



GLENDALE COMMUNITY COLLEGE

## Syllabus: CHM 152LL General Chemistry II Lab

Syllabus CHM 152LL General Chemistry II Lab  
Glendale Community College, Main Campus

Section 11393  
Spring 2020

CHM 152LL section information for lab make-ups:

Section	Start time	End time	Day	Instructor	Room
11393	1:00 pm	3:50 pm	M	Leedy, Debbie	PS 149
11394	11:30 am	2:20 pm	T	Diebolt, Lisa	PS 149
11471	2:30 pm	5:20 pm	T	Steward, Jason	PS-149
11397	7:10 pm	10:00 pm	T	Diebolt, Lisa	PS-149
11395	1:00 pm	3:50 pm	W	Gregg, George	PS 149
11396	11:30 am	2:20 pm	R	Diebolt, Lisa	PS 149
11449	2:00 pm	4:50 pm	R	Clark, Christina	GCCN, D-122

### Instructor Information:

- Instructor: Debbie Leedy
- Office Location: PS-124
- Office Hours: MWF 11 am – 12 pm (PS-124)
- CHM Solutions: T 12 – 2 (HT2 Pit)
- Office Phone: 623-845-4770
- Email: [debbie.leedy@gccaz.edu](mailto:debbie.leedy@gccaz.edu)

### Course Information:

- **Course format:** Face-to-Face
- **Credit hours:** 1
- **Class section, day, time, and location:**
  - Section 11407 – Monday 1:00 – 3:50 pm, PS-149
- **Exceptions:** GCC Holidays (MLK Day, President's Day, Spring Break)
- **Instructional Contact Hours & Out-of-Class Student Work:** You will be expected to read through concepts and procedures and complete pre-lab assignments before coming to lab. You can expect to spend between 1 and 6 hours each week to complete lab calculations, answer discussion questions, and complete your lab report.
- **Final Exam day and time:** Monday, April 29<sup>th</sup> at 1 pm.

### Course Description:

Laboratory experience in support of CHM152. Prerequisites: CHM 151LL or equivalent. Prerequisites or Corequisites: A grade of "C" or better in CHM152. Course Notes: Student may receive credit for only one of the following: CHM152 and CHM152LL, or CHM152AA. Experiments are completed in a supervised lab setting in a face-to-face environment.

### Course Competencies:

<https://aztrasmac2.asu.edu/cgi-bin/WebObjects/acres.woa/wa/freeForm2?id=78833>

1. Identify and evaluate chemical hazards and hazard warning signs (such as the 4-bar Hazardous Material Information System, the 4-diamond National Fire Protection Association System, and Material Safety Data Sheets).
2. Cite the location and operation of common laboratory safety equipment.
3. Measure and dispense reagents.
4. Determine the mass of a given substance using an electronic balance.
5. Use pH meters or sensors to measure the pH of solutions.
6. Record quantitative and qualitative data, using the proper number of significant figures where appropriate.
7. Perform dilutions to prepare solutions using volumetric glassware.
8. Standardize solutions and analyze samples by performing titration experiments.
9. Analyze collected data using graphical techniques.
10. Prepare written reports, present data in a logical format, analyze data, and report conclusions.
11. Use scientific measuring devices to obtain chemical data.
12. Apply principles, concepts, and procedures of chemistry to lab experiments.
13. Interpret chemical data generated by application of the scientific method.
14. Use lab equipment properly and safely to perform a variety of chemical procedures and techniques.

**Textbooks, Materials, and Technologies:**

**Lab experiments:** You must print all the CHM 152LL laboratory experiments from the **CHM152LL web page and bring them to each lab period.** <http://web.gccaz.edu/~lisys52871/chm152ll.htm>. Keep all your graded assignments until final grades are assigned.

