IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Fall 2025**	Instructor Name:	**Dr. Omar Alshykhly**
Course Title & #:	**Chemistry 82 Fundamentals of Chemistry**	Email:	**Omar.alshykhly@imperial.edu**
CRN #:	**11231**	Webpage (optional):	
Classroom:	**2715**	Office #:	**2773**
Class Dates:	**08/11/25 – 12/06/2025**	Office Hours:	**TBA**
Class Days:	**TR**	Office Phone #:	**(760) 355-6298**
Class Times:	6:00 pm – 9:10 pm	Emergency Contact:	**Department Secretary (760) 355-6155**
Units:	4	Class Format/Modality:	Face to Face

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. (Nontransferable, AA/AS degree only)

Course Prerequisite(s) and/or Corequisite(s)

Prerequisite: None

Student Learning Outcomes

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Demonstrate the ability to perform dimensional analysis calculations as they relate to problems involving percent composition and density.
2. Demonstrate a knowledge of basic atomic theory.
3. Write chemical formulas, and name inorganic and organic compounds.
4. Solve chemical equations and stoichiometry as they apply to the mole concept, molarity, normality and acid-base titrations.
5. Identify the basic types of chemical reactions including precipitation, neutralization, equilibrium, thermodynamics, and oxidation-reduction.
6. Relate the general concepts of atomic structure to a study of ionic and covalent bonding including complex ions.
7. Mathematically solve various gas laws to relate the behavior of gasses.
8. Describe the general properties of liquids and solids including intermolecular attractions and phase changes.
9. Relate the general properties of solutions and employ knowledge of concentration to explain colligative properties.

10. Demonstrate knowledge of computer-assisted methods of data acquisition, analysis and presentation.

Textbooks & Other Resources or Links

1. **For online, hybrid and face to face classes**, you don't need to buy the book. We will use an OER book (available online for free), this is the book that we will use:

Textbook

1. Karen Timberlake. 2017. Chemistry : An Introduction to General, Organic, and Biological. 13 Pearson. ISBN: 978-0-13-442135-3.

2. Or Use this OER free online textbook:
Basics of General, Organic, and Biological Chemistry (Ball et al.)
Basics of General, Organic, and Biological Chemistry (Ball et al.) - Chemistry LibreTexts

Lab Manual

Will be delivered by instructor

2. Lab coat and Safety goggles: you need to purchase them from chem or stem club
3. Non programmable calculator: a highly recommended calculator is the Texas Instruments TI36X Solar Scientific Calculator (not the "Pro") or the TI-30Xa.

Course Requirements and Instructional Methods

For Hybrid class, the lecture will be online asynchronous through canvas (no zoom meeting), and the labs will be face to face (on Campus meeting). For the face to face class lecture and labs will be face to face (both will be on campus).

For all classes, we will use ADAPT platform for doing the online assignments Homework. The midterm exams and final exam will be in-person in Campus.

- **Homework ADAPT**: Online Homework for each chapter will be using ADAPT software, and the due date will be find either on canvas or on the ADAPT. More information about this will be delivered on the first day of the class. The goal is to give you enough practice to enable you to be successful on the examinations. You will have 2 attempts per question to answer it correctly. There will be no penalty for correctly answering on the first, or second attempt. After the due date, the homework assignment can be worked and submitted late for a 30% deduction. More instructions how to REGISTER AND USE the ADAPT online homework WILL BE DISCUSSED ON THE FIRST DAY.
- **Canvas practice and quizzes**: There will some practice assignments and quizzes on canvas needed to be done in each week. All these assignments are detailed on canvas on modules.

*There's online tutoring with a live person in **Net Tutor** (embedded inside Blackboard or Canvas).

• **Midterm Lecture Exams**: we will have 5 midterm exams face to face (in-person) on class. I will drop the lowest midterm exam. **No make-up exam.**

• **Laboratory**: you will do all experiments on the lab, and you will follow the lab's manual (you need to buy it on the first week). There is a lab report for each experiment that you need to submit in hand at the end of the lab day. **No make-up lab.**

• **Final Exam**: The Final Exam is comprehensive and in-person (You will be tested in all chapters 1 to 14). There are **no make-ups** because the date and time of the Final is the last day of class.

