

Chemistry 130 (Section 11472) – Fundamental Chemistry Lecture Syllabus

Glendale Community College, North Campus

Spring 2020

Instructor Information

- Instructor: Dr. Dana Perry
- Office Location: Classroom (D 124) or D 109, North Campus
- Office Hours: by appointment
- Email: dana.perry@gccaz.edu (best way to contact me!)
- Phone: 623-888-7190 (North Campus, D 110 Secretary)
- Websites: <http://web.gccaz.edu/~kimld88531/chm130lec.htm> (Departmental course website)
<https://learn.maricopa.edu/login/ldap> (Canvas)

Course Information

- Course format: Face-to-Face
- Credit hours: 3.0
- Classroom location: D 124, North Campus
- Course days and times: MW 10:00am – 11:15am
- Exceptions: Holidays as marked on Course Schedule
- Instructional Contact Hours & Out-of-Class Student Work: For this 3.0 credit hour course, you should plan to spend at least 3.0 hours on course content or seat time (direct instruction) and 6.0 hours on out-of-class student work weekly.
- Final Exam day and time: Wednesday, May 6, 2020, 10:00am – 11:50am, in D 124
- Tutoring website: <http://www2.gccaz.edu/academics/departments/chemistry/tutoring>

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. Designed to meet needs of students in such diverse areas as agriculture, nursing, home economics, physical education and water technology.

Prerequisites: Grade of C or better in [CHM090 or MAT090 or MAT091 or MAT092 or MAT093 or (MAT103AA and MAT103AB) or higher or satisfactory score on math placement] and [RDG100 or higher or eligibility for CRE101 as indicated by reading placement], or permission of the Instructor, or Department or Division Chair.

It is highly recommended to take Chm 130LL, the laboratory experience in support of Chm 130.

**Course Competencies** (<https://aztransmac2.asu.edu/cgi-bin/WebObjects/acres.woa/wa/freeForm2?id=99575>)

1. Define "chemistry" and describe its main branches. (I)
2. Describe the relationships between matter and energy. (II)
3. Distinguish between physical and chemical properties and changes. (II)
4. Interpret symbols and formulas in terms of numbers and kinds of atoms. (II)
5. Describe the physical states of matter with the aid of the Kinetic Molecular theory. (II, IX)
6. Classify matter as elements, compounds, or mixtures. (II)
7. Describe the properties of metallic and non-metallic elements. (II)
8. Use the Unit-Factor Method in solving chemistry-related problems. (III)
9. Name and write formulas for simple inorganic compounds. (IV, VII)
10. Describe the relationship between the outer electronic structure of atoms and their chemical properties. (V)
11. Use the Periodic Table to estimate the properties of elements and compounds. (V)
12. Characterize the fundamental particles comprising the atom with respect to charge and mass. (V)
13. State the number of protons, electrons, and neutrons in any given isotope, neutral or charged. (V)
14. Use the Periodic Table in predicting the number of electrons, formula for a compound, and metallic or nonmetallic characteristics. (V)
15. Draw a Lewis structure (electron dot) for a given ion or compound. (VI)
16. State the type of intermolecular force that exists for a given substance. (VI)
17. Describe the properties of ionic and covalent compounds. (VI)
18. Describe the shape and polarity of simple molecules. (VI)
19. Complete and balance simple chemical equations. (VIII)
20. Solve elementary stoichiometry problems. (VIII)
21. Classify a reaction as endothermic or exothermic. (VIII)
22. List the factors affecting the rate of a reaction. (VIII)
23. Describe the chemical and physical properties of water. (IX)
24. Describe the properties of solutions. (X)
25. Identify substances as electrolytes or nonelectrolytes. (X)
26. Classify substances as acids, bases, or salts. (XI)
27. Explain the behavior of buffer systems. (XI)
28. Define the pH scale of measuring the relative acidity of solutions. (XI)
29. Define and identify redox reaction as exemplified by single replacement and combustion reactions. (XII)

Textbooks, Materials, and Technologies

- 1) The textbook for this course is a departmental Open Educational Resource (OER) textbook. It is available electronically at <http://web.gccaz.edu/~kimld88531/rev130.htm>.
- 2) A non-programmable scientific calculator that has a SCI, EXP, or EE button; TI-30Xa and TI-30X IIS are suitable models. Programmable, graphing calculators are not allowed on exams.
- 3) Canvas: <https://learn.maricopa.edu/login>
Course grades, homework, course documents, communication.
- 4) Chemistry Department Chm 130 webpage: <http://web.gccaz.edu/~kimld88531/chm130lec.htm>
Really helpful information: textbook, worksheets, videos
The Homeworks shown on this webpage **DO NOT apply to this section of Chm 130.**

**Grading Standards and Practices**

Grades in this course will be based on Canvas homework assignments, in-class quizzes, exams, and class participation as follows. There is no individual extra credit in this course. Personal, emergency situations regarding grades will be addressed on an individual basis.