**Calculator:** Students need a **basic scientific, non-programmable** calculator. (e.g. TI-30X IIS)

**Goggles and Clothing:** Wet lab experiments require OSHA- approved splash-proof goggles. (*Note: Safety glasses, biology glasses, and perforated goggles are NOT acceptable.*) Goggles may be purchased at the GCC Bookstore. You **must** bring your own goggles, and you should leave them in the assigned goggle drawer for your section during the semester. Please use a permanent marker to write your name on your goggles or on the goggle strap. **If a student forgets to bring his/her goggles, the student will not be allowed to work and he/she will need to make arrangements to attend a make-up lab in a section that has available space if possible or he/she will receive a zero for that lab.**

Students are also required to wear closed-toed and heel shoes that cover the top of the foot and clothing that covers them from neck and shoulders to below the knees. Students coming to lab with improper shoes and inappropriate clothing will be sent home, and will need to attend a make-up lab if possible or they will receive a zero for that lab. Leather shoes are not required.

**Attendance and Withdrawal Requirements:**

Students with 3 absences will receive a W, no exceptions. If you are unable to attend your class, you may be allowed to attend a different lab section during the week that the lab is scheduled. (Make sure to contact the instructor of the section to see if there is space available in his/her lab!) You may only do this twice. If you withdraw from the CHM 152 lecture before the 10<sup>th</sup> week of classes you must also withdraw from your lab course. It is the responsibility of the student to drop the course before the deadline for student-initiated withdrawal – using SIS. The instructor may drop a student for excessive absences (as defined by the instructor) with a grade of W. After the deadline specified in the current GCC course schedule, you will need instructor approval to withdraw. Students may not withdraw during the last two weeks of the semester; an A-F grade will be assigned. Note: A grade of “Y” may be assigned for students caught cheating. A grade of “Y” counts as an “F” in your transcript until you retake the class. Students who take the final exam are not eligible to receive a “W” or “Y”.

**Grading Standards & Practices:**

**Pre-lab Canvas Quizzes:** Completed in Canvas one hour before the start of your lab period.

10 points, 10% of final grade

**Lab Reports:** Lab reports are due at the beginning of the next lab period. Lab reports turned in after the start of lab but on the same day will be docked 5%; lab reports turned after the day of the lab will be docked 10% per day and will not be accepted after one week. Reports will be graded for data, calculations, results, and conclusions. Late assignments must be time and date stamped by the department secretary or a faculty member.

50 points. 50% of final grade.

**Post-lab Quizzes:** Taken in lab the week following conclusion of an experiment (the same day your Lab Report is due). Multiple choice, calculation, and/or short answer questions.

20 points, 20% of final grade.

**Lab Final:** All students are required to take the lab final. If you have an excused (documented) absence and were unable to make up a lab, the lab final may count for the missed experiment.

140 points, 20% of final grade.

**Grades:** Grades will be determined by the weighted average of the above assignments with the following distribution:

90% - 100% = A    80% - 89% = B    70% - 79% = C    60% - 69% = D    less than 60% = F

**Course Technology Information:**

In this class, you will be using web-based third-party tool(s) and/or Maricopa’s Canvas Learning Management System Learning Tools Interoperability (“LTIs”) to complete or participate in assignments, activities and/or access course materials. You may be required to establish a user name or password, submit work and/or



download information from these tools. There is, therefore, some risk that individuals electing to use the products and services made available by these tools may place any student information shared with the tool vendor at a risk of disclosure. In this class, students will be using:

**Canvas:**

- Terms of Use: <https://www.canvaslms.com/policies/terms-of-use-canvas>
- Privacy Policy: <https://www.canvaslms.com/policies/privacy>
- Accessibility statement: <https://www.canvaslms.com/accessibility>

**Chemistry department website:**

- No Terms of Use, Privacy Policy, or Accessibility Statements are listed. Use at your own risk.

**Student Rights & Responsibilities:**

You are expected to know and comply with all current published policies, rules and regulations as printed in the college [Academic Catalog](#), Syllabus, and/or [Student Handbook](#).

Academic Catalog: <http://www.gccaz.edu/gcc-catalog>

Student Handbook: <http://www.gccaz.edu/student-life/office-student-life/student-handbook>

The information in this syllabus is subject to change based on the discretion of the instructor. You will be notified by the instructor of any changes in course requirements or policies.

