CHEMISTRY 1220 LAB – Autumn 2019
GENERAL CHEMISTRY II LAB SYLLABUS

Lab Supervisor: Dr. Amy Moore
Office: 280 C Celeste Lab
Email: chem1220labsupervisor@osu.edu

Sup. Office Hours: Monday 4:00-5:00 pm, Tuesday 1:50-2:50 pm, Wednesday 11:30 am-12:30 pm, Thursday 3:00-4:00 pm Note: Lab Supervisor office hours take place in 160 Celeste Lab.

All TA office hours take place in 170 Celeste Lab, M - F from 8:00 am – 5:00 pm.

TA Office Hours: Please see Carmen or 170 Celeste Lab for the most updated schedule.

Required Materials

Textbook: Lecture text, Chemistry, The Central Science (14th Ed e-text), Brown, LeMay, Bursten, Murphy, Woodward & Stoltzfus.


Calculator: TI-30XIIis or TI-30Xa No other calculators are permitted for use on quizzes or exams. See https://uglabs.cbc.osu.edu/gc-calculators/

STUDENT RESPONSIBILITY: Students receive this syllabus in the first lab session, and it is available on Carmen. It is your responsibility to read this material and be familiar with the course content, procedures, and grading. You are also responsible for the content of any announcements made by the Lab Supervisors or TAs.

ACADEMIC MISCONDUCT QUIZ & TITLE IV REQUIREMENT: Federal policy requires that attendance for all university students be verified during the first week of classes. In order to verify participation in General Chemistry, all students must complete the Academic Misconduct Quiz on the course Carmen page by 11:59 pm on Sunday, August 25th. This quiz may be taken online from any location (does not need to be completed while physically present for class). Concerns with this policy may be directed to genchem@osu.edu.

Additionally, you are required to score a 100% on the Academic Misconduct quiz to pass this course. If you do not receive a 100% by the deadline, an "E" will be entered for your final grade. You may take the quiz as many times as needed to achieve the required score, and your score will also will be recorded in the Grades section of Carmen.

DISABILITY SERVICES (SLDS): Students with disabilities that have been certified by SLDS may need accommodations in lab based on the nature of experimental work. See the lecture syllabus or Carmen course for more information about how to promptly request these accommodations.

Requirements in this syllabus (assignments, due dates, policies etc.) may be altered ONLY by a Lab Supervisor or the Vice Chair for Undergraduate Studies. Please see the lecture syllabus for prerequisites, goals and learning outcomes, commitment to diversity, and details about recitation, online homework, and exams. All lecture policies still apply to the laboratory.
Your laboratory consists of one 2 hour and 55 minute session each week. You may work in the laboratory only during your scheduled laboratory period! You will only work on the experiment listed on the syllabus for that day. If you do not finish a laboratory experiment during the designated time, you must contact the Lab Supervisor, via email, within 24 hours. See the full make-up policy on pages 4-5.

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<tr>
<th>Week of</th>
<th>Monday</th>
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<tr>
<td>Aug 19 – 23</td>
<td>CKN</td>
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<td>Aug 26 – 30</td>
<td>CKN / SOL Day 1</td>
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<td>Sept 2 – 6</td>
<td>Labor Day†</td>
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<td>Sept 9 – 13</td>
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<td>Sept 16 – 20</td>
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<td>Sept 23 – 27</td>
<td>BAR</td>
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<td>Sept 30 – Oct 4</td>
<td>CLK</td>
<td>LCP</td>
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<td>Oct 7 – 11</td>
<td>LCP</td>
<td>X</td>
<td>X</td>
<td>Autumn†</td>
<td>Break†</td>
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<td>Oct 14 – 18</td>
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<td>Oct 21 – 25</td>
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<td>Oct 28 – Nov 1</td>
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<td>Nov 4 – 8</td>
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<td>Nov 11 – 15</td>
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<td>Nov 18 – 22</td>
<td>BLP</td>
<td>Make-up &amp; FCO</td>
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<td>Nov 25 – 29</td>
<td>Make-up &amp; FCO</td>
<td>X</td>
<td>Thanks†</td>
<td>Giving†</td>
<td>Break†</td>
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<tr>
<td>Dec 2 – 6</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Reading Day†</td>
<td>Finals Begin</td>
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X = Labs will be cancelled † = University Holiday  
FCO = Finish and Check Out

