CHE 1052L

General Chemistry I Lab

Syllabus, Spring 2026, Jan. 12 – May 8

POINT 1902 LOMA
NAZARENE UNIVERSITY
Department of Chemistry

This is a 1-unit chemistry lab course taught by the Department of Chemistry at PLNU. We have carefully designed it to supplement what you are learning in the lecture General Chemistry course, with a special emphasis on chemical safety and practical lab techniques. We know a chemistry lab can feel intimidating, but there are support structures built into all aspects of the course. If you take advantage of all provided resources, come into lab prepared, and ask for help whenever you feel confused, you can finish this course strong and ready for what comes next.

Lab Coordinator:

Dr. Sam Stoneburner coordinates the CHE 1052L lab course. Contact Dr. Stoneburner with any questions regarding absences, grading, or anything else outside of the lab period:
Email: sstonebu@pointloma.edu. Office: Rohr Science 322 (enter through 330).
Phone: 619-849-2788. Email with suggested times if you wish to meet in-person.

ALL LABS HELD IN SATOR HALL 209			
LAB MEETING DAYS, TIMES, and INSTRUCTORS:			
Section 1	**Monday**	2:45 – 6:15 pm	Siegmundt
Section 3	**Tuesday**	8:00 – 11:30 am	Cruz

Course Description:

CHE1052L is the laboratory course that accompanies CHE1052, the first-semester general chemistry course offered by the Chemistry Department at Point Loma Nazarene University. These two courses are separately graded corequisites designed to be taken during the same semester.

> *CHE1052 (4 units):* Study of the basic principles of modern chemistry. Emphasis on atomic and molecular structure, chemical bonding, gas laws, states of matter, and solutions. Letter graded. Prerequisite: MTH 0099. Corequisite: CHE 1052L.
>
> *CHE1052L (1 unit):* Designed to accompany CHE 1052. An introduction to chemistry lab techniques and analyzing chemical data. Letter graded. Corequisite: CHE1052.

Learning Outcomes:

An understanding of chemistry is a necessary part of an education in the basic and applied sciences, engineering, and medical professions. It also provides insight and increased comprehension regarding current events, public policy, consumer safety, and personal nutrition. Specifically, upon completion of CHE1052 and CHE1052L, you will be able to:

- Demonstrate a foundational knowledge of the general principles of chemistry including atomic and molecular structure, chemical bonding, states of matter, solutions, etc.
- Solve problems related to unit conversions, stoichiometry, energy, gas laws, etc.
- Perform basic chemical laboratory techniques related to the topics listed above.
- Use appropriate safety practices in a chemical laboratory.

Required Materials:

- Safety goggles and lab coat are available for **cash-only** purchase on the first day in lab:
  - AAMI Level 2 SMS Lab Coat, $5.
  - ANSI Z87.1 Safety Glasses, $5.
  - You may bring your own coat or goggles if equally protective or better. Goggles, if used, should have indirect venting. For activities that require safety goggles instead of safety glasses, goggles will be available to borrow for the duration of the lab period.
- **TI-30X IIS** scientific calculator. You will also use this model will for exams in lecture.
- **Gradescope app**. If you do not have a smartphone, contact the lab coordinator.
- *Lecture textbook:* Tro, Chemistry: A Molecular Approach Plus Modified MasteringChemistry with eText, Pearson, 6th Edition, ISBN-13: 9780137831968 (etext)

Course Website:

http://canvas.pointloma.edu, course: CHE1052L-1 SP26 (The Canvas sections are all put together, so the course will be "1052L-1" regardless of your specific section number.)

Safety:

Safety is THE top priority in the lab. You will be required to sign a safety agreement form before you can take part in the lab. The agreement form delineates safety rules set forth by the department. Make sure to review the full safety rules on Canvas, but note especially the dress code before coming in the first day:

- Long pants (pants that **fully** cover all skin down to the top of your shoes or socks)
- Shoes that cover the feet (closed-toed and closed-heel)
- Shirts that cover the shoulders, back, and stomach

Grading and Assessment

The following graded items will contribute to your overall grade in CHE1052L.

- Professionalism (assessed by TA and instructor every lab): 40%
- Lab data sheets (submitted at the end of every lab): 20%
- Lab reports (formal write-ups, a few labs per semester): 20%
- Pre-lab video quizzes (completed before each lab): 10%
- In-lab safety quizzes (taken at the start of most labs): 10%
- There is no final exam for CHE1052L.

Each category is explained further in the subsections below.

