SCOTTSDALE COMMUNITY COLLEGE
A MARICOPA COMMUNITY COLLEGE

Course Information

Semester & Year:	Spring 2025
Course Title:	Fundamental Chemistry with Lab
Course Prefix & Number:	CHM130AA
Section Numbers:	29718 with Lab Section 29719
Credit Hours:	4
Start Date:	Lecture & Lab start Monday 1/13/2025
End Date:	5/9/2025
Room Number:	NS-314
Meeting Days and Time:	Mondays & Wednesdays from 12:30 - 3:20 pm

Course Format

The course format is In Person.

**Note:* In the case of instructor illness and in-person courses cannot be held, the class will utilize a Live-Online format, utilizing Google Meet to meet at the same scheduled day and time. Meeting Link will be posted in a Canvas Announcement in these instances.

Instructor Information

Instructor: Philip Root, BAE Chemistry, MNS Physics, Arizona State University
Email: philip.root@scottsdalecc.edu
Phone: 480-423-6196 (office); 480-900-7697 (text)
Office Location: NS-131

Student Hours: This semester I will hold student office hours at the times & days listed below. To meet with me during those hours, you *can* make an appointment, but you do not need one unless indicated. So just stop by! Student office hours are a time when you can come to ask me for help with specific questions, or they can be a time to talk more generally about the course or your field of interest. Please come prepared with what you would like to discuss! If you cannot make it to my student office hours because you have a conflict, ***you can message me via canvas or email to schedule a different time to meet***.

Mon/Wed: NS131: 10:30-11:30 am; NS131: *After 3:20 pm by appointment

Tu/Th: NS318: 8:30 - 9:00 am; NS131: *After 3:10 pm by appointment

Fridays: NS-131 (my office) or Google Meet by appointment.

Course Description

A survey of the fundamentals of general chemistry. Emphasis on essential concepts and problem solving techniques. Basic principles of measurement, chemical bonding, structure and reactions, nomenclature, and the chemistry of acids and bases. Preparation for students taking more advanced courses in chemistry.

Prerequisites

A grade of C or better in [(CHM100, or high school algebra, or MAT140 or higher, or an EdReady-Quantitative Reasoning, Algebra and Statistics score of 70 or higher, or an EdReady-College Algebra score of 80 or higher) and (RDG100, or RDG100LL, or higher, or eligibility for CRE101 as indicated by appropriate reading placement)], or permission of the Instructor, or Department or Division Chair.

Course Competencies

There are a total of 11 course competencies that students should be able to perform by the end of CHM130AA.

1. Employ fundamental chemistry terminology, symbols, and formulas.
2. Draw connections between fundamental chemistry phenomena and observations.
3. Use theories to predict structure and behavior of chemical compounds.
4. Predict the properties of matter based on the materials' classifications and structure.
5. Perform fundamental chemistry calculations involving scientific measurements.
6. Predict the qualitative outcomes as matter undergoes physical and chemical transformations.
7. Calculate quantitative characteristics of matter related to properties and composition.
8. Predict the quantitative outcomes as matter undergoes physical and chemical transformations.
9. Demonstrate safe laboratory conduct.
10. Manipulate scientific equipment.
11. Summarize experimental findings.

Texts and Course Materials

1. COURSE MANUAL: Instead of requiring a textbook, a Course Manual, including class and lab activities, will be distributed during the first week of the semester. An electronic version will also be available on Canvas. You are responsible for keeping this packet in a 3-ring binder and bringing the appropriate handouts to class each day.

   Note: Scientific Readings & additional resources (including links to openly licensed textbooks) will be provided via Canvas. There is NO required textbook for you to purchase for this course!

