



CHM1045C-17762 General Chemistry with Qualitative Analysis I  
Fall 2023

**Mixed Mode:**

**Class Online: Via Canvas**

**Laboratory: Wednesdays 10:00 a.m. – 12:45 p.m. on West Campus, Building AHS Room 304**

**Instructor: Dr. Eileen Pérez**



**Email:** eperez76@valenciacollege.edu or Canvas email.

I try to respond to emails within 24 hours during weekdays.

**Office phone:** 407-582-1236

I try to respond to phone messages left outside of office hours during my next scheduled time in AHS211.

**Office Hours:**

- Mondays: 9:30 am – 12:00 pm via Zoom by appointment\*.
- Tuesday: 1:00 pm – 2:15 pm in AHS211 and office phone (407-582-1236).
- Wednesdays: 1:00 pm – 3:30 pm in AHS211 and office phone (407-582-1236).
- Thursdays: 1:00 pm – 2:15 pm in AHS211 and office phone (407-582-1236).
- Fridays: 9:30 am – 12:00 pm via Zoom by appointment\*.

\*Schedule Zoom appointments through “Office Hours” link in Canvas. Minimum lead time to schedule appointment: two hours.

**COURSE INFORMATION:**

**Welcome!** I would like to share with you the excitement of chemistry and the joy of learning about it. It is the central science. You reap benefits from its advances every day through cosmetics and medicines, plastics, energy sources, and DNA fingerprinting, just to name a few. Chemistry has a tremendous impact in shaping our civilization. The study of chemistry can enrich your life by allowing you to have a better understanding of your body, mind, environment, and the universe.

CHM1045C receives 4-semester hours of letter grade credit. It is the first part of a two-semester sequence in General Chemistry. The course consists of two components: class and laboratory. We will study basic principles of chemistry including chemical reactivity, atomic structure, chemical bonding, molecular geometry, periodicity, stoichiometry, and kinetic-molecular treatment of gases. The laboratory illustrates principles discussed in class.

This course is mixed mode:

- The class portion is completely online. The class portion is organized by Weeks on the homepage in Canvas. The Weeks are links that contain the material for the class that you should work on during that week. Pace yourself so that you can complete the materials for each week during the assigned week. Try not to fall behind, it can be challenging to catch up.
- The lab portion is on campus. The Weeks on the homepage in Canvas have a section related to the lab.

Since this is a mixed mode course, it is imperative that you have a reliable computer equipped with webcam and microphone, as well as reliable internet access.

Major course learning outcomes:

- Student will apply the scientific method to solve chemistry problems.
- Student will relate and convert measurements and apply rules of significant figures.
- Student will describe matter and its physical and chemical properties.
- Student will correlate design of current periodic table to trends in physical and chemical properties of elements.
- Student will apply the rules of nomenclature to ionic compounds, covalent compounds, hydrates, acids, and bases.
- Student will predict the products in a chemical reactions and quantitative relationships among species involved in a reaction.

- Student will apply the relationship between temperature, energy, heat, and work to physical and chemical processes.
- Student will apply the empirical gas laws and Kinetic Molecular Theory to predict the properties of gases.
- Student will apply quantum mechanical theory to interpret and predict wave-particle properties.
- Student will apply the principles of atomic structure theory to observed chemical and physical properties.
- Student will examine the characteristics of chemical bonds.
- Student will predict the properties of molecules using bonding theories.
- Student will demonstrate safe laboratory practices.
- Student will employ essential lab techniques in laboratory setting.

### **PREREQUISITE:**

CHM1025C or one year of high school chemistry with a minimum grade of C, and MAC 1105 (College Algebra) or two years of high school algebra or an appropriate score on an approved mathematics assessment.

### **TEXTBOOK/MATERIALS:**

#### For Class:

- Textbook: [Chemistry 2e](#), OpenStax, Rice University, 2019. Free. Download or use on-line. If you prefer a hard copy, you can purchase it at the Valencia College Bookstore, West campus, for approximately \$58.00. You might also find it for a lower price from other vendors.
- Chapter Outlines and Videos - available via Canvas. These Videos and Outlines provide organization and direction as you go through the weekly material. You can print or download the Chapter Outline PDF or Word version. Use as you wish. There is no grade associated to them, nor will the professor see them.
- Honorlock – remote proctoring service that will monitor and record while you are taking the exams. Free. You will need:
  - Your [Valencia Student ID](#) card or your Florida Driver's license. To obtain a Valencia College student ID card, please visit a Valencia College Security Office on any campus (West campus: 1<sup>st</sup> floor in the SSB). It is free for the first one, \$5 for a replacement.
  - A webcam and a microphone. You will be remotely including your internet activity, attempted use of other devices and interactions with other people at your location. Canvas will also keep a record of your internet activity, including during the exam.