Letter grades will be assigned according to the following scheme after all scores are finalized. Any changes to these ranges will be only in your favor.

<table>
<tr><th>A-range</th><th>B-range</th><th>C-range</th><th>D-range</th><th>F-range</th></tr>
<tr><td rowspan="2">A:
93.00% or above.</td><td>B+:
87.00-89.99 %</td><td>C+:
77.00-79.99 %</td><td>D+:
67.00-69.99 %</td><td rowspan="3">F:
Below 60.00%, OR 3 or more absences.</td></tr>
<tr><td>B:
83.00-86.99 %</td><td>C:
73.00-76.99 %</td><td>D:
63.00-66.99 %</td></tr>
<tr><td>A–:
90.00-92.99 %</td><td>B–:
80.00-82.99 %</td><td>C–:
70.00-72.99 %</td><td>D–:
60.00-62.99 %</td></tr>
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Professionalism

Most students in General Chemistry are planning to work in either a clinical or laboratory environment, where professional conduct can be a matter of life and death. (Students who show unprofessional behavior in med school have been shown to be more likely to have state board disciplinary action after they graduate.) Our goal in CHE 1052L is for you to start learning good habits early to give you the best chance at success in your career.

In the General Chemistry lab, "professionalism" includes the following categories:

- Did you arrive fully prepared to participate? For example…
  - Were you on time?
  - Did you read and understand the instructions?
  - Did you have all your necessary documents printed out?
  - Were you appropriately dressed?
- Did you comply with all safety requirements without needing reminders? For example…

    - Did you wear a lab coat and eye protection until everyone was done with chemicals?
    - Did you wear gloves (if needed)?
    - Did you wear a mask if you were experiencing respiratory symptoms?
- Did you correctly clean and dispose of everything? For example…
    - Did you make sure any waste went in the appropriate container?
    - Did you clean all of your glassware?

You will be assessed each week by your TA and your instructor according to each of the three categories:

	Every week	−1 week	−2 weeks	−3 weeks	−4 weeks	−5+ weeks
On time / prepared	102 pts	100 pts	90 pts	75 pts	50 points	0 points
Safety w/o reminders	102 pts	100 pts	90 pts	75 pts	50 points	0 points
Cleaning / disposal	102 pts	100 pts	90 pts	75 pts	50 points	0 points

Your professionalism grade is an average of the three scores above, and you can get extra credit if your professionalism is consistently good throughout the semester. If you get full credit (102 pts) for all three categories, you will have extra credit of 1.2% on your final score.

Lab Data Sheets

Data Sheets will consist of a form to complete throughout the lab that includes data, calculations, and guided analysis. Your lab procedure will indicate whether you are working individually or in pairs in a given week, but each student is always responsible for their Data Sheet individually.

Data Sheets will be submitted electronically on Gradescope. Do not attach assignments or corrections to assignments to "comments" on Canvas. We cannot view such attachments in Gradescope. See this link for help using the Gradescope app. Grading will include only answers within designated spaces on Data Sheets. If this presents an obstacle to your learning, contact the lab coordinator to discuss accommodations.

If you are using a tablet or similar device to complete the Data Sheet electronically, you may use that device to submit to Gradescope and you need to print out only the Procedure part of the Instructions document.

By using an electronic device, you are agreeing that:

- You will still print out the Procedure part of the Instructions document
  - Trying to read the Procedure and also fill out the Data Sheet all on the same device has taken up too much time for students in the past.
- You accept the risk of losing your progress due to technology failures and are fully responsible for keeping your device charged and functioning.
- You will ensure that your device does not get contaminated with any chemicals from the experiment by keeping your device in a protective plastic bag or designated clean space.
- You will ONLY use a device with a stylus tool (such as an Apple Pencil or an S-pen). You must be able to write and draw on the lab Data Sheets, so devices that support only keyboard, mouse, and/or touch (without stylus) are not permitted.

Lab Reports

Communicating your results in formal scientific writing will be an expectation in most lab courses. To help prepare you for future work, a select set of experiments will have a brief formal report associated with them. Instructions will be provided in the specific experiment documentation. Every formal lab report will include an opportunity to submit a revised report after the initial submission has been graded. Your grade for the report will be whichever of the two scores is better.

Note: The revision is a second attempt, but the grading of the revision is not limited to fixes of issues flagged in the initial submission. Revised reports may not be graded by the same person as your first submission. The revision will be graded according to the same rubric as the first submission, but the second grader may catch errors that were not flagged by the first grader. Be sure to check all aspects of the rubric before submitting your revision, even for items for which you got full marks on the first attempt.