2. THREE RING BINDER: A 3-ring binder in which to keep the Course Manual (unit materials and lab handouts).
3. COMPOSITION BOOKS: You will need **two** bound composition books for this course. Plain composition books can usually be purchased for $1-$2.
    a. **The Class/Lab Notebook**: your class/lab notebook is a place for you to jot down ideas, notes for your future self, and record data from class and laboratory activities *during* class
    b. **The Reflection Journal**: This notebook is used *outside* of class (**NOT** during class), and is a place for your personal reflections on how you are growing and what you are learning each week. More info on Reflection Journals is available in Canvas.
4. SCIENTIFIC CALCULATOR: A scientific calculator is one that allows you to enter and display numbers in scientific notation. If you need to purchase one, you can find a good one for less than $15. Graphing calculators are also permitted during class, but may not be used on exams. Ask me for advice if you need it.
5. GOGGLES: We will provide you with protective eyewear for use during the class. At the end of the class, you will return the eyewear in undamaged condition. If you fail to return the eyewear or the eyewear is excessively scratched or damaged from mishandling, you will be charged a $7.00 replacement fee.

    **SCC is not responsible for damaged clothing or jewelry.*
6. CANVAS: We will use the Canvas Learning Management System (LMS) for a variety of purposes. Please familiarize yourself with the site and our Course in Canvas. Log in at: https://learn.maricopa.edu/login

Course Technologies

View the Accessibility Statements & Privacy Policies of technologies used in this course:

https://www.scottsdalecc.edu/students/elearning/accessibility-statements-and-privacy-policies

Maricopa Systems

This course uses key Maricopa systems for course management and communication.

- Canvas Learning Management System
- Student Maricopa Gmail Account
- Maricopa Open Educational Resource Learning System (MOER)

Synchronous Communication Tools

This course may implement the use of web conferencing and/or other synchronous course tools.

- Webex

Streaming Media/Audio/Video Tools

This course uses webcasting, lecture capture systems, YouTube, and/or other streaming media services.

- YouTube

Student Assignment Tools

This course requires students to participate in or submit assignments using desktop or cloud-based applications.

- Google Products
- Logger Pro

Course Policies

The following are policies specific to this course. Students are also responsible for the college policies included on the Student Regulations page of the Maricopa Community College District website.

Participation & Group Work Expectations:

Individual participation and engagement is a requirement for both you as students, and me as the instructor! We are both expected to come to class prepared. If a student comes unprepared, their work and their entire group will be impacted. Please expect to be active and engaged, and do not expect a lecture style of instruction during this course. If you are interested in more information, please consult the research article, "Large-scale comparison of science teaching methods sends clear message."

In addition, we will mostly work in student groups during class time. When you as students collaborate, you practice essential skills: communication, leadership, teamwork, and a variety of important executive functions. Students are expected to work together, assist each other, and present ideas to groups and the class. I understand that group work is demanding and rigorous, requires social skills, and introduces a level of interdependency that might make you anxious. So instead of grading this work, we will focus on fostering and developing these skills, helping you improve your Career Readiness.

Cell Phone Policy:

There will be times that you will use your cell phone to research a topic in class or lab, or to communicate with each other during live online group discussions. Appropriate use is understood and acceptable. However, personal or social use of cell phones in lecture is a distraction and, in the lab, is a danger. I will ask you to leave the lab or lecture hall for personal use of cell phones, both texting or talking.

Generative Artificial Intelligence (AI) Policy

Opening Statement Regarding Generative Artificial Intelligence (AI)

The World Economic Forum defines generative AI as “a category of artificial intelligence (AI) algorithms that generate new outputs based on the data they have been trained on. Unlike traditional AI systems that are designed to recognize patterns and make predictions, generative AI creates new content in the form of images, text, audio, and more.”

Some examples of generative AI tools include but are not limited to: ChatGPT, Google Bard, Microsoft Copilot, Stable Diffusion, GrammarlyGo, and Adobe Firefly.

Some Generative Artificial Intelligence (AI) Allowed in Specific Circumstances

There are situations and contexts within this course where you may be permitted to use generative AI tools. Specific guidelines are provided below. If you are unsure if the tool or website you are using is a generative AI tool or if it is permitted on a specific assignment, please contact the instructor for further clarification before submitting your work.

