMB for lab. The door to room 127 is in the courtyard in front of SSMB on the Coming St. side.

CRN  | Sec | Day | Time | Instructor     | email
-----|-----|-----|------|----------------|-----------------
10142| 01  | T   | 1:30-4:30 pm | Gamil Guirgis  | guirgisg@cofc.edu
10144| 02  | W   | 1:00-4:00 pm | William Veal   | vealw@cofc.edu   
11759| 03  | R   | 1:30-4:30 pm | Gamil Guirgis  | guirgisg@cofc.edu
10145| 04  | R   | 5:00-8:00 pm | Nadee Lokuptiya| lokupitiyahn@cofc.edu

Instructor: Dr. Gamil Guirgis, Dr. William Veal, and Dr. Nadee Lokuptiya
Office: 310 and 110 SSMB (School of Sciences and Math Building)
Phone: (843) 953-7543 Email: guirgisg@cofc.edu; vealw@cofc.edu; lokupitiyahn@cofc.edu

Office Hours: Before lab on campus or by appointment on Zoom

Masks must be worn in class and in all buildings on campus at all times.

Continuity of Learning (for hybrid classes with face-to-face meetings)
Due to social distancing requirements, this class will include a variety of online and technology enhanced components to reinforce continuity of learning for all enrolled students.

SARS CoV-2
We are teaching and learning in an unprecedented time. Due to the hands-on nature of this course, the dynamics, requirements, and methods of teaching and learning have been altered. This course will have some online components. If any student in a class tests positive, I can move the course online immediately. I will keep you informed, and the course will be conducted through Zoom and use OAKS.

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 come to each lab on time and be prepared to carry out the day’s tasks. The 1-credit lab course is a co-requisite of the 3-credit lecture course. Should either course be dropped, both must then be dropped.

Due to the nature of the pandemic, the College of Charleston is planning to have some online and some in-person classes/labs. For CHEM 101L, we are starting online and moving to face-to-face with each student working at their own lab bench and hood. Students will not work in pairs and will have to submit their own lab report using their own data. All students need to be prepared to go online at some point during the semester. A decision will be made soon, or it may occur later in the semester. We will adjust the lab instruction and will make the decision about the format later. That format may include videos in which we gather the data and share it with you all, it could be virtual labs, and/or online simulations.

CHEM 101 Lab Student Learning Outcomes:
• Describe the safety strategy learned in this course and how following that strategy facilitates safe behavior in everyday life.
• Describe how to properly take measurements, record data, perform calculations, analyze results, and summarize findings in simple experiments.
• Determine fundamental physical and chemical properties of chemical compounds.
Student Learning Outcomes for Natural Sciences General Education Courses: While there are specific technical objectives for this class, there are also additional goals that need to be addressed that tie the material to the school wide general education goals so that:

- Students can apply physical and natural principles to analyze and solve problems,
- Students will develop an understanding of the impact that science has on society.

The general education learning outcomes will be assessed with a signature assignment in the second course of the natural science sequence, Chem 102 lecture and lab. 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 to empower the individual and enrich society.

Materials Provided By Student:

- approved safety gloves (nitrile), lab coat, mask, and calculator
- Optional: Googles or safety glasses. Chemistry department is also promoting the use of face shields that can fit onto the brim of a baseball cap. This would be preferred for those who wear glasses or have a problem with fogging of their safety glasses/goggles. More information to come about the face shield. These should be available in the bookstore.

Safety: Safety is of prime concern for the sake of each participant in the lab. Our Strategy for achieving safe behavior is:

1. Know & follow the Safety Rules;
2. Look for & 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 2nd week of classes we will be meeting physically for lab (Aug. 31-Sept. 2). Students MUST come to every lab properly dressed – including long pants, closed toed shoes, crew length socks, and lab coats. If you do not complete the safety training you will not be allowed in lab. There will be a safety training and lab introduction during Week 2 of classes (Aug. 31-Sept. 2). OAKS contains the interactive video on safety under the Week 2 Module. Students will be required to complete and sign a safety contract and honor code contract indicating that they viewed the entire video, gone through training, and upload the signed sheets to DropBox.
2. Complete the Safety Quiz (Quiz 1) that will be online in OAKS. This must be completed by the end of the second week of classes and before the first lab during the week of Sept. 7-9. Students who have not completed the safety quiz will not be allowed to enter lab.
3. Once the actual lab begins the student will wear a lab coat, long pants and socks that cover all skin below the neck, closed toed shoes, gloves, and safety glasses or goggles regardless of the activity occurring in the labs. Masks are mandated also as part of the PPE.
4. Identify physical and chemical hazards in each experiment and proactively take action to reduce the risk of injury (see more under Schedule below).
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.

