**Detailed Course Information**

**Professor:** Kamran Golestaneh, Chemistry, Dept., Mt San Antonio College, Office location: 61-1614

**Course:** General Chemistry I (Chem 50, hybrid online)

***Course format: This course is a hybrid online course. We do NOT meet in person for lecture sessions (asynchronous mode). We meet in person for laboratory sessions (synchronous). The online portion of the course is organized into weekly modules that will show up on your Canvas course on a weekly basis. You are expected to visit and complete each module during the week and complete and submit the module assignments according to their Canvas due dates. You must attend the laboratory in person. Unexcused lab absences will cause a grade of zero for the missed lab work.***

Course Information (CRN, lab times)

| **Course** | **Lab* time (location)** |
|---|---|
| Chem 50<br>CRN 43992 | Fridays: 11:30-2:40 pm and 3:00-6:10 pm (60-3617) |

***Note: You are expected to attend the lab sessions in person.**

**Instructor Office Hours & Contact Information**

**Office times & location**

Zoom: Wed (1-3), Thursday (2-3:30 pm)

On-Campus: Fri 7:30-8:00 am (60-3617),

**For my Zoom office time use:**

**Meeting ID: 843 080 4427**
**Passcode: 1234**

**or click on the link below during my zoom office hour:**

https://mtsac-edu.zoom.us/j/8430804427Links to an external site.

Please check out the different ways that you can contact me. **The easiest method is contact me via your Canvas Inbox email.** Please expect a response time of 24-48 hours. Avoid time sensitive emails.

**Note: Due to security concerns students are advised not to share personal contact information (ex. phone, email, etc.) with other students. You can communicate with other students using your Canvas Inbox email.**

**Regular and Substantive Interactions (RSI)**

**Regular (weekly) Student-Student Interactions**

**All students enrolled are expected to engage with each other on a regular basis through weekly Canvas discussion assignments. "Regular basis" means that each student should post one (1) new chemistry topic for discussion related to the module that is being covered for the week. For example, you can post a question related to a homework problem (you should state the question description and not just homework number!) or a topic from the textbook chapter you would feedback on. Next, each student is expected to reply to at least 1 topic posted by your classmate. Your reply should have content and not something like "I too am having problem with this topic". In other words, make your replies helpful to your classmates' understanding! Your instructor will facilitate these discussion activities by providing his input as means of guiding the discussion in a productive direction if it is not going in the right direction, and not just providing answers. The goal is for students to have meaningful and productive discussion with one another.**

**Instructor-Student Interactions**

**I will be contacting you for a number of reasons on a regular basis as follows. These measures are taken on my part to help you succeed in an online asynchronous course environment.**

- **Canvas Announcements (CAs) - I use this method at least once every 1-2 weeks to bring your attention to important course related matters in a time sensitive manner. It is *very important* that you enable Canvas announcement notifications on your smartphone to get my CAs in a timely manner.**
- **I will also use Canvas grading tools to inform you about your progress as it relates to grades and missing assignments. I will be using "Message Those Who ..." feature of Canvas to reach out to students who are missing their work and are not performing at a passing level.**

**Lab Attendance Policy**

**This is a hybrid online course. You are required to attend all lab sessions in person. The laboratory portion of the course is conducted in person. Lab starts at 8:00 am and students who do not sign in on the sign-in sheet provided by your instructor (before 8:00 am) will lose their attendance grade. You are not allowed to sign in for any other student.**

**If you arrive late to lab and miss a considerable amount of lab lecture (10 min), you will not be allowed to do the lab work causing a grade of zero for the missed experiment. If the late/absence incident is once or twice, and clearly beyond your control AND supported with a document (ex. doctor's note, police report, etc.) reasonable accommodations will be provided. If any student is frequently (more than twice) late and for longer than 10 minutes they may not be allowed to participate in the lab activity and lose lab credit for the experiment. You are expected to manage your schedule in a manner to attend all lab sessions on time and keep your schedule clear till the end of each lab session. If you miss more than 4 lab sessions (excused or not) for any reason prior to the "W" drop date (week 10), you will be dropped from the course. Beyond week 10's drop date, students who miss more than 4 lab sessions will receive a failing ("F") course grade.**