AI tools may NOT be used when completing the following assignments[1]:

- Learning Journal Reflections
- In Class Assessments (i.e. Exams)

If you wish to try using AI tools, they may be used when completing Lab Work and Homework assignments (worksheets). If you choose to use an AI tool, you will need to provide the following in the assignment:

- Indicate what you used the AI tool for
- Clearly indicate what content and/or work the AI provided
- Provide an analysis or critique of the content and/or work the AI tool provided

Grading Standards & Practices

Homework will normally be assigned during class, due dates will be posted in Canvas. Just an FYI - you will be submitting all of the assignments- homework, quizzes, labs - via Canvas. It is a simple task to take pictures of your pages and upload them on Canvas. We will talk about this procedure in the first week.

Exams: There will be 3 midterm exams spread through the semester with no make-up exams allowed. Exams will be every 4-6 weeks, although this is subject to change depending on the needs of the class.

Tentative Exam Dates (subject to change): M 2/24, W 3/26, W 4/23

[1] See the following section on Grading Standards & Practices for information on assignment categories

Exams are typically administered during class time through Canvas. **Any navigating away from the Canvas Exam to a different browser window, to your computer desktop, or any other app (as noted by Canvas or Responsdus) will result in a "0" for individual questions and/or the entire exam.**

There will also be a comprehensive final exam during finals week, assessing all the material from the class. The percentage obtained from the final exam will be used to replace your lowest unit exam. The final is not an optional exam.

Final Exam Date (subject to change): W 5/7

Exam Absence Policies:

- If you are going to miss an exam due to an excused absence, you must inform the instructor at least 2 weeks prior and include documentation.
- If you miss an exam for an unexpected reason, you must contact the instructor within 24 hours of the exam, and when able, provide appropriate documentation.
- ***All exams must be taken to avoid being withdrawn from the course.***

*Note: if health protocols dictate an exam must be given online, the exam will be administered during a live online meeting and through Canvas.

Nomenclature Quiz: In addition, all students in CHM130 at SCC must pass a quiz to ensure understanding of the particle nature of matter, naming, and formulas. This quiz may be taken once a day at the **Natural Sciences Tutor Center (NS-107)** until you achieve a minimum passing score of 16 out of 20. In the gradebook, the Nomenclature Quiz is worth 50 points in the Exam category. A passing score (16/20) receives full credit (50 pts).

The deadline for passing the quiz is the end of Week 14, F 4/18

Reflection Journal: One of your composition books will be used exclusively as a Reflection Journal. The purpose of a journal is to communicate that you understand all aspects of the activity so that you can apply the concepts when needed.

The goal of journal reflections is to honestly and authentically reflect on your learning each week. You will know you have been successful if you break down your thinking, include personal, group, and class perspectives, and include a variety of representations (cartoon diagrams, visual drawings, mathematical expressions etc.) in your reflection. The goal is for the reflection to help inform the current you on what you know, and to help the future you review important learning!

All journal reflections should be hand-written in a dedicated composition book, which I will call the "Learning Journal". The learning journal only contains these weekly reflections (as opposed to your class notebook of lab and class notes). As a reward for completing these weekly journals, you will be allowed to use the learning journal on your exams this semester!

Lab Work: Lab reports will normally be completed in class. Since many of the experiments will not require the full class time, or you may have to spend time waiting for other students to finish so a discussion can take place, you are allowed to complete your post lab in class. It is obviously acceptable to turn in a hand written lab report, however please ensure that the information is organized and legible, as I will return any reports that are too hard to read with a zero. If there is not time, or you choose not to complete the post lab in class, lab reports will be due by the following class meeting.

Lab Practical Exam: At the end of the semester you will also complete a Lab Practical Exam. This is a "practical" assessment, meaning you will be assessed on your practical lab skills. The assessment will be completed individually, requiring you to both perform calculations and execute actual lab procedures.