Pre-lab video quizzes

If you prepare before coming into lab by carefully reading through the background and the procedure, try to understand each step, and make plans for the math and error analysis, you are much more likely to be able to finish on time (or even early!).

To help you to prepare, each lab will have a pre-lab video that is due on Canvas *before* the beginning of lab. The video will include explanation of some key concepts and/or problem-solving strategies and tops. There will be quiz questions throughout the video. You are

welcome to use the written instructions and your textbook while you take the pre-lab quiz, and you may take the pre-lab quiz as many times as you like before your lab period. Only your highest score will be counted on a given quiz.

In-lab safety quizzes

Most labs will also have an in-lab quiz that you will take on Canvas immediately at the start of the lab period. You must be present in lab to receive credit for the quiz. The quiz will automatically close 15 minutes after the start of the lab period. You will need a phone, laptop, or some other Canvas-compatible device to take the quiz each week. These quizzes are designed to check each individual student's understanding of any safety precautions and disposal protocols. There will be 5 questions (usually multiple choice). Unlike the pre-lab video quizzes, the in-lab safety quizzes are closed-book (meaning you are not permitted to use your lab instructions or any other materials while taking the quiz.

Dropped grades

Your lowest **non-zero** scores in the prelab quiz, safety quiz, and data sheet categories will be dropped at the end of the semester. This requires manual editing after grades are completed, so you will not see this change reflected until after the last lab.

Grading disputes and corrections

Any questions, disputes, or appeals regarding grades should be directed to the lab coordinator. Note that FERPA (federal privacy law) prevents us from discussing other students' grades, even if another student has revealed their grades to you directly. Therefore, the grade another student got on the same assignment cannot be taken into account during a regrade.

Withdrawing from lecture

CHE 1052 and CHE 1052L are co-requisites, so if a student withdraws from CHE 1052 they will usually be withdrawn from CHE 1052L as well. Exceptions can be made with approval of the lab coordinator. Exceptions will be made only if at least one of the following criteria are met:

1. A student's total score in Canvas is at least 93% at the time they are withdrawing from lecture.
2. Remaining in lab will prevent a significant risk to financial aid or enrollment (e.g., if a student would be able to maintain full-time status only if they stay in the lab).

Strategies for Success in General Chemistry Labs

- Come prepared to lab. Lab does not start when you walk through the door; it starts the previous week as you make yourself ready to do the experiment properly and safely.
  - Print the lab Instructions and Data Sheet, read them, and envision what you'll be doing in lab. Anticipate the data and calculations that will be needed.
  - **Bring the printed Instructions and Data Sheet with you to lab**.
  - Complete the pre-lab activity on Canvas BEFORE coming to lab.
  - Continue to study the lab materials. You will have a closed-book quiz in lab at the beginning of most lab periods.
    - The lab instructions will usually include a few items that can be started (or even completed) before lab. Doing everything that you can ahead of time will greatly improve your chances of finishing lab early.
- Get help when you don't understand something. The instructors and TAs are here for you!
- Pay attention in lab. Know what you're doing, what chemicals you're using, and what positive or negative results you should be observing during the lab procedure.
  - If your numbers seem "off", ask about that too! Often it's an easy fix.

Attendance:

Laboratory sections will meet on a weekly basis unless specified otherwise. A tentative schedule is provided at the end of the syllabus, but see Canvas for the most up-to-date information.

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. In keeping with PLNU policy, if the student is absent for more than 10 percent of class sessions (i.e., 2 absences for this course), the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent (i.e., 3 absences for this course), the student may be de-enrolled without notice until the course withdrawal date or, after that date, receive an "F" grade. Note that ALL absences are counted toward this total, including "excused" absences. Absences do not count towards this total if they are made up.