**Also please note that if your instructor observes that you fail to perform experiments safely or ignore safety instructions, you will be given a written notice for the first time and if such behavior is repeated, you will be prevented to do the lab work with a grade of zero for the missed experiment. This could happen due to a lack of preparation, distraction caused by your cell phone, lack of concentration, etc..**

**Course Requirements**

- **Computer:** You should have access to a computer (laptop or desktop) and reliable internet service. **This course can not be completed without computer and a reliable internet access**. Be sure to use Chrome or Firefox browsers (Internet Explorer is **not** recommended). Your computer should also be equipped with a speaker and microphone device (or headphones) in order to attend the instructor's office hour held via Zoom.
- **Textbook: Chemistry, A Molecular Approach by Nivaldo J. Tro (author), Pearson Education Publishers. Please purchase the 5$^{th}$ (2019) edition: ISBN13: 978-0134874371. Mt SAC bookstore may offer the 6$^{th}$ edition (2023). I recommend buying the 5$^{th}$ edition (essentially the same content), because is considerably cheaper at retailers such as Amazon.** You can purchase the hard copy of the digital format. If you must purchase the 6$^{th}$ edition from MtSAC bookstore talk to your instructor to obtain a list of chapter-by-chapter homework problems. There are variations between homework problems between the 5$^{th}$ and the 6$^{th}$ textbook editions. Again, my recommendation is to purchase the 5$^{th}$ edition which is much less expensive than the most current edition. If you happen to have an earlier textbook edition please talk to your instructor as you may be able to use it. Your instructor will be assigning homework out of the 5$^{th}$ edition's end-of-chapter exercises and <u>will not</u> be using an online homework system. Please shop around (Amazon. etc.) for best prices.
- **Lab Manual: *Each experiment/activity's pdf file will be posted on the instructor's Canvas course.* Students are expected to print these pages and bring them to each scheduled lab session.**
- **Chemical Safety:** You are **required** to purchase and wear an appropriate **eye protection** (chemical goggles) and a **lab coat** as well as closed-toe **shoes that cover your entire feet. Sandals are not acceptable** during the in-person lab meetings. Lab coat and goggles are sold at Mt SAC bookstore but you can purchase them from other retailers such as Amazon. Your lab coat should cover your arms and extend to your knees. Chemical safety goggles should provide coverage of the sides and lower section of eyes. If you wear prescription glasses you must purchase goggles that fit comfortably over your glasses. "Shop style" Safety glasses are not approved for chemistry labs. No food or drinks should be consumed in lab. Your food and drink should be secured in your backpack and placed inside the cubby holes.
- **Purchase a student Laboratory Research Notebook (50 or 100 pages) from Mt SAC bookstore.**
- Fine Ball Point pen (black) for lab data recording in your laboratory notebook

- Your assigned homework should be hand written neatly on 8.5x11 sheets of paper. Use the format posted on *net* (2-page double-sided stapled and listing the problems included on space provided on top). Disorganized work does not receive any credit.
- Scientific Calculator
- USB flash memory for saving your computer files in lab

**Course Description**

**CHEM 50 - General Chemistry I**

**(From Mt SAC Catalog)**

**5 Units** (Degree Applicable, CSU, UC, C-ID #: CHEM 110, CHEM120S(50+51))
UC Credit Limitation
Lecture: 54 Lab: 108
Prerequisite: CHEM 40 or satisfactory score on Chemistry Placement Examination;
and MATH 71 or MATH 71B or MATH 71X or equivalent.

General Chemistry topics including chemical formulas, equations, nomenclature, reactions, stoichiometry, thermochemistry, periodic trends, atomic structure, chemical bonding and structure, and properties of gases, liquids, solids, and solutions. Emphasis is on critical thinking as well as mathematical and dimensional analysis problem-solving. Laboratory experiments emphasize the scientific method as well as computer-based technologies in data acquisition and analysis. Introduces laboratory report writing skills.