1) Canvas homework (best 12 @ 10 pts)	120 pts	<u>Grading Scale (rounding rules apply):</u>
2) In-class quizzes (best 10 @ 10 pts)	100 pts	A = 90 – 100%
3) Unit exams (4 @ 75 pts)	300 pts	B = 80 – 89%
4) Final exam (comprehensive)	120 pts	C = 70 – 79%
5) <u>Class participation</u>	<u>10 pts</u>	D = 60 – 69%
Total	650 pts	F = less than 60%

- 1) Homework assignments will be given in Canvas for each chapter, approximately weekly; due dates are shown in Canvas. There will be at least 14 assignments, but only the top 12 scores will be counted. Work completed after the due date/time is not counted in the course score; late work is not accepted.
- 2) Quizzes will be given in class approximately weekly (sometimes twice a week) and will be announced in the class period before the quiz; quiz dates on Canvas are tentative. There will be at least 11 quizzes, but only the top 10 scores will be counted. Make-up and early quizzes are not available. If you arrive to class too late (as determined by the instructor) on a quiz day, you may not be allowed to take the quiz. You may take a quiz on the same day in the 8:30am Chm 130 class.
- 3) Dates for the 4 unit exams are on the Course Schedule and Canvas. At the end of the semester, the lowest exam score will be replaced by the average exam score; only one low exam score will be replaced. Make-up and early exams are not available. If you arrive to class after 10:15am on an exam day, you may not be allowed to take the exam. You may take an exam on the same day in the 8:30am Chm 130 class. For all exams, students are asked to remain in the classroom until they turn in their exam.
- 4) The Final Exam will be on Wednesday, May 6, 2020, 10:00am – 11:50am, in D 124. It is a departmental, multiple-choice exam. The final exam score may not be dropped or replaced with another exam score. You must take the final exam in order to pass the class (A – C letter grade). If you arrive to class after 10:45am on the final exam day, you may not be allowed to take the exam. You may take the final exam on the same day in the 8:30am Chm 130 class. Personal, emergency situations regarding taking the final exam will be addressed on an individual basis.
- 5) Class participation includes a) on-time attendance and b) course involvement. Beginning Wednesday, January 15, 2020, through the last day of class (April 29, 2020), the percent of your attendance and involvement will be normalized to 10 points. Examples of satisfactory class participation include on-time arrival, paying attention to the course work, remaining in the classroom throughout the class time, doing the assigned work, etc. You may attend the 8:30am Chm 130 class on the same day.

**Attendance and Withdrawal Requirements**

Attendance will be taken during every class session. Absent students are still responsible for all material covered during the absence. Please communicate with me about your absences. You may attend the 8:30am Chm 130 class on the same day. Personal, emergency situations regarding absences and withdrawals will be addressed on an individual basis.

It is the responsibility of the student to drop the course on their own before the deadlines for student withdrawal:

- I) February 28, 2020 – Last day for students to withdraw (W) without instructor's signature.
- II) April 23, 2020 – Last day for students to withdraw (W or Y*) with instructor's signature. After this date, students will receive A-F grades.

Even though it is the responsibility of the student to drop the course before the deadlines for student withdrawal stated above, the instructor will "clean up" the class roster on three dates:

- I) February 24, 2020 - students with a total of 4 or more consecutive absences on this date may be assigned a W, unless student and instructor make other arrangements.
- II) March 27, 2020 - students with a total of 4 or more consecutive absences on this date may be assigned a W or a Y*, unless student and instructor make other arrangements. Students withdrawn from the course on or before this date will also be withdrawn from the Chm 130LL lab.
- III) April 23, 2020 - students with a total of 4 or more consecutive absences on this date may be assigned a W or a Y*, unless student and instructor make other arrangements. Students enrolled in the course after April 23, 2020, will receive an A-F grade.

*W vs Y: Students may receive a grade of W if the current course average is greater than 60%, or students may receive a Y if the current course average is less than 60%.

Chm 130LL: If you withdraw or are withdrawn from the CHM 130 lecture on or before March 27, 2020, you need to also withdraw or will be withdrawn from the lab, CHM 130LL.

Chemistry Department Policy: It is the responsibility of the student to drop the course before the deadline for student-initiated withdrawal. Students should use the Student Information System (SIS) to withdraw from the course. The instructor may drop a student for excessive absences (as defined by the instructor) with a grade of W or Y, depending on course grade at time of withdrawal. After the deadline specified in the current GCC course schedule, you will need instructor approval to withdraw. If approved for withdrawal, students receive a grade of "W" if the current course average is 60% or better, or a "Y" if the current course average is less than 60%. Students may not withdraw during the last two weeks of the semester; an A-F grade will be assigned. Contact your instructor if you wish to remain in the lecture course with a failing grade and receive a "W" (the instructor will evaluate the appropriateness of each situation on a case-by-case basis). Note: A grade of "Y" counts as an "F" in your GPA until the class is retaken and a higher grade is earned. If you require a letter grade because of financial aid, you must continue to attend class.