An absence will result in a zero score on the safety quiz, the Data Sheet, and any applicable report assignments. To avoid this outcome, make sure that:

- You attend your regularly scheduled section.
    - You may attend a different section if you have made alternative arrangements with the lab coordinator due to a specific need.
- You arrive on time.
    - Your instructor has the authority to allow a short grace period before you are counted as absent, but lateness will still impact your professionalism score.
    - If you anticipate needing to be slightly late due to class schedules or other responsibilities, you may make arrangements in advance with the lab coordinator.
- You follow all safety rules, including the dress code.
    - If your instructor has to send you home because of safety, you may request the opportunity to make up the lab in another section. The lab coordinator will discuss the specifics with your instructor before approving the make-up.
- You complete all aspects of the experiment before you leave.
    - Cleanup and disposal are especially important aspects of the experiment.
    - If you run out of time, you may submit what you have at the end of the lab period for partial credit. We are not allowed to have students stay past the end of the lab period.
    - If you have to leave in the middle of lab (e.g., due to sudden illness), you may request the opportunity to make up the remaining work.
- You contact the lab coordinator as soon as you become aware of the need to miss your regularly scheduled section.
    - See the Attendance policy for more details about excused absences.
- You do NOT come in when you are contagiously ill or are not feeling well enough to safely participate. In those circumstances, make-ups or an excused absence may be appropriate (see below).

Making up labs:

If you are aware that you need to be absent during your usually scheduled lab time, you may ask the lab coordinator for permission to attend a different section that same week. Contact the lab coordinator as soon as you become aware of the need for the absence, but we understand that advance notice is not always possible (e.g., if you become ill on the day of lab.)

When you request a make-up, please include the specific section or sections you would be able to attend that same week. (See the schedule on the first page of this syllabus.) Multiple options are helpful, as capacity may be limited in some sections. If approval is granted, quiz deadlines and access times must be adjusted by the lab coordinator to match the section of actual attendance that week. Make-ups must be during regularly scheduled lab sessions when the same experiment is being performed (except for select "dry" labs).

Excused absences:
If you need to miss a lab and cannot make it up, email the lab coordinator as soon as you are able with an explanation as to why you need to be absent. The first such absence will be excused regardless of the specific explanation as long as an explanation is given in a timely manner and a make-up is legitimately not possible.

If you need to miss multiple experiments and make-ups are not possible, you will need to make up any missed experiments the following semester by taking an Incomplete. Note Incompletes can be given only for circumstances that fall under PLNU policy.

If you anticipate needing multiple absences that you won't be able to make up the same week, you may need to consider taking this course in a different semester. CHE 1052L and CHE1053L are offered in both fall and spring, but not in equal proportions:

- CHE 1052L has 3- 4 days a week in the fall, but 1-2 days a week in the spring.
- CHE 1053L has 3- 4 days a week in the spring, but 1-2 days a week in the fall.

PLNU academic honesty policy:
Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. Academic dishonesty also includes submitting work done in a previous semester or for a different class as if it was completed for the class in question. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. For all student appeals, faculty and students should follow the procedures outlined in the University Catalog. See Academic Policies for definitions of kinds of academic dishonesty and for further policy information.

Artificial Intelligence (AI) Policy:
The use of Artificial Intelligence (AI) tools (e.g., ChatGPT, iA Writer, Marmot, Botowski, GrammarlyGo, Perplexity, etc.) is prohibited in this course for any aspect of your work, including idea generation, drafting, editing, or final submissions. This course is designed to assess your independent critical thinking, writing, and research skills without the assistance of AI technologies. Violations of this policy will be treated as breaches of academic integrity.

Loma Writing Center
The Loma Writing Center exists to help all members of the PLNU community cultivate transferable writing skills to engage their academic, professional, personal, and spiritual communities. We work toward this goal by conducting one-on-one consultation sessions, supporting writing education across the PLNU community, and participating in ongoing writing center research.

Getting feedback from the Loma Writing Center while you're in the process of working on an assignment is a great way to improve the quality of your writing and develop as a writer. You are encouraged to talk with a trained writing consultant about getting started on an assignment, organizing your ideas, finding and citing sources, revising, editing for grammar and polishing final drafts, and more. For information about how to make in-person or online appointments, see Loma Writing Center webpage or visit the Loma Writer Center on the first floor of the Ryan Library, room 221.

- Appointment Calendar
- Website
- Email: writingcenter@pointloma.edu

PLNU copyright policy: Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

Spiritual care: PLNU strives to be a place where students grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith. If you have questions, a desire to meet with the chaplain, or if you have prayer requests, you can contact the Office of Student Life and Formation.

PLNU academic accommodations policy

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2533). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. Professors are able to view a student's approved accommodations through Accommodate.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course. Accommodations are not retroactive so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any accommodations.

Note that the "hands-on" nature of the lab class limits how accommodations can be applied without fundamentally altering the academic standards of the course. Please discuss the specific accommodations you are interested in applying to this course with the lab coordinator as early as possible.

Regardless of whether you have EAC accommodations, please feel welcome to discuss solutions to any challenges you have in fully participating, including (but not limited to):

- Color vision deficiency
- Noise sensitivity
- Difficulty with standing for extended periods, leaning down, reaching high, or lifting.