***Classroom Accommodations for Students with Disabilities:***

In accordance with the Americans with Disabilities Act, the Maricopa County Community College District (MCCCD) and its associated colleges are committed to providing equitable access to learning opportunities to students with documented disabilities (e.g. mental health, attentional, learning, chronic health, sensory, or physical). Each class/term/semester that a student is in need of academic adjustments/accommodations, the qualified student is required to work with the Disability Resources & Services Office (DRS) at their individual college(s). Contact with the DRS should be made as soon as possible to ensure academic needs are met in a reasonable time. New and returning students must request accommodations each semester through DRS Connect online services. To learn more about this easy process, please contact your local DRS office.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations, you are welcome to contact DRS by using the information listed on the following webpage: <https://district.maricopa.edu/consumer-information/disability-resources/contacts>. The DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions qualifying for accommodations/academic adjustments. Reasonable accommodations are established through an interactive process between you, your faculty, and DRS; and only those academic adjustments/reasonable accommodations granted by the DRS are recognized by the college and District. It is the policy and practice of the MCCCD to create inclusive and accessible learning environments consistent with federal and state law. If you are pregnant or parenting (as protected under Title IX) and would like to discuss possible academic adjustments, please contact the Disability Resources & Services Office.

***Academic Integrity:*** Cheating will absolutely not be tolerated. This includes (but is not limited to) any form of inter-student collaboration on exams or external assignments that are not specifically sanctioned by the professor, use of prohibited materials or devices during exams, copying or distribution of quiz or exam questions or answers prior to the test, and plagiarism. See the student handbook for statements about student responsibility regarding cheating and academic integrity (<http://www2.gccaz.edu/student-life/office-student-life/student-handbook>)

- 1<sup>st</sup> offense: warning and reminder about Academic Integrity; points deducted on item in question
- 2<sup>nd</sup> offense: entire assignment graded as a 0
- 3<sup>rd</sup> offense: overall grade in course penalized according to severity of offense, an overall grade of F might be awarded for the class.

**Safety Regulations:**

Arizona Statute ARS15-151 specifies that every student, teacher and visitor in public and private schools, community colleges, colleges and universities shall wear appropriate protective eyewear while participating in or when observing vocational, technical, industrial arts, art or laboratory science activities involving exposure to: molten metals or other molten materials, cutting, shaping and grinding of materials, heat treatment, tempering or kiln firing of any metal or other materials, welding fabrication processes, explosive materials, caustic solutions, radioactive materials.

**Sources of Help:** In addition to my office hours listed above, our department has an “open door policy”. If an instructor’s door is open and they have the time and willingness to help with 152 lab material, you are welcome to ask questions. We also offer free tutoring (Chemistry Solutions) Monday – Friday in HT-2 Pit (west end) from 9 am – 5 pm. The exact schedule will be posted on the department website.

**Late work:** You must turn in all assignments **complete** and **on time**. *Complete* means you have done everything specified in the assignment instructions. *On time* means within 10 minutes of class start time on the due date. Assignments may be turned in early, but I do not accept them late without giving *prior approval* for work to be turned in late.

**Email:** To ensure a timely response from me when you send emails, please include an appropriate subject, and type the email in a professional manner. Emails sent in “text lingo” may or may not solicit a reply from me. I reply to emails as quickly as possible, but I do not check late at night and only intermittently on weekends. Maricopa Community Colleges provides all students with an email address. It is the official way to receive communication from the college and district. Look up your email account at <https://google.maricopa.edu/>.

***Addressing Incidents of Sexual Harassment/Assault, Dating/Domestic Violence, and Stalking:***

In accordance with Title IX of the Education Amendments of 1972, MCCCCD prohibits unlawful sex discrimination against any participant in its education programs or activities. The District also prohibits sexual harassment—including sexual violence—committed by or against students, District employees, and visitors to campus. As outlined in District policy, sexual harassment, dating violence, domestic violence, sexual assault, and stalking are considered forms of "Sexual Misconduct" prohibited by District policy.

District policy requires all college and District employees in a teaching, managerial, or supervisory role to report all incidents of Sexual Misconduct that come to their attention in any way, including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Incidents of Sexual Misconduct should be reported to the college Title IX Coordinator. MCCCCD will provide on its Title IX Coordinators web page, a link to all the Title IX Coordinators in the district. Reports may also be reported at: <https://district.maricopa.edu/consumer-information/reporting>.