**Course Measurable Objectives (CMOs)**

The overall Course Measurable Objectives (CMO) as listed in Mt SAC's WebCMS include:

- (Source: http://webcms10.mtsac.edu/)

    1. Solve algebraic equations and use dimensional analysis in unit conversions and problem solving.
    2. Differentiate between chemical and physical properties of elements, compounds and mixtures.
    3. Describe atomic structure theories and account for the trends observed in the periodic table of elements.
    4. Apply nomenclature rules to write chemical names and formulas of inorganic and simple organic compounds and functional groups.
    5. Classify and predict products of chemical reactions and balance chemical equations.
    6. Determine empirical and molecular formulas from relevant experimental data.
    7. Calculate quantities of reactants and products using stoichiometric principles.
    8. Describe the behavior and properties of gases and apply gas laws to solve problems.
    9. Analyze thermochemical processes and calculate associated energy changes.
    10. Apply quantum theory to explain and predict properties and behavior of

electrons.
11. Draw Lewis structures including resonance and apply formal charges.
12. Predict molecular shape, polarity, and hybridization using valence shell electron pair repulsion and valence bond theories.
13. Analyze intermolecular forces and predict physical properties of solids, liquids and gases.
14. Determine solution properties and concentrations including colligative properties.
15. Demonstrate proper and safe laboratory techniques, record observations, collect and analyze data, and form conclusions by performing both qualitative and quantitative experiments that support lecture topics.
16. Conduct research, experimentation and data analysis.
17. Organize and display results in class presentations.

**Student Learning Outcomes (SLOs)**

- Chem 50 students will be able to demonstrate an understanding of solution chemistry such as calculating molarity, making dilutions, and performing stoichiometric calculations.
- 50 students will be able to demonstrate an understanding of oxidation-reduction (redox) chemistry such as calculating oxidation numbers, identifying a redox reaction, finding oxidizing and reducing agents, and recognizing oxidation and reduction half-reactions of a redox reaction.
- Students completing relevant assignments in Area B courses will evaluate the impact of science on their daily lives
- Chem 50 students will be able to demonstrate an understanding of oxidation-reduction concepts, such as: a. Determining oxidation numbers b. Identifying redox reactions c. Determining the oxidizing and reducing agents in a chemical reaction d. Classifying half-reactions as oxidation or reduction
- Chem 50 students will be able to demonstrate an understanding of solution chemistry such as: a. calculating molarity b. making dilutions c. performing stoichiometric calculations.
- Students completing relevant assignments in Area B courses will evaluate the impact of science on their daily lives. This assessment deals with dilutions.
- Chem 50 students will be able to demonstrate an understanding of solution chemistry such as: a. calculating molarity b. making dilutions c. performing stoichiometric calculations.
- Chem 50 students will be able to demonstrate an understanding of stoichiometric principles, such as: a. Mole-to-mole conversions b. Mole-to-mass conversions c. Mass-to-mass conversions d. Identifying limiting reactant e. Calculating the theoretical yield f. Calculating the amount of excess reactant
- Chem 50 students will be able to demonstrate an understanding of oxidation-reduction concepts, such as: a. Determining oxidation numbers b. Identifying redox reactions c.

Determining the oxidizing and reducing agents in a chemical reaction d. Classifying half-reactions as oxidation or reduction

For more info and to view the SLOs for this or any course to to Mt SAC's Outcomes Page

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**Policies & Expectations**

**Format:** This is an online hybrid course which means that you are expected to attend the laboratory in person. You are expected to engage with this course asynchronously on a weekly, regular and frequent basis with the online course modules that are posted on Canvas weekly. Your midterm exams will be administered **in person** during scheduled lab sessions in a format determined by your instructor (free-response, multiple-choice or a combination of both). Quizzes (aka module assessments) are posted on Canvas and you are expected to take and submit your quiz **at least 5 minutes before due date**. **Never risk submitting a quiz or assignment within minutes of due date because your work may be rejected if there is too much submission traffic on Canvas**. Generally, you are expected to observe Canvas due dates for all assessments and assignments (homework, lab reports, etc.). Please **set up your digital devices (smartphone, etc.) for Canvas notifications which includes instructor emails**. These emails are important and may spare you a trip to campus if for some urgent reason class session is held through Zoom or canceled.