#### For Laboratory:

- [CHM1045C Lab Manual](#): Free, on Internet. Also accessible through the Week links in Canvas.
- Laboratory coat (must have long sleeves, fall below your knees; available in bookstore; approximate cost: \$28.00).
- Permanent ink black or blue pen.

#### For Both:

- A scientific calculator.

### **STUDY AIDS:**

- Me (Dr. Pérez) – I posted my office hours in Canvas as well as on the first page of this syllabus.
- Valencia's chemistry tutors – available in person as well as virtual. The link is on the Homepage in our Canvas course.
- Brainfuse 24/7 online tutoring and learning hub. The link is in the left toolbar in our course Canvas.
- Valencia College offers a variety of [Skill Shops](#) on a variety of topics that deal with student success, goals and purpose.

### **CANVAS AND EMAIL:**

In Canvas, you will find class and lab materials, email professor and other students in this course, grades, and announcements. You should check your Canvas email and your ATLAS email at least every other day (you can set Canvas emails to directly go ATLAS emails). You can also communicate with me via Canvas email.

## END OF CHAPTER PROBLEMS:

The learning experience provided by solving problems is essential to mastering the concepts and successfully completing this course. You should work on as many end-of-the-chapter problems that time allows you. The last section of the textbook and e-book includes the answers to the odd-number exercises. I have also included detailed answers for the exercises I assigned in the Chapter Outlines within the corresponding Week “folders” in Canvas.

## ATTENDANCE AND WITHDRAWAL POLICY:

Attendance is mandatory the first week of class - you will be dropped from the course if you are absent during the first week. Being present during lab or submission of the “Growth/Study Assignment” during the first week will serve as attendance. If you do not submit the assignment or come to lab, and you do not email me, you will be counted as absent and withdrawn from the course.

**After the first week, if you stop participating in this course but do not withdraw from the course, a grade of F will be assigned at the end of the semester. If you miss more than three experiments, a grade of F will be assigned, regardless of the points you have accumulated overall.** Other than the absence the first week of class, the professor will not withdraw any student for any other reason; it is your responsibility to withdraw before the withdrawal deadline and to be aware of the date of the withdrawal deadline.

Per Valencia's Policy: *A student who withdraws from class before the established deadline for a particular term will receive a grade of "W". Any student who withdraws from this class during a third or subsequent attempt in this course will be assigned a grade of "F." A student is not permitted to withdraw after the withdrawal deadline.* To withdraw from a course, you must access Registration on Atlas.

**Students on financial aid should consult an advisor or counselor before withdrawing from a course to determine if there will be financial issues.**

**International students should contact [Valencia's International Student Services](#) before withdrawing from any course because withdrawal may result in the termination of your student immigration status (F-1 or J-1 Visas).**

To academically maintain financial aid, students must meet all the following requirements:

- Complete 67% of all classes attempted, and
- Maintain a Valencia GPA of 2.0 or higher, and maintain an overall GPA of 2.0 or higher, and
- Complete degree within the 150% timeframe

The [Satisfactory Academic Progress](#) website has detailed information regarding how to keep your financial aid. Additional information is available at the [Valencia College Policies and Procedures](#) web site.

## REQUEST FOR ACCOMMODATIONS:

If, to participate in this course, you require an accommodation due to a physical or learning impairment, you must contact the [Office for Students with Disabilities](#) (OSD). You may also be reached by telephone at (407) 582-1523 or email. Try to contact them within the first two weeks of class.

## STUDY TIPS TO SUCCEED IN THIS COURSE:

This course is a CUMULATIVE learning experience.

Please read the Study Habits of Successful Students in “Start Here” within Canvas.

## ASSESSMENT (see schedule on last page for dates):

Assessment links are within the corresponding Week link in Canvas.

### CLASS:

- PARTIAL TESTS: The tests will be taken within Canvas. They will be proctored using Honorlock. You need a computer and webcam to take the exams. Closed notes, closed book; usually a combination of multiple choice, short answers, true/false, and problems.
- FINAL TEST: This test will cover chapters 1-9. It will consist of forty-three multiple-choice questions. You will receive

a letter grade of F if you do not take the final exam. Proctored using Honorlock.