Spring 2025 Lab Practical: M 5/5

Course grades will be determined using the following breakdown:

Grading Scale*:

Letter Grade	Range
A	89.0 – 100%
B	78.0 – 88.9%
C	67.0 – 77.9%
D	50.0 – 66.9%
F	<50.0%

Assignment Categories (weighted):

Category	Weight
Exams	60%
Lab work	15%
Reflection Journal	10%
Quizzes	10%
Homework	5%

***Note:** The grading scale is not the typical "10 point scale" so that you don't have to ask for your grade to be rounded up. For example, if you want to earn an A, shoot for an overall 90%, that way if you end up at an 89.4, your grade is still above an 89 and is an A. Anything below an 89, however, will not be rounded up.

Late Work Policy:

- Due dates are posted in Canvas. Email the instructor immediately if you notice any issues/mistakes with a due date, as instructors are human and also make mistakes.
- You are encouraged to still complete assignments late for feedback and learning. Partial credit can be earned for late assignments IF you contact your instructor to discuss the issue.
- *Any late work must be completed prior to each midterm exam to receive any partial credit.*

Cheating and Plagiarism: I encourage students to work together when doing homework and labs; however, I would not expect your solutions to be identical. There will at times be group assignments in which I expect only one solution or project. Discussing and sharing ideas is different from copying. Cases of cheating or plagiarism (as defined in the SCC Student Handbook) will not be tolerated and I will pursue the strongest punishment allowed by the College. This is not limited to any student who submits copied/plagiarized work, but also to the student that supplies the material. I will punish both the copier and the person they copy equally, as both are equally guilty. If in doubt, just say No when someone asks to use your work!!!

Academic Support: We care about your success! In addition to meeting with your instructor, SCC students may use the Academic Success Center/Tutoring services located in the Natural Sciences building (NS-107) to reinforce and supplement classroom instruction. Free of charge on-campus and online tutoring services are available for most courses offered at SCC.

How to get the most in tutoring: 1) The sooner and the more often you come to tutoring, the better. 2) Come prepared. Bring your class notes and textbook. Look over the readings and try problems. If you can, bring a list of specific questions to tutoring.

Please see the “First Steps: Helping You Succeed” module in Canvas for additional resources that may be beneficial to your success in this class!

Response Time

I prefer that you contact me via the Canvas Conversations (Inbox Messaging) feature within Canvas whenever possible. The second choice of communication is via direct email. For Canvas Inbox and emails you can expect a response within 24-48 hours (often faster) during work days (M-F). While I will not guarantee that I will respond to inbox messages or emails during the weekend, it is likely that I will, so please do not wait if you have a question!

In regard to grading, students can expect assignments to be graded within one week of the assignment’s submission.

Attendance Policy

Attendance is required for this course! Attendance will be recorded for all class and lab sessions. To be considered in attendance:

- Engage in breakout sessions / group work: You will often work together in breakout session groups, allowing you to converse with your group and at times, your instructor. Converse with your group and actively use whiteboards and any other idea sharing technology!
- Engage in whole class discussions: Participate and share ideas, questions, and concerns with the instructor and/or the class.

Failure to follow these guidelines results in an absence, even if you attended class.

If you physically miss any class it is **your** responsibility to contact the instructor and make up the work. I am not inclined to give make-ups on quizzes or exams, unless you have a valid excuse with written documentation and you have spoken with me beforehand.

- If you show up late to the lab, you will miss key procedural and safety information and will not be permitted to participate in that day’s lab.
- If you have 3 absences that are not considered “official absences,” I have the option to withdraw you (with grade of W or Y, depending).
- If you miss an exam and I don’t hear from you by e-mail (or phone if you can verify email is not possible) with a valid excuse within 24 hours after the exam ends, you may be given a 0% for that exam and I may withdraw you (with grade of W or Y, depending).