**Online Presence:** An important course requirement is your **effective online presence**, as this is a hybrid online course and not a correspondence course. It is expected that you demonstrate effective online presence and engage with your classmates through posted discussions.

**ACCESS Course Accommodations**

**(Americans with Disabilities Act Information)**

If you have special conditions as addressed by the Americans with Disabilities Act and need accommodations you should notify the instructor during the first week of class and notify Accessibility Resource Centers for Students (ACCESS) immediately. ACCESS can be contacted at 909-274-4290 and is located in Bldg 9B. Reasonable efforts will be made to accommodate your needs.

**Plagiarism, Cheating & Academic Honesty**

Plagiarism is copying another person's work, statements or ideas, in part or fully, and claiming them or presenting them in your work **without giving the original author proper credit.** This includes copying contents from Internet. Cheating includes using work from another class to complete assignments in this class or copying from another student in which case all parties involved will be negatively impacted and penalized. Cheating also includes use of textbooks, notes, and other materials while taking an exam where such resources are not authorized. **Plagiarism and cheating will not be tolerated**. Penalties range from receiving a zero (0) on the assignment to being dropped from the course depending on the severity of the incident(s) as determined by your instructor. Such matters are also reported to the office of Student Life or Student Services and the VP of Instruction on a case-by-case basis. Students are expected not to share their work with one another unless

specifically authorized by your instructor in writing (email). Please do not hesitate to ask questions for clarifications.

**Classroom Conduct/"Netiquette"**

Students in this class will have a variety of ages, backgrounds, capabilities, interests, and levels of preparation. In addition, it is recognized that students in this class will possess a variety of learning styles. You are expected to maintain a level of scholarly behavior equal to that of an adult college student. Students enrolled in this class are assumed to be responsible, mature adults, willing to invest the necessary time to succeed in the class. No comment shall be made as to another student's ability, character, or performance. An atmosphere of openness, acceptance, and support will be maintained.

**Netiquette**, or **network etiquette**, refers to the guidelines and recommended practices for online communications. In a nutshell, it is the etiquette for the Internet, and should be used for all class communication for the course: email, chatting, blogging, discussion forums, messages, etc.

Even though this is an online course, students are expected to conduct themselves in a manner that is respectful and upholds a supportive, mutually beneficial learning environment.

Netiquette is the guideline for online behavior that facilitates the productive and thoughtful exchange of ideas. Some of the basic tenets of Netiquette include:

- **Be respectful**. Remember that you are communicating with actual people. Always be courteous and show respect, especially when there are differences of opinion. Remember the golden rule: treat others as you would like to be treated!
- **Think before you post**. Be aware of who may be able to view your posting, and how your post may be interpreted. Try to maintain a fair and objective tone.
- **Stay on topic**. Make sure your communication is related to the subject at hand and does not wander off-topic.
- **Write clearly**. Even though the online environment may seem more informal than your face-to-face class, this is still an academic course and intelligible: mature communication is expected. Correct spelling and grammar are required: proper composition and punctuation are expected. Communicate in full sentences and not just in words.
- **Use appropriate language and style**. Profanity or offensive wording will not be tolerated. You should avoid "loud" virtual expressions such as expressing ideas by using ALL CAPS letters and repeated punctuation (???? or !!!!) in your posts. Be respectable to your classmates.
- **Be considerate of others**. Do not make derogatory, condescending, or harassing remarks. Communication should be well-intentioned, well-articulated, and aimed at fostering a positive learning environment. Be aware of how sarcasm may be misinterpreted by your readers.
- **Allow for misunderstandings**. Keep in mind that writing often conveys the incorrect tone or intention, in the absence of nonverbal communication. You should make allowances. What

you may perceive as rudeness may be purely unintended making your consequential response totally unnecessary.