- **HOMEWORK:** You will access and submit them online through Canvas. Late submissions not accepted. The homework with the lowest grade will be dropped. You have two opportunities to submit them before the due date/time. Your highest grade will be your final grade.
- **ACTIVITIES:** You will be submitting most online.
- **MUDDIEST POINTS:** Discussion board question/reply on the muddiest points will be posted almost every week. Specific instructions will be included in Canvas.

- Late submissions not accepted.

#### LABORATORY:

The CHM1045C Laboratory Manual can be accessed through the following link: [Chemistry Laboratories – CHM1045C](#) (link also available in Canvas). Or you can access each experiment, with its associated Techniques and Appendices within the Week links in Canvas.

- Before coming to the laboratory:
  - Print or download the experiment and the Appendices needed for the experiment. You will need these to do the experiment.
  - Read the laboratory techniques needed for the experiment before the lab period.
  - Read the experiment.
  - Print the data tables. You will be filling these out in lab.
- **PRELABORATORY ASSIGNMENT:** Each one is worth eight points. Due on-line through Canvas 30 minutes before the beginning of lab. To complete and submit the prelab assignment:
  - Answer the Prelab questions found in the Prelab section of the experiment.
    - The Introduction section of the experiment, the appendices and the techniques associated with the experiment provide enough information to answer the prelaboratory questions.
  - Submit your answers to the prelaboratory questions in Canvas:
    - Week Link – Laboratory section - Prelaboratory Assignment section, click on Prelab Assignment link.
    - Enter the answers to each Pre-Lab question.
    - Select Submit.
      - You cannot save and return to it; you can only submit once.
      - You can submit the prelaboratory assignment any time before the deadline.
  - Late submissions not accepted. The prelab with the lowest grade will be dropped.
- **LABORATORY REPORT:** Each is worth fifteen points. The report consists of three main sections:
  - Data Tables- found within the experiments. You will measure and record data in the data tables during lab. Write in pen in the data tables; do not use whiteout.
  - Calculations - The experiment states what calculations you need to do.
  - Post Laboratory Questions – found at the end of the experiment. These can be hand-written on a sheet of paper.

Do not hand in loose pages; staple them before coming to lab. Staplers might not be available in lab. You will lose one point for handing in unstapled Reports (folding corners or using paperclips is not acceptable).

Late submissions accepted. Reports handed in after the first 5 minutes will lose one and a half points for being late. Reports handed in after the due date will lose three points. Late Reports accepted only up to one lab period past due date.

- **FINAL PRACTICAL TEST:** This test will consist of a laboratory experiment performed individually. It will be worth seventy points. You must hand in the exam before leaving the room. Once you hand it in you will not be able to continue working on it. Cell phones must be off during the test. You will lose five points if it rings or vibrates during the test.
- **LABORATORY QUIZZES:** You will take four lab quizzes. You will need to access them in lab using your personal electronic device.

We will be using the grading function in Canvas. You can access your grades from the Navigation bar on the left. Make sure you check your grades on a weekly basis and let me know if there is an error. Your overall grade in the course is listed under total. The grading function is already set up so that it drops the lowest grade in the assessment types where applicable (lowest lab report, lowest prelab, lowest homework). Because of this your grade may look a little weird the first few weeks. Once you have at least two grades within each assessment type the grade will be calculated correctly. Canvas has a great tool that allows you to project your final grade when you enter “what if” grades.

Grading scheme:

Assignment Group	% Grade
Tests	60
Activities	4.5
Lab Quizzes	0.5
Homework	10
Muddiest Point	1
Prelab Work	6
Lab Reports	18

Letter Grade	Total Percent (%)
A	≥90
B	80-89
C	70-79
D	60-69
F	<60

Bonus: Approximately 1.5%. There will be bonus opportunities throughout this semester. I will announce them as we proceed through the semester. I will not give extra credit, outside of these planned bonuses.

Students must complete all coursework; I will assign a grade of “0” to anything missing.

*Each student is required to follow Valencia policy regarding academic honesty. All work submitted by students is expected to be the result of the student’s individual thoughts, research, and self-expression unless the assignment is specifically a group assignment. **It is cheating to show someone your test, homework or lab work so that someone may copy the work instead of doing it himself or herself. Cheating will result in a grade of zero for all parties involved.***

**MAKEUP POLICY:**

Late submissions not accepted. No makeup labs, exams, or homework will be given.