If you have any special needs or considerations related to attendance, contact your instructor immediately. I understand that life is happening all around us. So just notify me before or as soon as possible if something comes up in your life or if you have concerns that attendance will be an issue. I will work with students who will work hard to learn.

For all MCCCD attendance policies, please consult Section 2.3.2 at:

https://district.maricopa.edu/stewardship/maricopa-governance/common-pages/student-regulations

Student or Instructor Illness Considerations and Class Access

Students who are not feeling well **should not attend class**. Notify your instructor prior to the start of class on a given day. Your instructor will connect with you if there is an option to attend class remotely or will provide information about how to stay current with assignments and lessons online.

If your instructor is ill and cannot attend class, updates and announcements will be provided in Canvas, Maricopa email, or other class communication channels prior to class that day if possible.

Withdrawal Information:

If you must withdraw from the course, see the Withdrawal Policy information located in the **College Policies & Student Services** page found in the First Steps module of your Canvas course.

**Notes:* *Deadline to withdraw without instructor approval: End of Week 7*

Final Deadline to withdraw: End of Week 14 (requires instructor approval)

Instructional Contact Hours (Seat Time)

This is a four(4) credit-hour course. In addition to time spent in class and lab, plan to spend at least eight hours on learning activities ***outside of class time*** each week (i.e. notebook reflections, homework, practice, lab work and reports, etc.) If you do not think you will be willing or able to devote this much time to this class, be realistic about it at the start of the semester and make changes while you still can.

Online Tutoring

SCC's tutors are available online to help with your courses. You may work with an SCC tutor remotely using Google Meet, your phone, or email. Visit the Tutoring & Learning Centers page for detailed information on the five learning center's hours and procedures.

As much as possible, it is highly recommended that you utilize SCC tutors since they are more familiar with SCC coursework, instructor expectations, and assignments; however, if you need to work with a tutor outside regular hours, online and hybrid students now have access to a 24/7 online tutoring service called Brainfuse. Brainfuse provides online tutoring in a variety of academic subjects. Each student may utilize up to 6 hours of online tutoring through Brainfuse per semester, and has the option of requesting additional time if needed.

To access Brainfuse and begin working with a tutor:

1. Visit the SCC Online Tutoring Services Through Brainfuse page (https://www.scottsdalecc.edu/students/tutoring/online-tutoring)
2. Click the **Visit a tutor online** button
3. Enter your MEID and password
4. Choose your topic and subject
5. Click the **Connect** button

Please use your time effectively and be prepared with your questions before you connect to a tutor. Tutors and students communicate in real-time so whatever you type, draw, or share on the screen, the tutor sees, and vice versa. You may also want to have screenshots ready if applicable. All Brainfuse sessions are recorded for review later.

Learning Tools and Your Privacy and Security

SCC utilizes a variety of software applications and web-based tools operated by third party vendors to support student learning. To allow student access to the application, site or tool, certain identifiable information may be required to establish a user name or password, and submit work and/or download information from these tools. Inherent with all internet-based tools, there is a risk that individuals assume when electing to use these tools, as they may place information at risk of disclosure.

To use learning tools responsibly, please observe all laws and the Maricopa Community College District Student Conduct Code, such as copyright infringement, plagiarism, harassment or interference with the underlying technical code of the software. As a student using a learning tool, you have certain rights. Any original work that you produce belongs to you as a matter of copyright law. You also have a right to the privacy of your educational records. Your contributions to learning tools constitute an educational record. By using the tool, and not taking other options available to you in this course equivalent to this assignment that would not be posted publicly on the internet, you consent to the collaborative use of this material as well as to the disclosure of it in this course and potentially for the use of future courses.

Students are responsible for the information contained in this syllabus, the Syllabus page in your Canvas course and the **College Policies & Student Services** page found in the First Steps module of your Canvas course. Students will be notified by the instructor of any changes in course requirements or policies.