

# CHM 130 Fundamental Chemistry Lecture Syllabus

Glendale Community College Main Campus, Spring 2020, section 11409

Prerequisites: A grade of C or better in [CHM090 or MAT090 or MAT091 or MAT092 or (MAT103AA and MAT103AB) or higher or satisfactory score on math placement exam] and [RDG091 or higher or eligibility for CRE101 as indicated by appropriate reading placement test score].

## Instructor Information

- Instructor: Dr. Debra Arford
- Course Coordinator's (Dr. Kim Smith) Office: PS 118
- Department Secretary's **Phone**: (623) 845-3675
- Email: [debra.arford@gccaz.edu](mailto:debra.arford@gccaz.edu)
- Website: <http://web.gccaz.edu/~kimld88531/chm130lec.htm>

## Course Information

- Course format: Face-to-Face
- Credit hours: 3.0
- Classroom location: PS 148
- Course days and times: Saturday 8:00-10:45 am
- Exceptions: Holidays as marked on Schedule Grid
- 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: Saturday, May 2, 2020**
- Tutoring occurs daily, 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.

## 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)

Note: Your instructor will make every attempt to follow the following procedures and schedule, but they may be changed in the event of extenuating circumstances. Changes will be announced.

## Textbooks, Materials and Technologies

Required Materials: Text Book is online at <http://web.gccaz.edu/~kimld88531/rev130.htm>

Course Web Site is at <http://web.gccaz.edu/~kimld88531/chm130lec.htm>

Calculator, non-graphing, non-programmable is required such as a TI-30XA or TI-30XIIS

## Attendance Requirements

Attendance in lecture is mandatory and necessary for adequate performance in the class. Instruction begins on the first day of class. If you are absent, you are still responsible for all material covered during your absence. If you are absent 6 times in a 3-day per week class, 4 times in a 2-day per week class, or 2 times in a 1-day per week class without contacting me you will be withdrawn from the course with a W grade.

Attendance is essential to achieving course objectives. You are expected to attend all class sessions. "Sessions" in a hybrid class include any scheduled chats, quizzes, online discussions or other planned activity. Attendance is also measured by your activity in class and online. You should plan to participate at least 3 days per week. Should

you miss more than 2 face to face sessions, you may be withdrawn for excessive absences. If you withdraw from the CHM 130 lecture in the first 10 weeks of class you MUST also withdraw from the CHM 130 lab.

#### Withdrawals

I will withdraw anyone who misses 6 days in a 3-day per week class, 4 days in a 2-day per week class, or 2 days in a 1-day per week class without talking with me. Grades of "I" are given only under extreme circumstances if the student request so in writing, meets with the instructor, and the instructor approves the situation before the final exam. Students who take the final exam are not eligible to receive a "W."

It is the responsibility of the student to drop the course before the deadline for student-initiated withdrawal. Students should contact their instructor to be withdrawn. 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." 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" may be given if caught cheating as counts as an "F" in your GPA forever. If you require a letter grade because of financial aid, you must continue to attend class.

## Grading Standards & Practices

Letter Grade and Percent Range	Your grade will be determined as follows:
A 90-100%	Homework– 20%
B 80-89%	Quizzes – 20%
C 70-79%	Exams - 40%
D 60-69%	Final Exam - 20%
F 0-59%	

**Home Works** - Home Works are assignments completed outside of class. They will be posted on the website. You may use your textbook.

**Quizzes** - Quizzes are announced class assignments worked on individually without any external help other than a calculator. You may use the Periodic Table if needed. If you miss a quiz, you may make it up without penalty if excused. If not excused, you will receive a zero for that quiz.

**Exams and Final** - Exams are individual effort. Exams will take 50 minutes minimum and consist of multiple choice and short answer type questions. You may not use your book, notes or other material during the exams except a non-programmable, non-graphing calculator. Your exams will be averaged and count as 40% of your final grade. The Final Exam will be similar to other exams except it will be comprehensive, only multiple-choice, and it will count as 20% of your final grade. Cell phones must be off during exams and put away. If you miss an exam, the same score as your final exam will replace it if instructor approved.