**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 (A-138, Main Campus, or in the C (Student Services) Building, North Campus. DRS phone number: (623) 845-3080. DRS email drsfrontdesk@gccaz.edu. DRS Webpage: <http://www2.gccaz.edu/disability-services>.)

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.

Instructor Expectations**Classroom Courtesy**

- 1) On-time attendance is expected at all class sessions; refrain from leaving the classroom until class ends. During quizzes and exams, students must remain in the classroom until they turn in their quiz or exam.
- 2) Please refrain from talking while others are talking to the class and during quizzes and exams.
- 3) Please put away and turn off/mute cell phones and personal electronics; no headphones/earbuds.
- 4) Please have all personal electronics (phones, watches, etc) off your person during quizzes and exams.
- 5) Work is to be turned in on the assigned due date; late work is not counted.
- 6) Possession of drugs, alcohol or firearms on college property is illegal.
- 7) Students creating disturbances interfering with the class or the learning of others will be asked to leave.

Academic Integrity and Student Responsibility

Violations of scholastic ethics are considered serious offenses by Glendale Community College, the Chemistry Department and by your instructor. Students may consult the GCC Student Handbook at <http://www2.gccaz.edu/student-life/office-student-life/student-handbook>. Students caught cheating will receive a grade of zero on the assignment. Repeat offences will be cause for failing the course. If you believe cheating is occurring, please let me know. Students 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>

**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>.

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:

- a) 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>
- b) Chemistry department website: No Terms of Use, Privacy Policy, or Accessibility Statements listed; use at your own risk.
- c) MCCD Technology Resource Standards: <https://district.maricopa.edu/regulations/admin-regs/section-4/4-4>



Course Schedule

Week of	Topic	Notes	Corresponding Lab
Jan 13	Course Introduction Ch 1 States & Composition of Matter Ch 1 Online: 1.1, 1.2, 1.5		MUST attend lab this week or get dropped (Mon: Safety Training)
Jan 20	Ch 2 Significant Figures	Monday holiday	Safety Training (No Monday Lab)
Jan 27	Ch 2 Sci Notation, Percent Ch 3 Metric System; Unit Analysis Ch 3 Online: 3.6, 3.9		States of Matter
Feb 3	Ch 4 Atomic Structure, Notation		Chemical & Physical Changes
Feb 10	Exam 1 (Ch 1 – 4) Monday, February 10 Ch 5 Atomic Structure: Electrons (Online: 5.1)		Metric System (Mon: Density also)
Feb 17	Ch 5 Electron Structure on Periodic Table, Ions Ch 6 Online: All Sections	Monday holiday	Density (work alone) (No Monday Lab)
Feb 24	Ch 7 Covalent Bonding	Feb 24 Roster Clean 1; Feb 28 last day for W without instructor sig	Heat and Energy
Mar 2	Ch 8 Ionic Nomenclature		Molecular Models
Mar 9	<i>Spring Break</i>		
Mar 16	Ch 9 Online: 9.1 – 9.6 Ch 9 Electrolytes Exam 2 (Ch 5 – 8) Wednesday, March 18		pH of Household Items
Mar 23	Ch 10 Chemical Reactions Ch 11 Online: All sections	Mar 27 Roster Clean 2; must withdraw from lab if withdraw from lecture	Electrolytes
Mar 30	Ch 12 Mole Calculations		Chemical Reactions
Apr 6	Exam 3 (Ch 9 - 12) Monday, April 6 Ch 13 Stoichiometry		Reactivity of Metals
Apr 13	Ch 15 Solution Calculations and Concepts		Double Replace Rxns
Apr 20	Ch 14 Intermolecular Forces	April 23 Roster Clean 3; last day for W or Y with instructor sig	Vinegar Titration (work alone)
Apr 27	Exam 4 (Ch 13 - 15) Monday, April 27 Review	No W or Y after April 23 (A-F only)	Lab Final Exam (optional for some)
May 4	Final Exam (Cumulative) Wednesday, May 6, 2020, 10:00 - 11:50am		No lab

Chapter numbers based on the departmental Open Educational Resource (OER) textbook, available electronically at <http://web.gccaz.edu/~kimld88531/rev130.htm>.

“Online” = You are responsible for that material in the OER textbook, but it will not be covered in class.

Please note that the information contained in this schedule may be changed at the instructor’s discretion (although I try not to!). Such changes will be announced orally and in writing.