**Taping Policy:** You may audio-tape lectures for personal use. No video-taping is allowed unless you receive my permission before each use.

**Cell Phone/Pager Policy:** Cell phone use during lab is not permitted. Turn all ringers off before entering the lab. Take all vital calls outside the lab. If your cell phone rings, beeps, vibrates, or otherwise makes noise during an exam, the penalty will be determined by the degree of disruption caused. This includes the final exam! Don't bring it to the final exam!

**CHM 152LL Schedule Spring 2020**

Most experiments will require a pre-lab quiz (in Canvas) due one hour before your lab section meets; questions are included in the laboratory experiment that you are required to download, print, and bring with you to lab. Lab reports will be due the week after each experiment is completed, unless otherwise stated by your instructor. Lab report formats will be a mixture of formal (typed) reports and worksheets. There will also be a post lab quiz administered at the beginning of lab the day you turn in your lab report.

<b>Dates</b>	<b>Lab Experiments</b>
Jan. 13 – 16	<b>Welcome and Introduction, Safety Exercise, Safety Video</b> ♦ Monday labs will do Weeks 1 and 2 activities this week due to MLK Holiday
Jan. 20 – 23 (Monday holiday)	📄 <b>Review Worksheet</b> , Assumption of Risk forms due ♦ MLK holiday – No class Monday, Jan. 21
Jan 27 – 30	<b>Kinetics of Iodine Clock Reaction</b> ♦ Bring goggles, wear appropriate clothes and closed-toe shoes
Feb 3 – 6	<b>Kinetics Help Session for calculations and lab report</b>
Feb 10 – 13	<b>Le Chatelier's Principle</b>
Feb 17 – 20 (Monday Holiday)	<b>Nuclear Lab</b> ♦ Monday lab students can attend another section for information.
Feb 24 – 27	📄 <b>Introduction to Strong and Weak Acids</b>
Mar 2 – 5	📄 <b>Weak acids, Weak Bases, and Salts</b> 3/2: Last day to withdraw without instructor signature
Mar 9 – 12	<b>Spring Break – NO LABS</b>
Mar 16 – 19	📄 <b>Acid-Base Titration Curves (<i>Group formal lab</i>)</b>
Mar 23 – 26	📄 <b>Acid-Base Titration Curves</b> , continued 3/29: If you have dropped lecture by this date, you must also drop lab.
Mar 30 – Apr 2	<b>Qualitative Analysis of Anions – Knowns (<i>Individual formal lab</i>)</b> ♦ Students work in groups this week
Apr 6 – 9	<b>Qualitative Analysis, continued – Unknowns: <i>Students work individually!</i></b>
Apr 13 – 16	<b>Thermodynamics</b>
Apr 20 – 23	📄 <b>Electrochemistry</b> 4/22: Last day to withdraw with instructor signature
Apr 27 – 30	<b>Lab Final Exam</b> – written exam with multiple choice questions and open-ended calculation questions. Given during your regular lab period.

📄 Laptop computers will be used during the activity

Your instructor will attempt to follow this schedule, any changes will be announced.

**Final Exam:**

The final exam will be administered during your regular lab period during the last week of classes. It will consist of multiple choice questions and open-ended calculation questions. Questions will cover concepts, techniques, and calculations from the experiments completed this semester. The Final Exam is worth 20% of your grade. You will **NOT** be allowed to use your textbook, graded lab reports, or any handouts (including the introductory background/procedures for the lab experiments) during the final exam. You may use both sides of a 4" x 6" notecard with handwritten information for the final exam.