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<thead>
<tr>
<th>Lab Activity Titles</th>
<th>Points</th>
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<tbody>
<tr>
<td>CKN: Check-In and Introduction</td>
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<tr>
<td>SOL: Variation of Solubility with Temperature and Solvent</td>
<td>100</td>
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<tr>
<td>FPD: Quantifying Freezing Point Depression</td>
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<tr>
<td>BAR: Determining the Kinetics for the Bleaching of Allura Red Dye</td>
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<tr>
<td>CLK: Exploring the Effect of Temperature on Reaction Rate</td>
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<td>LCP: Le Châtelier’s Principle</td>
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<td>SAL: Investigation of the Acid-Base Properties of Salt Solutions</td>
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<td>SST: Strong Acid and Strong Base Titration</td>
<td>100</td>
</tr>
<tr>
<td>WST: Weak Acid and Strong Base Titration</td>
<td>100</td>
</tr>
<tr>
<td>VOL: An Exploration of Voltaic and Electrolytic Cells</td>
<td>100</td>
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<tr>
<td>BLP: Lab Practical</td>
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<tr>
<td>FCO: Finish and Check Out</td>
<td>25</td>
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TOTAL 1050
LABORATORY ASSIGNMENTS & GRADING

LAB POINT DISTRIBUTION: The laboratory component of the course is worth 20% of your overall course grade. Therefore, your total points earned (out of the total 1050) will be scaled to contribute this percentage to your course grade. For more information, see your lecture syllabus or Carmen gradebook. You must earn 50% of the total lab points (525/1050) to pass the course. Regardless of your grades in lecture, if you do not meet this minimum, you will receive an “E” in the course. All requests for re-grading (lab reports, pre- or post-labs, etc.) must be made within 1 week of the receipt of the graded work. Re-grades can be requested, via email, from the Lab Supervisor only after discussing the grade with your TA; the Supervisor will re-grade the entire assignment and the grade will be final.

PRE-LAB ASSIGNMENTS & GENERAL CHEMISTRY WEBSITE: Links to each online pre-lab can be found on Carmen in the laboratory module that link to an external website. All work on this website must be completed exclusively using the Firefox web browser; points will not be returned for technical issues when assignments are submitted using non-approved browsers. All pre-labs must be completed prior to the start of each lab, and you only receive 1 attempt on each; read all instructions carefully. No credit (0) will be given if the pre-lab assignment is late. The external site is also used to enter your data after the experiment FPD; a link for this assignment can be found in the 75 point report assignment on Carmen.

In order to access the pre-lab and data entry assignments, you must pass the ‘Check-in and Safety Quiz’ on the external General Chemistry website; no points are awarded for quiz completion. Pre-lab grades will be entered by your TA as separate gradebook items in Carmen, but data entry will be included in the lab report score.

LABORATORY NOTEBOOK: You are required to keep a lab notebook following the guidelines described in the ‘Guide for Success in the General Chemistry Laboratory’ section of your laboratory manual (printed beginning on page xi). You must use the Student Lab Notebook and record ALL entries in Blue or Black PEN; unless otherwise instructed, no information can be recorded on scratch paper or in the lab manual during a laboratory session. Note that, for most experiments, your notebook must be prepared before the beginning of lab; your TA will not allow you to begin a lab until your notebook prep is done. At the end of each lab, both you and your TA MUST sign and date every page. Submit the carbon copies to your lab instructor in order to receive credit for your data. If you fail to get your notebook signed or forget to turn in the pages, you must bring your notebook to the Lab Supervisor for review. You will not receive credit for the associated lab report until the carbon copies are accepted by the Lab Supervisor.

LABORATORY PERFORMANCE: To foster a safe and positive learning environment, each laboratory grade includes 5 points for laboratory performance. All students are expected to arrive outside the laboratory by the official start time and wait for the TA to authorize entry into the lab room. You are expected to be prepared. Proper attire must be worn, and safety policies must be followed; see page 5 and the Safety Statement on Carmen for more information. As the laboratory is a common space, you are expected to treat all equipment respectfully and use it properly. You must follow instructions given in the lab manual and by your TA, and if a mistake is made, adjust your technique or behavior to adhere to these instructions. Cell phones must be put away in a backpack or bag during lab. Laptops and tablets should never be set directly on the lab bench (due to chemical contamination) before cleaning. Headphone use is strictly prohibited.