**Excused Absences** - Absences are excused for the following reasons if properly documented in writing: illness such that a medical doctor or ER was visited, death in the immediate family, approved GCC travel, a child that you care for is ill, or transportation to the class was impossible due to a car accident. Absences are not excused if there is no documentation. Notes from parents are not acceptable. It is up to YOU to contact me regarding absences, to check if you missed an assignment, a quiz or important announcement, and to see what we covered in class.

## Late Work / Make-Up Exams

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. Incomplete assignments will not be graded. Assignments may be turned in early, but I do not accept them late without giving *prior approval* for work to be turned in late.

Make-Up Exams: You must take exams during their scheduled time. A missed exam will receive a grade of zero. If you know ahead of time you will miss an exam you may take it early. You may not take an exam after the class takes the exam. The final exam score may replace one missed exam score with instructor approval. You may only make up **one** exam.

Remember, one missed assignment or exam may lower your grade but will not cause you to fail. If your work is incomplete or late, or you must miss an exam for whatever reason (stuck at work, sick, emergency at home, etc.), these are the consequences. For best results, plan ahead, keep up with your coursework, attend class regularly and promptly communicate with your instructor about any issues impacting your academic performance.

## Instructor Expectations

### 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 responsible for knowledge of the material in the GCC Student Handbook and Catalog.

### Classroom Behavior

Possession of drugs, alcohol or firearms on college property is illegal. Cell phones, music players, ipods and PDAs must be turned off during class time. During exams, these devices may not be out at all. Students creating disturbances that interfere with the conduct of the class or the learning of others will be asked to leave. Students should be aware of the academic catalog: <http://www2.gccaz.edu/gcc-catalog>

**Course Outline**

<b>CHM 130 Tentative Class Schedule</b>			
Dates	Topic	Notes	Corresponding Lab
Jan 11-17	Welcome Chapter 1-Matter		MUST attend lab this week or get dropped
Jan 18-24	Chapter 2-Math Skills Chapter 3-Metric units and conversions	<i>Monday Holiday</i>	MUST attend safety training, Safety
Jan 25-31	Chapter 4-Atoms		States of Matter
Feb 1-7	Chapter 5-Atomic Structure		Chemical & Physical changes
Feb 8-14	<b>Exam I (Ch. 1-4)</b> Chapter 6-Periodic Table		Metric System
Feb 15-21	Chapter 7-Chemical Bonding	<i>Monday Holiday</i>	Density
Feb 22-28	Chapter 8-Nomenclature	<i>Feb 28 Last Day to Withdraw yourself</i>	Heat and Energy
Feb 29-Mar 6	Chapter 9-Acids and Bases		Molecular Models
Mar 7 Mar 16-20	Chapter 10-Chemical Reactions	<i>Spring Break is March 9-15</i>	pH of common items
Mar 21-27	<b>Exam II (Ch. 5-9)</b> Chapter 11-Equilibrium Chapter 12-The Mole	<i>Mar 27 Must drop lab if dropped lecture</i>	Electrolytes
Mar 28-Apr 3	Chapter 13-Stoichiometry		Chemical Reactions
Apr 4-10	Chapter 14-IMF		Reactivity of Metals
Apr 11-17	Chapter 15-Solutions		Double Replacement
Apr 18-24	Chapter 16-Gases (optional)	<i>Apr 20 Last day to ask for a W</i>	Vinegar Titration
Apr 25-May 1	<b>Exam III (Ch. 10-15)</b> Review for Final		Lab finals
May 2-7	Lecture Final Exams times TBA		No lab

## Course Technology Information

### General Statement for Use of Web-Based Third-Party Tools and/or Canvas Learning Tool Integrations

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, you 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>

**Proctored / Monitored Exams** This course requires proctored/monitored exams.

### 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](#). You are expected to know the information in this syllabus.

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

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

### 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 MCCCDC 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.

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

In accordance with Title IX of the Education Amendments of 1972, MCCCDC 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. MCCCDC 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>.

Students should report any discrimination and/or harassment they experience and/or observe to the [GCC Office of Student Life](#) in the Student Union. Phone (623) 845-3525 or email [miguel.lucas@gccaz.edu](mailto:miguel.lucas@gccaz.edu).

To view the full Sexual Harassment Policy refer to the Student Handbook, [Sexual Harassment Policy for Students \(AR 2.4.4\)](#) (see also 5.1.8)