**Chemistry Department Safety Rules**

- 1) Wear approved goggles at ALL TIMES in the laboratory. Do not open the goggle vents. You may be removed from lab if you repeatedly remove your goggles without permission.
- 2) Do not perform unauthorized experiments. Only your laboratory instructor may authorize special experiments.
- 3) Wash any spilled chemicals off your person with water as quickly as possible.
- 4) Do not touch any chemicals without receiving specific instructions to do so from your instructor.
- 5) Do not taste any chemicals.
- 6) Smell chemicals only when directed and then with caution.
- 7) Ensure that any heated glass or metal equipment has cooled adequately before handling.
- 8) Use caution in handling all glassware. If a cut occurs, rinse the wound with cold running water until you are sure there are no small pieces of glass in the cut.
- 9) Before you plug in electrical equipment, make sure that the cords are not damaged. Keep cords away from all hot surfaces.
- 10) Know your laboratory's location for the fire extinguisher, eye wash, and shower.
- 11) Wear closed-toe shoes and appropriate clothing that covers the student from neck (including shoulders) to below the knees. Jeans with any holes from the knee up are not allowed.
- 12) Keep long hair tied back at all times.
- 13) Consult the lab procedure for handling waste chemicals.
- 14) You are responsible for cleaning the equipment you use as well as your lab workstation. If your work area is found messy after you/your group leaves, points may be deducted from your lab report for that lab period.
- 15) You must wash your hands with soap and water and wipe your lab bench down with a damp paper towel after every lab.
- 16) Report any personal injury, no matter how slight, to your laboratory instructor.
- 17) Always read your laboratory exercise completely prior to lab. Be aware that an unprepared worker is an unsafe worker.
- 18) Upon request, we can provide a list of chemicals used for the semester, as well as the SDS reports.
- 19) No food or drinks are allowed in the laboratory room at any time.

**Chemistry Department Policies**

- 1) All students who miss the first lab meeting will be **dropped** from the roster.
- 2) All lab students must complete their safety training **before** performing any experiments.
- 3) You are expected to **be on time** for lab. Students who do not show up on time, miss any part of the safety discussion for an experiment, or are rude, disrespectful, or disruptive to the instructor or other students may be removed from the lab at the instructor's discretion.
- 4) Student lab **grades will be reduced** by 10% for not having a paper copy of the lab handout/report sheet.
- 5) Students will not be allowed to perform the lab without **approved** goggles, closed-toe shoes, and without clothing that covers the student from neck (including shoulders) to below the knees. These students must make-up the lab. It is the student's responsibility to arrange a make-up lab at another time. A locked drawer will be provided for each lab session to store goggles for the semester.
- 6) **Lab make-up** is at the discretion of the instructor and depends on available space. Make-up is allowed during regularly scheduled lab sections and only during the days that it shows on your schedule. The lab schedule is posted on the chemistry web site. No more than **two labs** may be made up. Note: If your lab has only one section or is at the end of the lab week, you may not be able to make up lab. A make-up form needs to be completed and signed by the make-up lab instructor in order to receive credit for completing the lab make-up. Your previous lab report is still due during your normally scheduled lab period. Making up a lab later in the week does not change the original due date of your lab report. It is the student's responsibility to turn their lab report in to their own instructor on time or late points may be deducted from their lab report grade. Be sure to have the secretary or an instructor time and date stamp your lab report. They will turn your report into your instructor's mailbox.
- 7) If you **miss more than 2 labs**, without making them up, you will receive a W for the semester.
- 8) Students who **withdraw from the lecture** within the first 10 weeks must also withdraw from the lab.
- 9) If you do not turn in the lab report before you leave, obtain the **instructor's initials on your data** sheet before leaving the lab.
- 10) Students must always turn in **individual lab reports** even when working in pairs on a lab procedure, except for group lab reports. Your report should be in your own words and not copied from your lab partner. If any part of the report is copied it may result in a zero for the report and/or an F for the course.
- 11) During the semester you will be charged if you break any of the **special equipment**. Your instructor will inform you of the replacement costs and the procedure to follow for payment.
- 12) Arizona Statute ARS15-151 specifies that every student, teacher, and visitor in public and private schools, community colleges, and universities shall wear appropriate eye protective wear while participating in or when observing vocation, technical, industrial arts, art or laboratory science activities involving exposure to: molten metal or other molten materials, cutting, shaping and grinding of materials, heat treatment, tempering or kiln firing of any metal or other materials, welding fabrication processes, explosive materials, caustic solutions, radioactive materials.