Every student will begin each lab period with all 5 performance points. Your TA will deduct points for not following the above guidelines. “Lab Performance” is the first criterion in the Grading Rubric for each lab report; you can find more information there. When each laboratory report has been graded and returned, your lab performance score will be included.

LABORATORY REPORT & POST-LAB: A digital lab report and a post-lab assignment will be prepared for the majority of lab experiments. Report templates and post-lab templates are located on Carmen for you to download; they must be used to prepare each report or post-lab (if not used, a 2 point penalty will result). When preparing your report and post-lab, include all the requirements outlined in the grading rubric, which can be found on Carmen under each assignment. You are responsible for making sure your submission is complete with all requirements, the correct file, and is not corrupt. You are also responsible for making sure you submit each assignment to the correct dropbox. To avoid errors, manually download your submission to make sure it was uploaded correctly. If any mistake is made with your upload, the standard late penalty will apply if the submission deadline has passed. At any time before a grade has been issued, you can submit the report or post-lab again, but only the most recent file will be graded. Reports and post-labs will be accepted through Carmen ONLY – paper copies, email attachments, and reports or post-labs uploaded incorrectly will not be accepted under any circumstances. If you fail to correctly name your file, you will lose 2 points for the report or post-lab.
ALL REPORT REQUIREMENTS MUST BE INCORPORATED IN A SINGLE DOCUMENT, including graphs, charts, etc. Reports must then be saved as a Microsoft Word document (.docx) or PDF (.pdf) file format. File names must be in the following format: lastname.#_firstname_semester_experimentcode_report (for example: Smith.4321_John_AU19_SOL_report.docx or Smith.4321_John_AU19_SOL_report.pdf). Detailed information about all report requirements are located in the ‘Guide for Success in the General Chemistry Laboratory’ section the lab manual, the ‘Report Criteria’ page on Carmen, and each report template. Reports and any required data entry are due one week after the completion of the experiment by the start time of your lab period. After this time, Carmen will accept submissions for one week, but the report will be considered late (even if turned in later the same day) and will incur a 10% per day (24 hours) deduction. Deductions will be determined based upon your submission timestamp. No credit will be given after 7 days (including weekends); at this time, Carmen will no longer accept submissions.

ALL POST-LAB REQUIREMENTS MUST BE INCORPORATED IN A SINGLE DOCUMENT. Post-labs must then be saved as a Microsoft Powerpoint (.pptx) file format. File names must be in the following format: lastname.#_firstname_semester_experimentcode_postlab (for example: Smith.4321_John_AU19_SOL_postlab.pptx). Detailed information about all post-lab requirements are located in each post-lab template. Post-labs are due one week after the completion of the experiment by the start time of your lab period. Carmen will NOT accept late post-lab submissions.

REPORT QUIZZES: Report Quizzes, available on Carmen, will take place instead of a lab report for FPD, LCP, VOL, and BLP. For these quizzes, you will have 2 attempts and your highest attempt will be graded, not the most recent. Presentation of data files (docx and PDF only) must be named with the following format: lastname.#_firstname_semester_experimentcode_data. Report Quizzes are due one week after the completion of the experiment by the start time of your lab period. No credit (0) will be given if the Report Quiz is late.

Even if one week has not elapsed, no lab reports, post-labs, Report Quizzes or carbon copies will be accepted after Monday, December 2nd at 5:00 pm.

GENERAL INFORMATION

MISSED LABORATORY POLICY: If you do not attend the first lab, you will be missing important safety information and mandatory assignments. Before attending your next lab, you must read, understand, and sign the laboratory safety statement in Carmen to earn 5 points; complete the ‘Check-in and Safety Quiz’ also. Your TA will verify that you have completed this requirement before you will be allowed to attend any subsequent lab.

If you miss any lab period, other than CKN, complete the Request for a Make-up Lab on Carmen by 5:00 pm on Friday, November 15th for lab sections which meet on Tuesdays, Wednesdays, Thursdays, or Fridays. Lab sections that meet on Mondays must complete the request by 5:00 pm on Monday, November 18th. After one miss, you can participate in the in-person make-up lab under most circumstances. If a second lab period is missed, one of the two must be for a University-approved reason to qualify for the digital make-up assignment. There are separate requests for your first and second miss; be sure to fill out the correct one.

Only emergencies and University-sanctioned events are considered approved absences. As Chemistry 1220 is on your course schedule, we do not allow make-ups in order to attend an exam for another course; that course is obligated to provide you a make-up exam time. If you would like an absence to be approved, you are expected to provide information about the nature of your absence to the Lab Supervisor; TAs cannot approve absences.