Language and Belonging

Point Loma Nazarene University faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age, disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. Inclusive language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality.

If you (or someone you know) have experienced other forms of discrimination, you can find more information on reporting and resources at www.pointloma.edu/nondiscrimination.

Sexual misconduct and discrimination:

In support of a safe learning environment, if you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that accommodations and resources are available through the Title IX Office at pointloma.edu/Title-IX. Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at counselingservices@pointloma.edu or find a list of campus pastors at pointloma.edu/title-ix

If you (or someone you know) have experienced other forms of discrimination or bias, you can find more information on reporting and resources at www.pointloma.edu/bias

State authorization: State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on State Authorization to view which states allow online (distance education) outside of California.

PLNU Recording Notification

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel. Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

PLNU Mission: To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

General Education Mission:

PLNU provides a foundational course of study in the liberal arts informed by the life, death, and resurrection of Jesus Christ. In keeping with the Wesleyan tradition, the curriculum equips students with a broad range of knowledge and skills within and across disciplines to enrich major study, lifelong learning, and vocational service as Christ-like participants in the world's diverse societies and culture.

Note: *CHE 1052 is a major requirement for several majors in STEM and health fields, and the level of mastery required to pass the course is very different from what you might expect in a typical General Education course. If you simply need to fulfill a GE science requirement and you do not need CHE 1052 specifically for your program or career goals, you may wish to switch to a GE-focused course like CHE 1002/CHE 1002L.*

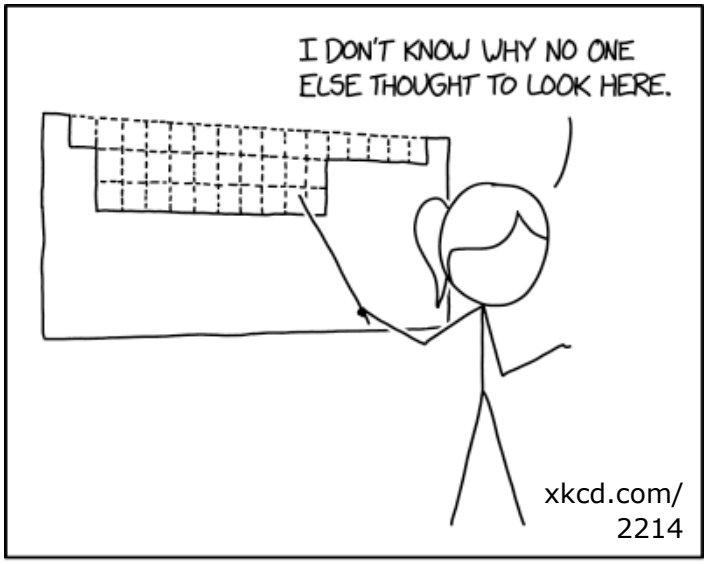
Schedule:

This schedule is accurate as of the posting of this syllabus.

Canvas will have the most up-to-date information.

Dates	Exp.	
Jan. 12 – Jan. 13	1	Safety and Significant Figures
Jan. 19 – Jan. 20		No lab due to Martin Luther King Jr Day
Jan. 26 – Jan. 27	2	Scientific Writing
Feb. 2 – Feb. 3	3	Zinc Iodide
Feb. 9 – Feb. 10	4	Titration of Vinegar
Feb. 16 – Feb. 17	5	Identifying a Metal Using Ideal Gas Law
Feb. 23 – Feb. 24	6	Acids and Gases
Mar. 2 – Mar. 3	7	Calorimetry
Mar. 9 – Mar. 10		No lab due to Spring Break
Mar. 16 – Mar. 17	8	Absorption and Emission UV-vis Spectroscopy
Mar. 23 – Mar. 24	9	Copper Cycle
Mar. 30 – Mar. 31	10	Electrolytes in Beverages
Apr. 6 – Apr. 7		No lab due to Easter Recess
Apr. 13 – Apr. 14	11	Lewis Structures
Apr. 20 – Apr. 21	12	Computational Polarity*
Apr. 27 – Apr. 28	13	Enthalpy of Vaporization of Water

* The Computational experiment has the option of being completed at home in advance.



THE 2019 NOBEL PRIZE IN CHEMISTRY WENT TO THE TEAM THAT DISCOVERED THE ELEMENTS IN THE BIG GAP AT THE TOP OF THE PERIODIC TABLE.