Syllabus
General Chemistry Lab – CHEM 101L – Summer 2017

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.

<table>
<thead>
<tr>
<th>CRN</th>
<th>Sec</th>
<th>Time</th>
<th>Instructor</th>
<th>email</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>TWR</td>
<td>10:15 pm-1:15 pm</td>
<td>Dr. William Veal</td>
<td><a href="mailto:vealw@cofc.edu">vealw@cofc.edu</a></td>
</tr>
</tbody>
</table>

Instructor: Dr. William Veal
Office: 315 EHHP (School of Education, Health, and Human Performance)
Phone: (843) 953-8045   Email: vealw@cofc.edu

Office Hours: Mon. 10:00-12:00, Tues., Wed., Thurs. 1:15 – 2:15, or by appointment

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.

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 in order to
empower the individual and enrich society.
Materials Provided By Student:
1) Text – Printouts of the lab for the week, every day from OAKS
2) approved safety gloves (nitrile)
3) 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 & 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 1st week of lab (June 6), Students MUST come to every lab properly dressed – including long pants, closed toed shoes, and lab coats. If you do not complete the safety training you will not be allowed back in lab.
2. Read, understand, and follow the School of Sci & Math’s Safety Policy & Procedures which are reviewed by the Instructor during the 1st week of lab and posted on OAKS or provided as a handout. The link for the Safety PowerPoint Presentation covered in the first lab period can be found on the chemistry department resource page under the Laboratory Safety section at “General Lab Safety(101, 102, 111, 112, Hons 191):
http://chemistry.cofc.edu/current-students/laboratory-safety/index.php
3. Complete the take-Safety Quiz (Quiz 1) and return it the 1st day of Lab (June 6). Students who have not completed the safety quiz by the 2nd day of lab will not be allowed to enter lab.
4. 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, and safety glasses or goggles regardless of the activity occurring in the labs, and gloves when required by the instructor.
5. 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: Attendance to your section of scheduled lab is required. The grade of "WA" will be used in this course for any student who misses more than three laboratory periods. Students who miss quizzes or labs (including the final exam lab) will be given a grade of "0" for the associated evaluations. You are responsible for learning the required material and performing the required experiments. If you miss a lab due to illness or without prior approval from your instructor you will not be allowed to make up the missed lab. However, if you have a planned or excused absence (due to your official representation of the College off-campus or for another reasonable cause) please let your instructor know well in advance and we will
work with you to try to make an accommodation that will allow you to make up the missed lab or to perform an alternative assignment. You may not make up labs due to unplanned unexcused absences. If you turn in a lab report for a lab you did not attend and/or participate in, you will be reported to the Honor Board. With the exception of the final examination, if you miss a lab, grades associated with that one missed lab will become your dropped grade. If you miss a second lab, grades of “0” will be averaged in to determine your course grade, unless you and the instructor come up with an alternate plan to perform the work. For a third miss, the grade of 0 will be entered automatically. For an excused/missed quiz, the instructor will assign a grade for the missed quiz equal to the Student’s grade on the Final Exam.

**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 the lab period. Please consult the instructor if you have any questions about the Honor Code or Policy on Scientific Integrity.

**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 Thursday, June 1 at 5:00 p.m. Last day to withdraw with a “W” is Monday, June 19.

**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/
Syllabus
General Chemistry Lab – CHEM 101L – Summer 2017

Report) and by completing the Pre-Lab assignment. To further prepare for each lab experiment, the Student will add the following exercise to each Pre-Lab assignment starting the 2nd day of lab:
1. Identify three (3) physical or chemical hazards the Student may encounter in the experiment of the day.
2. Briefly explain how the Student can minimize the risk to each of the three identified hazards.

Individual Lab Reports: The completed Pre-lab assignment must be initialed by the instructor prior to the start of lab; otherwise, the Student will not be allowed to conduct the lab exercise. 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 by the end of each lab. The Student will staple together and hand-in the completed lab report to the instructor who will inspect the Student's work-area prior to the student leaving lab. No late lab reports will be accepted. The lowest lab report will be dropped.

Project Reports: During the semester two or three combined project reports will be completed by each student individually that discusses the overall themes covered in a set of labs, the experimental results, and a discussion of the results as they relate to the local environment or to the overall global situation. The report guidelines are contained in the lab manual and will be available on OAKS.

Quizzes: There will be four regularly scheduled quizzes. Quizzes will be given at the beginning of the lab period. If a Student has a scheduled conflict, the Student may request the instructor to take the quiz early. 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. The lowest quiz grade will be dropped.

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. There may be a lab practical section for the lab. 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.

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, and the course weekly schedule. The Student can access OAKS through the main College of Charleston web site.

Grading Scale & Scheme:

<table>
<thead>
<tr>
<th>Grade</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>
<th>73-74</th>
<th>70</th>
<th>Below 70</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>72</td>
<td>D+</td>
<td>C+</td>
<td>B</td>
<td>B-</td>
<td>C</td>
<td>D</td>
<td>D-</td>
<td></td>
<td>F</td>
</tr>
<tr>
<td>A-</td>
<td>71</td>
<td>D</td>
<td>C</td>
<td>B+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75-77</td>
<td>B+</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73-74</td>
<td>C-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Syllabus

**General Chemistry Lab – CHEM 101L – Summer 2017**

## Lab Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Laboratory Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1</td>
<td>Orientation/Syllabus/Safety Quiz 1 on safety issues</td>
</tr>
<tr>
<td>June 6</td>
<td>Turn in quiz 1, Exp. #1- Measurement of mass, volume and light absorbance</td>
</tr>
<tr>
<td>June 7</td>
<td>Exp. #2 – Nanomaterials and their interaction with light: Formation of ZnO nanoparticles for use in a sunscreen</td>
</tr>
<tr>
<td>June 8</td>
<td>Exp. #3 – Measurement of the spectral output of the sun and other light sources. Start Verdigris Green</td>
</tr>
<tr>
<td>June 13</td>
<td>Quiz 2 – Exps. 1, 2 &amp; 3 Exp. #4 – Why does copper turn green? The synthesis of Malachite Green and Verdigris, and their use in making paints</td>
</tr>
<tr>
<td>June 14</td>
<td>Exp. #5 – Distillation of crude oil to form fuels</td>
</tr>
<tr>
<td>June 15</td>
<td>Exp. #6 – The heat of combustion for the Fuels from yesterday using calorimetry</td>
</tr>
<tr>
<td>June 20</td>
<td>Quiz 3 – Exps. 4, 5, 6 Exp. #7 - Biological Oxygen Demand (BOD) Turn in Project 1 report on labs 2, 3, and 4 spectroscopy, and synthesis.</td>
</tr>
<tr>
<td>June 21</td>
<td>Exp. #8 BOD and spectroscopy lab</td>
</tr>
<tr>
<td>June 22</td>
<td>Exp. #9 - Lab Conductivity and Salinity lab</td>
</tr>
<tr>
<td>June 27</td>
<td>Quiz 4 – Exps. 7, 8 and 9 Exp. #10 pH Titration Lab</td>
</tr>
<tr>
<td>June 28</td>
<td>Turn in lab report for Project 2 labs 7, 8, &amp; 9 on Charleston Water Quality Exp. #11- Nuclear Chemistry, Radon, and radioactivity</td>
</tr>
<tr>
<td>June 29</td>
<td>Final exam in room 127.</td>
</tr>
</tbody>
</table>