All students are required to attend their last laboratory session, Make-up/FCO during November 19-22 or November 25. Any non-approved absence during this session cannot be made up and will result in the loss of the 25 points.

In accordance with the missed laboratory policy, if you know you will miss more than two laboratory periods (for reasons such as OSU athletic competitions, military training or duties, or religious observances), you are responsible for contacting the general chemistry office (genchem@osu.edu) during the first week in order to move to a laboratory section that minimizes scheduling conflicts, space permitting. A third missed lab will not be accommodated.

MAKE-UP LAB: On November 19-22 and 25th, an in-person make-up experiment is scheduled during your regular lab period. During this unique laboratory, an experiment will be assigned to take the place of a missed lab. The make-up lab cannot be used to replace a poor lab grade. If you do not finish collecting data for an experiment during the allotted time, you can qualify to take part in the make-up only if the following are met:

• You arrived on time to lab (within 20 minutes of the scheduled start time).
• Your laboratory notebook was properly prepared and you were wearing proper attire and goggles.
• You made progress towards the completion of the experiment for the full duration of the lab period.
• You contact the Lab Supervisor, via email, within 24 hours of the incomplete lab.

The make-up lab will be a completely different experiment and will replace the grade of the missed lab in your overall score (pre-lab, report/report quiz, and post-lab). If a lab was missed, or you are instructed to by the Lab Supervisor, complete the Request for a Make-up Lab on Carmen by by 5:00 pm on Friday, November 15th for lab sections which meet on Tuesdays, Wednesdays, Thursdays, or Fridays. Lab sections that meet on Mondays must complete the request by 5:00 pm on Monday, November 18th. Late requests will not be accepted on Carmen or via email. If your request is accepted, the make-up lab will be available on Carmen and assignments will be due at 5:00 pm on Monday, December 2nd.

Note, there is only a single make-up lab. If you miss or do not finish multiple labs, you will only be able to use this period to replace one experiment. As stated, digital make-ups (for a second absence) will only be available to students with approved absences. All digital assignments will be available on Carmen and assignments will be due at 5:00 pm on Monday, December 2nd.

LAB SUPERVISOR COMMUNICATION: The Lab Supervisor will be posting "Announcements" in your Carmen course that outline report tips, preparation instructions, and important details. Go to your Announcements tab to see all of these messages. They are never deleted and are searchable. You can also set Carmen to send you an email every time an announcement is posted; explicit instructions on how to do so are at the following web address: www.go.osu.edu/notificationsettings.

If you have a question about a policy, procedure, or need clarification, please email the Lab Supervisors at: chem1220labsupervisor@osu.edu. You will not receive a response if sent to an incorrect email address or via the Carmen Inbox system. You must use your OSU email account when emailing the department. Please include the following information in your email to help the Lab Supervisors get back to you faster:

• Your TA’s name
• Your Lecturer’s name
• The day and time of your lab

MEDICAL INSURANCE COVERAGE: Due to the potentially dangerous nature of laboratory work, you are required to maintain medical insurance coverage through the Ohio State student health insurance or a private agency when enrolling in chemistry laboratory courses.

LABORATORY SAFETY REQUIREMENTS: Students are required to read, understand, and implement the safety precautions indicated in the laboratory manual. The precautions are summarized on a safety statement which must be digitally signed on Carmen by all students during their first laboratory period. Until this statement is signed, students are not permitted to participate in laboratory activities. Some particularly important parts are:

1. You must wear department-authorized ANSI code goggles in the laboratory. If your goggles are lost, a new pair must be purchased from 180 CE. Not wearing goggles will result in a 5 point deduction from your grade for the experiment (all lab performance points). Continued violations will result in a more severe point penalty and may result in dismissal from the course. Wearing contact lenses is not recommended.
2. Each student must wear adequate clothing to reduce the possibility of injury from chemicals or broken glass, including long pants and shoes that cover your entire foot. Students wearing inappropriate attire - including but not limited to shorts, sandals, spandex or other thin, skin-tight pants, pants with holes, tank tops, or short skirts - will be sent home. These students are expected to change and return to complete the experiment in proper attire. Confine long hair.
3. Familiarize yourself with the location of the fire extinguisher and eye wash in the laboratory.
4. Promptly report all accidents, no matter how small, to your lab instructor.
5. Your work area and common glassware must be cleaned before you leave lab. After cleaning all glassware and putting your equipment away, wipe down your work area with a wet sponge or towel. This ensures that you, and other students who use the space, will not be harmed by chemicals left on the work space. Also, clean up spills in the balance room by brushing chemicals into a weighing dish.
6. No unauthorized experiments are allowed. No chemicals may be removed from the lab.
LEARNING RESOURCE CENTER (LRC): You are strongly encouraged to make use of the LRC (170 CE) frequently. A schedule is posted in the LRC which lists the time each TA is available. Stop by when convenient, you do not need to make an appointment. The LRC has limited space and is not designed to be a library or study hall.