**Attendance Policy:** 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. Furthermore, the technical lab skills presented in one course are assumed to have been mastered in subsequent chemistry courses. Thus, attendance in all lab periods is expected to be mandatory. That being said, do not attend lab if you are sick. Please notify your professors of your illness by email and by submitting an absence memo form, see the website https://studenthealth.cofc.edu/absence-memo/index.php for more information. You are expected to alert your professor about your illness as soon as possible so that alternative arrangements can be made for you.

Students will be required to complete all the labs and quizzes regardless of absences.

Class attendance and punctuality are expected professional behaviors. A student may be dropped from a course for excessive absences. If you are sick, taking care of someone who is sick, or have other responsibilities, I expect you to contact me with your absence as soon as possible. I will work with you, but it is your responsibility to contact me by text, phone, or email ahead of time. All assignments are due on due date unless extenuating circumstances apply. The student is responsible for contacting the professor ahead of time and arranging for any extensions or submissions of late work. I will work with you to provide “reasonable accommodations” if you are sick. "If a particular situation cannot be accommodated during the course of the semester, students can withdraw from the class, request an incomplete (if the instructor agrees), or petition for a late withdrawal."

If a student misses a lab for a legitimate reason, the student will be given data from the lab so that they can complete the In-Lab write-up. This must be turned in within a week. All reasons for absences must be conveyed to the professor.

**Honor Code:** Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. 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 (temporary removal) or expelled (permanent removal) 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 and after the lab period. Please consult the instructor if you have any questions about the Honor Code or Policy on Scientific Integrity. Students will have to sign the Honor Code or Policy on Scientific Integrity sheet and upload it to DropBox.

Co-requisites and Prerequisites: Chemistry 101 is a co-requisite for Chemistry 101L. Competency at the mathematics 101 level and beyond is suggested. Chemistry 101L is not open to students who have taken Chemistry 111 or 112. If you are repeating the lecture or lab and do not need to repeat the co-requisite course, you must remedy this with the department chair before the close of Drop/Add. The last day to Drop/Add is Monday 8/30 at 5:00 p.m.

Snap Students: The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying the instructor as soon as possible and for contacting the instructor one week before accommodation is needed.

Schedule: The Student should refer to the schedule shown below to determine the required experiment number(s) and Pre-Lab assignment for each week and quiz schedule. 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. Due to the SARS CoV-2 pandemic, the schedule will change. The professors will notify students through OAKS and email of all the changes to labs, curriculum, quizzes, and assignments. Here are some important rules that must be adhered to during this pandemic:

- The labs have been modified so that all hands-on activities can be done within an allotted 80-120 minutes.
- Students will be allowed to work in pairs while maintaining social distancing.
- Students MUST complete and upload their prelab assignments to DropBox prior to lab time. Failure to do so will result in being asked not to enter the lab.
- All quizzes will be completed ahead of time and online. The content will include information, data, and results from the previous 3 labs. The quizzes will be locked by time.
- Students in this lab, CHEM 101, will be able to share data with one another and turn in one lab report that represents both students.
- There are currently 2 virtual labs. If classes are migrated online due to an outbreak of COVID cases, then there will be online labs for those two weeks. Students are responsible for checking OAKS for any announcements.
**Individual or Pair Lab Reports:** The completed Pre-lab assignment must be submitted to DropBox prior to the start of lab; otherwise, the student will not be allowed to conduct the lab exercise. For In-lab reports, the student must write his/her partner’s name(s) at the top of page 1 of the report. The complete lab report is due at the end of the lab period. Because the labs are using a flipped teaching format, there will be plenty of time to complete the lab write-ups prior to leaving the building. No late lab reports will be accepted.