- **Cite your sources**. If you post work that is not your own, be sure to reference your sources.

**Grading Criteria**

Each work that you submit has a maximum point value. After I grade the work I enter your points earned into Canvas. Canvas converts your earned points by adding all points earned for each assignment (or assessment) category and divides it by the total possible points earnable (at that point in time), in order to calculate a parentage score for each category that I have defined in Canvas. Finally, Canvas uses the weighted average percentile calculation based on the percentages (that you see below) for each category and reports an overall percentage earned at that point in time. You should check your grades on a regular basis by clicking on the Grade tool bar of your Canvas menu. If you see any grade issues, you should email contact me and notify me within 1 week of posting a grade for your submitted assignment. Read my grade annotation comments that I note on your assignment to know where you lost your point(s). **Any work that is authorized for late submission will lose 20% of the total points (allotted for that work) on a per day basis.**

**Grade response time:** My response time to grade your submitted work is no later than 1 week after you submit your work. Typically, and for some assignments, it is much sooner than that.

**Quizzes or Module Assessments (10.0%)**

Module assessments (Quizzes) should be taken as scheduled on a weekly basis. Your grade will show in your gradebook as soon as you take the assessment. Each assessment is graded according to its specified points. If an assessment has more questions, it carries more grade weight. Module assessments cover chapter learning objectives as well as homework and lab concepts. **There will be no make-ups allowed for missing as assessment. Missed quizzes will get a zero.**

**Examinations: 4 Midterms (48%) + Mandatory Final (12%) =60.0%)**

There will be 4 in-person midterm exams during the lab session as scheduled. **Each midterm exam is worth 10.0% of your grade for a total of 40.0% of your course grade.** Final exam is cumulative in its coverage. The best way to study for your midterm exams is to review the concepts covered in homework problems. All exams are administered during the in-person laboratory periods as scheduled in your course schedule syllabus. Exams will be graded and entered in Canvas no later than 1 week after taking the exam. **There will be no make up exams allowed and all exams count toward your grade! If you happen to miss an exam due to a clear and documented emergency causing your absence, the average of other 3 midterm exams will replace the missed exam's score. You can not miss more than 1 exam** for any reason. If you do a score of zero will average into your exam grade.

**Homework (7.0%)**

Homework is a very important learning component of your course. Your homework should be handwritten with all the steps leading to the final answer(s) shown in an organized manner. Homework is graded for 70-80% completion of selected problems and its clear organization of

problems steps. **Late homework will not be accepted! All work should be submitted as 1 pdf file for grade consideration!**

**Discussions boards (3.0%)**

This category will be graded subjectively by your instructor based on the quality of your posted questions and responses to your classmates. You are expected to contribute to the quality of what you post and what you reply to.

**Laboratory, In-Person (20.0%)**

**Lab reports 10.0% (should be submitted as 1 pdf file!)**

**Lab Notebooks 1% (duplicate pages will be collected after each lab session!)**

**Prelab Assignments 3% (Should be submitted as 1 pdf file!)**

**Lab Final Exam (Mandatory) 5.0% (In-person during the lab session)**

**Lab Attendance 1%**

**Course Letter Grade**

**Important:** Canvas learning management system has a grade sheet feature which summarizes your grades on each graded category. To access this report, click on the "Grades" link of your Canvas toolbar. This report can be used to gauge your progress in the course.

A final letter grade will be assigned based on the following scale:

- A = 88.0-100%
- B = 78.0-87.9%
- C = 65.0-77.9%
- D = 55.0-64.9%
- F = 0-54.9%

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**Course Schedule**

Refer to the schedule provided and accessible from my Canvas home page. **This schedule is likely to get updated. Be sure to check out the revised version.**