LEARNING OUTCOMES

In Chemistry 1220 lab, our goals and learning outcomes are as follows:

- Qualitatively and quantitatively explore curriculum presented in lecture, such as atomic and molecular structure, chemical reactivity, thermochemistry, and chemical calculations in an active laboratory setting
- Practice laboratory methods applicable to chemists of all levels
- Demonstrate the proper use of a laboratory notebook and recognize the importance of organized scientific data collection
- Communicate, through written lab reports the ability to interpret data, evaluate conclusions the experimental results can and cannot support, and compare and contrast chemical methods
- Handle hazardous chemicals safely and practice proper disposal techniques
- Design chemical experiments given a goal and list of materials; show a concrete understanding of the scientific process (isolating variables, selecting equipment, forming a testable hypothesis, collecting data)

STANDARDS OF ACADEMIC CONDUCT IN GENERAL CHEMISTRY LAB

Violations of academic standards in General Chemistry will be referred to the University Committee of Academic Misconduct (COAM) as required by Faculty Rules. It is the responsibility of COAM to investigate all reported cases of student academic misconduct; illustrated by, but not limited to, cases of plagiarism and any dishonest practices in connection with examinations, quizzes, and graded assignments. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information see the Code of Student Conduct: studentlife.osu.edu/csc

Student Responsibilities: Any graded material submitted in General Chemistry must represent your own work. This includes exams, quizzes, homework, and laboratory assignments, which are to be an individual effort. Unauthorized group efforts by students, use of another student’s course materials, or assistance from individuals who already have taken the course, could place you in jeopardy of violation of the standards for General Chemistry. In some courses, group work is acceptable on certain activities (as explicitly stated by your instructor). In these cases, it is important that you know and understand where authorized collaboration (working in a group) ends and collusion (working together in an unauthorized manner) begins. Identical answers indicate copying or unacceptable group efforts - always answer questions in your own unique words. It is important that you consult with your instructor for clarification on whether or not collaboration is appropriate on an activity.

You should not assist others in violating academic standards. Students supplying materials for others to "look at" may be charged with academic misconduct. Never allow another student access to your pre-laboratory exercises, lab reports, or other assignments – even after completion of the course. "I didn't know they were going to copy my work" is not an acceptable excuse.

Laboratory: Laboratory work is the essence of the science of chemistry. All laboratory work in General Chemistry is to be an individual effort and any lab assignments may be sent through Turnitin, an originality checker. You are expected to perform all parts of the experiments with your own equipment, chemicals, and unknowns. The accumulation of data, calculations derived from that data, and any conclusions or answers to questions associated with that experiment are to be your own work. Academic misconduct involving lab work includes but is not limited to the following:

- Laboratory data may not be altered or "made up". All laboratory work must be done in your assigned laboratory room, during your scheduled time period, and under the supervision of your assigned teaching assistant. You are required to have the data sheet/notebook signed by your teaching assistant during lab. Some courses require the submission of carbon copies of the lab notebook every lab period.
- Plagiarism or the submission of work based on old material is considered to be academic misconduct no matter how small the infraction. Possession of another student's lab report(s) will raise immediate concerns about academic misconduct.
- Evidence of copying or unauthorized "working together" on laboratory course work will be submitted to COAM.
- Individuals retaking the course must complete all work for the course during the current semester, and may not submit any parts of any laboratory assignment from a previous semester (see item #6 in “Ten Suggestions for Preserving Academic Integrity”, http://oaa.osu.edu/coamtensuggestions.html).
- If you are found in violation, COAM will decide what disciplinary and/or grade sanctions you receive. Additional information about COAM policies and procedures can be found at https://oaa.osu.edu/academic-integrity-and-misconduct.