**LABORATORY SAFETY:**

The laboratory environment will involve the use of and/or exposure to chemicals or other substances. If you are pregnant and concerned about your exposure to these chemicals, please see your instructor, lab manager, or Dean to discuss possible arrangements. Students are also invited to contact Mr. Ryan Kane, Title IX Coordinator/Equal Opportunity Officer, 407-582-3421, [rkane8@valenciacollege.edu](mailto:rkane8@valenciacollege.edu), regarding requests for alternative arrangements relating to pregnancy.

Students must follow the departmental safety rules which we will discuss during our first lab meeting. You will also have a written copy of these rules. Safety is one of our top priorities.

Procedure for non-compliance:

- First minor infraction: verbal reminder
- Second minor infraction: five points taken away from laboratory report

- Third minor infraction or first major infraction: leave laboratory, no make-up allowed.

### **STUDENT ASSISTANCE PROGRAM**

Valencia College is interested in making sure all our students have a rewarding and successful college experience. To that purpose, Valencia students can get immediate help with issues dealing with stress, anxiety, depression, adjustment difficulties, substance abuse, time management as well as relationship problems dealing with school, home, or work. BayCare Behavioral Health Student Assistance Program (SAP) services are free to all Valencia students and available 24 hours a day by calling (800) 878-5470.

Free face-to-face counseling is also available.

### **CORE COMPETENCIES:**

- Think. You will analyze data and ideas, employ formulas and procedures, and draw supported conclusions.
- Value. You will make reasoned judgments and responsible commitments.
- Communicate. You will exchange ideas and information with others.
- Act. You will responsibly set goals and reflectively solve problems, individually and in groups.

Valencia is dedicated not only to the advancement of knowledge and learning but also to the development of responsible personal and social conduct. As a registered student, you assume the responsibility for conducting yourself in a manner that contributes positively to Valencia's learning community and that does not impair, interfere with, or obstruct the orderly conduct, processes, and functions of the college as described in the [Student Code of Conduct](#) (College Policy: 6Hx28: 8-03).

### **COURSE STRUCTURE:**

The Homepage in this course's Canvas has a table organized by links named "Week" followed by numbers, which match up with the "Week No." column on the left side of the course schedule above. Those links in Canvas contain everything you need to do and study during that week, along with instructions and supporting information to successfully submit whatever is due during that week. If you click on an assignment from the "Coming Up" section on the Canvas Homepage you will not see the supporting material. So, make sure to access what is due within the "Week" link.

*This syllabus and schedule are subject to change as needed; changes will be announced through Canvas and may be announced through ATLAS email in a timely manner, when necessary. Your continued participation in this course after the drop-add deadline period constitutes an agreement with and an acceptance of the conditions presented in this syllabus.*