**Quizzes:** There will be four regularly scheduled quizzes. The first quiz is based on the safety video. Quizzes will be given online in OAKS and must be taken prior to the lab. If student fails to take the quiz by the start of lab, the student will receive a zero. Quizzes will be available online for a week. Missed quizzes cannot be made up for any reason (see Attendance policy above). Discussing Quiz questions with students from another section prior to them taking the Quiz is a violation of the Honor Code and strictly prohibited. If a student misses for any reason a lab or two, the student is still responsible for the content of the labs, Pre-labs, and In-lab reports that is on the Quizzes.

**Final Exam:** The final exam will cover all the subject matter included in the course this semester. It will be a departmental exam that will include 50 multiple choice questions. This quiz will not count more than 20% of your final grade. The final quiz will occur during the posted exam time. The last week of the semester, there will be a virtual lab that will be done in groups. The professor will assign the students into groups. 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.

**Deportment:** Proper deportment in lab is required to ensure a safe, effective and enjoyable lab experience for all. Deportment encompasses safe behavior, lab cleanliness, preparation for lab, promptness, lab report neatness and respect for others. The Student will begin the semester with a grade of “80” for deportment. The grade will be adjusted down for offenses to proper lab deportment. Up to 20 points will be added to the Deportment grade when the Student successfully completes their assigned general lab clean-up duties.

**OAKS:** The Student is expected to check OAKS to access the course syllabus, individual labs, supplemental material, the syllabus, quizzes, information, contracts, and the course weekly schedule. The Student can access OAKS through the main College of Charleston web site.

**Grading Scale:**

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<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>93 - 100</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>90 - 92</td>
<td>A-</td>
<td></td>
</tr>
<tr>
<td>87 - 89</td>
<td>B+</td>
<td></td>
</tr>
<tr>
<td>83 - 86</td>
<td>B</td>
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</tr>
<tr>
<td>80 - 82</td>
<td>B-</td>
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</tr>
<tr>
<td>78 - 79</td>
<td>C+</td>
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<tr>
<td>75 - 77</td>
<td>C</td>
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</tr>
<tr>
<td>73 - 74</td>
<td>C-</td>
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<tr>
<td>72</td>
<td>D+</td>
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<tr>
<td>71</td>
<td>D</td>
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<tr>
<td>70</td>
<td>D-</td>
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<tr>
<td>Below 70</td>
<td>F</td>
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**Grading Scheme (approximate percentages):**

- Lab Reports: 60%
- Deportment: 10%
- Quizzes: 15%
- Final Exam: 15%
- Total: 100%
## Lab Schedule

<table>
<thead>
<tr>
<th>Week - Date</th>
<th>Lab Investigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Aug. 24-26</td>
<td>NO LAB</td>
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</table>
| 2. Aug. 31 – Sept. 2 | Safety in the Lab - Sign safety contract and honor code contract  
                                  Lab #1 – Fundamental Measurements and Sources of Error |
| 3. Sept. 7-9      | Lab #2 – Zinc nanoparticles                                                      |
| 4. Sept. 14-16    | Lab #3 – Analysis of light sources using UV-Vis spectroscopy                      |
| 5. Sept. 21-23    | OL - (Asynchronous) Lab #4 – Infrared Spectroscopy                                |
| 6. Sept. 28-30    | Lab #5 – Fractional Distillation                                                  |
| 7. Oct. 5-7       | Lab #6 – Enthalpy of combustion of a ‘crude oil’ mixture                          |
| 8. Oct. 12-14     | Lab #11 – Nuclear Chemistry                                                      |
| 9. Oct. 19-21     | Fall Break – No Classes                                                          |
| 11. Nov. 2-4      | Lab #8 – Determination of Dissolved Oxygen and BOD                                |
| 12. Nov. 9-11     | Lab #9 – Ocean Acidification Impact on the Dissolution of Sea Shells             |
| 13. Nov. 16-18    | Lab #10 – Water Quality                                                          |
| 14. Nov. 25-27    | NO CLASS - Thanksgiving                                                          |
| 15. Dec. 2-4      | OL - (Synchronous) Climate Change Simulation - Group Work                         |