• **Extra credit**: Depending on the whole class performance, I will decide if you all need extra credit or not, and don't expect too many extra credit, just few extra credit will be added on the final grades.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Course Grading Based on Course Objectives

- **Study Hints:** Chemistry is a very demanding course. Depending on your background, you will need to spend 1-4 hours outside of lab to get your work done. Missing a lecture usually means your grade falls by ½ grade.

• Do not fall behind so:
- **Go to office hours**
- **Get a tutor**
- **Form study groups**

• No Gifts, cards, or food. All will be refused. Spend your time and effort studying.
• Don't try to cram! It doesn't work.
• Keep up!!

Homework ADAPT	10%
Lab final exam	10%
Midterm exams	30%
Lab Report	20%
Canvas practice & Quizzes	10%
Lecture final exam	10%
Lab practical and technique	10%
Total	100%

Your final grade will be assigned based on following manner:

90% – 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Below 59%	F

IMPERIAL VALLEY COLLEGE

Academic Honesty (Artificial Intelligence -AI)

IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.

Accessibility Statement

Imperial Valley College is committed to providing an accessible learning experience for all students, regardless of course modality. Every effort has been made to ensure that this course complies with all state and federal accessibility regulations, including Section 508 of the Rehabilitation Act, the Americans with Disabilities Act (ADA), and Title 5 of the California Code of Regulations. However, if you encounter any content that is not accessible, please contact your instructor or the area dean for assistance. If you have specific accommodations through ***DSPS***, contact them for additional assistance.

We are here to support you and ensure that you have equal access to all course materials.

Course Policies

- A student who fails to attend the first meeting of a face to face or hybrid class or does not complete the first mandatory activity of an online class will be dropped by the instructor. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.

Other Course Information

- **Add/Drop**: it is the responsibility of the student to take the necessary steps to add and/or drop the class by the college deadlines.
- **Late Submissions** Any late work (homework assignment, project, lab report, quizzes, exams) will not be accepted after the due date. If you have an urgent issue or an emergency talk with me in advance to extend the due date for you.

Financial Aid

Your Grades Matter! In order to continue to receive financial aid, you must meet the Satisfactory Academic Progress (SAP) requirement. Makings SAP means that you are maintaining a 2.0 GPA, you have successfully completed 67% of your coursework, and you will graduate on time. If you do not maintain SAP, you may lose your financial aid. If you have questions, please contact financial aid at finaid@imperial.edu.

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit http://www.imperial.edu/studentresources or click the heart icon in Canvas.

Updated 11/2024

IMPERIAL VALLEY COLLEGE

Anticipated Class Schedule/Calendar

Week	Start on	Lecture 6 at pm Tuesday Room 2715	Lab experiment at 6 pm Thursday Room 2715	Homework, and quizzes practice assignments
1	8/11	Syllabus, Unit 1 measurement	Introduction to Lab, Lab Safety, Check in	Homework, and quizzes practice assignments on canvas. Check the due date on Canvas
2	8/18	Unit 1	Measurement Lab & lab techniques	
3	8/25	Unit 2 Atomic structure	Unit 2 cont.	Homework, and quizzes practice assignments on canvas. Check the due date on Canvas
4	9/01	Unit 3 Nomenclature	**Exam 1 Unit 1 & 2**	
5	9/08	Unit 3 cont.	Nomenclature lab	Homework, and quizzes practice assignments on canvas. Check the due date on Canvas
6	9/15	Unit 4 chemical reaction and calculation	Exam 2 Unit 3	
7	9/23	Unit 4 cont.	Chemical reaction lab	
8	9/30	Unit 4 cont.	Unit 4 cont.	
9	10/6	Unit 5 aqueous solutions and acid bases reactions	Limiting reactant lab	Homework, and quizzes practice assignments on canvas. Check the due date on Canvas
10	10/13	Unit 5 cont.	Exam 3 Unit 4	
11	10/20	**Solutions and dilution lab Part 1**	Titration lab Part 1	
12	10/27	**Solutions and dilution lab Part 2**	Titration lab Part 2	
13	11/03	Unit 5 cont.	Unit 5 cont.	

14	11/10	Unit 6 Gases, solid, liquids (quick review)	Exam 4 Unit 5	
15	11/17	Lab practical exam part 1	**Lab practical exam part 2**	
16	11/24	Thanksgiving break	**No classes**	
17	12/1	Final exam	Final exam	

*****Subject to change without prior notice*****