**CHM1045C-17762 Fall 2023 Online Class, On Campus Lab Wednesdays 10 am - 12:45 pm in AHS304**

Week No.	Week Mond-Mond.	Textbook Reading	Class Schedule * Homework due by 9:00 pm	Activities* and Lab Schedule ** Prelabs Due Via Canvas by 9:30 am on Wednesdays
1	21-Aug	1.1 - 1.5	Introduction: Start Here Ch 1 Essential Ideas	Course Orientation and Lab Safety <b>Actv. Group Quiz in Lab 8/23</b> Actv. Know You due Wednesday 8/23 Actv. Chem. Preprdns.Diagn.Test due Thurs. 8/24 Connect Canvas and Achieve due Sunday 8/27
2	28-Aug	1.6 2.1-2.3. 2.5	Ch 1 Essential Ideas Ch 2 Atoms, Molecules, and Ions <b>Muddiest Point Ch 1 due 9/4</b> <b>Homework 1 due 9/4</b> <b>Drop/Refund Deadline (11:59 pm)</b>	Exp. 1 Mass, Volume, and Density Part A and B <b>Pre-Lab Quiz Density &amp; Lab Operations in Lab</b> Actv. Growth/Study due Wednesday 8/30
3	4-Sep	2.4, 2.6-2.7	<b>Labor Day Holiday 9/4</b> Ch 2 Atoms, Molecules, and Ions <b>Muddiest Point Ch 2 due 9/11</b> <b>Homework 2 due 9/11</b>	Exp. 1 Mass, Volume, and Density Part C <b>Post-Lab Quiz Density &amp; Lab Operations in Lab</b> Actv. T. Env. due Wednesday 9/6 Density and Lab Operations Survey due Sund. 9/10
4	11-Sep 15-Sep		<b>Test 1: Ch 1 &amp; 2</b> <b>Submit test 9/18</b> <b>Graduation Application Deadline</b>	Exp. 2 Empirical Formulas Actv. Ions/I.C. due Wednesday 9/13
5	18-Sep	3.1 - 3.3	Ch 3 Composition of Subs. and Slns. <b>Muddiest Point Ch 3 due 9/25</b> <b>Homework 3 due 9/25</b>	Exp. 3 Electrolytes and Nonelectrolytes <b>Actv. Study T2 Wednesday 9/20</b>
6	25-Sep	4.1 - 4.3	Ch 4 Stoichiometry of Chem. Reactions <b>Muddiest Point Ch 4a due 10/2</b> <b>Homework 4a due 10/2</b>	Exp. 5 Observing and Classifying Reactions <b>Actv. Mole due Wednesday 9/27</b>
7	2-Oct	4.4-4.5	Ch 4 Stoichiometry of Chem. Reactions <b>Muddiest Point Ch 4b due 10/9</b> <b>Homework 4b due 10/9</b>	Exp. 4 Limiting Reactant <b>Actv. Stoic due Wednesday 10/4</b>
8	9-Oct		<b>Test 2: Ch 3 &amp; 4</b> <b>Submit test 10/16</b>	Exp. 6 Amount of Active Ingredient in Aspirin Part A <b>Pre-Lab Quiz: Acid-Base Titration</b>
9	16-Oct	5.1-5.3	Ch 5 Thermochemistry <b>Muddiest Point Ch 5 due 10/23</b> <b>Homework 5 due 10/23</b>	Exp. 6 Amount of Active Ingred.in Aspirin Part B <b>Post-Lab Quiz: Acid-Base Titration</b> Actv. Post T2 due Wednesday 10/18 Titration Survey due Sunday, 10/22
10	23-Oct 27-Oct	6.1 - 6.5	Ch 6 Electronic Struct. & Periodic Prop. <b>Muddiest Point Ch 6 due 10/30</b> <b>Homework 6 due 10/30</b> <b>Withdrawal Deadline (11:59 p.m.)</b>	Exp. 8 Calorimetry
11	30-Oct		<b>Test 3: 5 &amp; 6</b> <b>Submit test 11/6</b>	Exp. 10 Dye Concent. Using UV-Vis
12	6-Nov	7.1 - 7.6	Ch 7 Chem. Bonding & Molec. Geo. <b>Muddiest Point Ch 7 due 11/13</b> <b>Homework 7 due 11/13</b> <b>Veterans Day Holiday 11/10</b>	Exp. 11 Molecular Modeling
13	13-Nov	9.1 - 9.3 8.1 - 8.3	Ch 9 Gases Ch 8 Advanced Theories <b>Muddiest Point Ch 9 &amp; 8 due 11/14</b> <b>HW 8 due 11/27 (available 11/14)</b>	Exp. 7 Analysis of a Gaseous Product
14	20-Nov		<b>Thanksgiving Holiday: 11/22 - 11/26</b>	<b>No lab.</b>
15	27-Nov		<b>Test 4: Ch 7, 8 &amp; 9</b> <b>Submit test Friday 12/1</b>	Exp. 12 Lab Practical Test (no prelab)
16	4-Dec		<b>Final Test: Ch 1-9, Wednesday 12/6 from 10:00 am - 12:30 pm</b>	
<b>Legend</b>		**Prelabs can be submitted any time during corresponding Week. Prelabs not accepted late. Lab Reports are due within first 5 min. of lab week AFTER Exp. finished. Reports handed in after the first 5 minutes will lose 1.5 points for being late. Reports handed in after the due date will lose 3 points. Late Reports accepted only up to one lab period past due date.		
* HW & online Activities can be submitted any time during the Week they are due.		<b>Tests: Available at 8 am.</b> <b>Due by 9:00 pm.</b>		
<b>College Deadlines</b>		<b>Online Quiz in lab. You need laptop.</b> <b>College closed. No office hours.</b>		

Schedule subject to change as needed; changes will be announced through Canvas.