

### Basic Course Information

Semester:	Fall 2022	Instructor Name:	Dr. Behrang Madani
Course Title & #:	Chemistry 100 Introduction to Chemistry	Email:	Behrang.madani@imperial.edu
CRN #:	10445, 10452	Webpage:	<a href="http://spaces.imperial.edu/behrang.madani/default.html">http://spaces.imperial.edu/behrang.madani/default.html</a>
Classroom:	Online	Office #:	2773
Class Dates:	Aug 15 to Dec 10	Office Hours:	MTWR: 1:00 – 2:00pm online zoom <a href="https://cccconfer.zoom.us/j/96093755117">https://cccconfer.zoom.us/j/96093755117</a>
Class Days:	Online	Office Phone #:	N/A (online)
Class Times:	Online	Emergency Contact:	N/A (online)
Units:	4.0		

### Course Description

Elementary principles of general inorganic chemistry with an introduction to organic and biochemistry. Previous science background is recommended but not required. This course is designed for non-science majors and students who need only a one-semester general chemistry course, and also for students entering a paramedical and allied health fields, and industrial applications such as power plants. This course will satisfy the prerequisite for CHEM 200. (CSU)(UC credit limited. See a counselor.) Prerequisite: MATH 091 or MATH 090 with a grade of "C" or better.

### Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Solve chemical problems using modern atomic theory. (ILO2, ILO4)
2. Perform chemical experiments in a scientific manner using proper techniques, data analysis, and safety equipment. (ILO2, ILO3, ILO4)

### Course Objectives

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

1. calculate English and metric unit conversions and measurements using dimensional analysis.
2. write symbols for elements and know common ionic charges.
3. derive and write formulas and names for chemical compounds.
4. write and balance common chemical equations and identify reaction types.
5. solve stoichiometric problems, including their solutions using dimensional analysis.

6. describe atomic structure including isotopes, periodicity and molecular structure in terms of subatomic particles.
7. identify types of energy and calculate specific heat; identify energy involved in change of state including heat of vaporization and predict behaviors in cooling curves; calculate caloric and nutritional values of various foods.
8. describe gas behavior and solve problems involving the various gas laws.
9. identify the type of intermolecular forces existing between molecules, and its effect on macroscopic property of the substance.
10. calculate solution concentration of various types including dilutions.
11. define the three basic concepts (Arrhenius, Bronsted-Lowry and Lewis) of acids and bases and perform titration experiments and calculate pH.
12. use Le Chatelier's Principle to predict the shift in the direction of the reactants/products
13. determine the oxidant/reductant and balance redox equations.
14. describe nuclear processes and write nuclear equations using the subatomic particles involved and identify health factors and risks involved.

### Textbooks & Other Resources or Links

1. [Introductory to Chemistry \(Links to an external site.\)](#), ISBN 13: 9781453311073

You have several options to obtain this book:

(Preferred) [The book on Libretexts \(Links to an external site.\)](#)

- For the textbook: click on (in above link)
- [View online \(Links to an external site.\)](#) (Links to an external site.)
- [Download a PDF \(Links to an external site.\)](#) (Links to an external site.)
- [Order a print copy \(Links to an external site.\)](#)(Links to an external site.)

2. Lab Manuals: There is no lab manual required. We will use Labster to do some experiments virtually, and some other experiments will be deliver through canvas.
3. Non programmable calculator: a highly recommended calculator is the Texas Instruments TI36X Solar Scientific Calculator (not the "Pro") or the TI-30Xa.
4. Registration with Sapling website via Canvas to do your homework and exams online (42\$) – requires credit card.

### Course Requirements and Instructional Methods

**Exams:** You have 6 exams including the final exam (see your course schedule). Some practice exams will be made available before each exam. We will have some review sessions before each test and final exam. There are no make-up exams or lab classes. Your lowest test grade, excluding the final test grade, will be dropped. If you miss a test, the test will be dropped.

**Homework:** Each homework has a due date and always finishes at 11:59pm. The goal is to give you sufficient practice to enable you to be successful on the examinations. Homework problems are found online using Canvas. The lowest homework scores will be dropped. You have 3 attempts per question to answer correctly. There will be no penalty for correctly answering on the first, second, or third attempt. There is no penalty for viewing the hint. In

order to grade your answer and find out if you answered correctly, you should press “CHECK ANSWER.” If you wish to switch to another question without checking the answer for the current question, you can press “NEXT” or use the map at the top right corner of the question. After the due date, the homework assignment cannot be worked on but can be viewed. Late homework, lab reports, projects, etc will not be accepted and you will have earned zero for that work.

**Lab Experiments:** Some experiments are required to be prepared and done through Labster (virtually) and some other experiments will be dry lab (filing data, calculation, answering questions), and submit it through canvas, I will let you know more about these labs during the semester. **No make-up lab.**

**Lab final exam:** At the end of the semester we will have an exam for the lab experiments online.

**Final Exam:** The Final Exam is comprehensive, and it will be online. There are **no make-ups** because the date and time of the Final is the last day of class.

## Get Started

Please Find your course on Canvas and go to the home page. Click on “Start Here” and it will send you to Modules section. Study lab safety rules and list of the lab equipment. Then, register for Achieve website using the link on Canvas to start doing the assignments. **Please do not go directly to Achieve website and always open the Achieve website via Canvas.**

## How to contact your Instructor:

- Email me any time at: [behrang.madani@imperial.edu](mailto:behrang.madani@imperial.edu)
- I will respond to your email within 24 hours at any day during the week
- Use Pronto on canvas to chat with me
- Attend the office hours through zoom
- You may need help from the [IVC library \(Links to an external site.\)](#) for technical support

## How I Will Contact You

I will be an active participant in this course. You can expect that I will reach out to you many times each week, via the following methods:

- **Announcements:** I typically post an announcement at the beginning of the week, and sometimes the middle of the week. Keep an eye out for this important information!
- **Canvas Inbox messages:** I will occasionally reach out via the Inbox to check in with you.
- **Videos and other stuffs:** I will post on canvas a lecture video, PowerPoint slides, problem sets and more each week for each chapter.

### 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  $\frac{1}{2}$  grade.

• **Do not fall behind.** Two things are very important in order to learn better:

- **Go to office hours**
- **Get a tutor**

### Course Grading on Course Objectives

Homework	17.05%
Lab report	26.14%
Lab final exam	5.68%
Lecture exams	34.09%
Final exam	17.05%

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

### Attendance

**In an online course, student participation is equal to attendance.** Your active participation throughout the course is required both for your success in the class as well as the primary proof of your attendance in the course. In compliance with the campus attendance/participation policy posted below, **any student that does not complete the required first week's activities can be dropped from the course.** After the first week, any students that fail to submit discussion posts and complete assignments for two consecutive weeks may be dropped from the course if I am not notified ahead of time.

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. 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.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences

### Classroom Etiquette

Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.

- Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed by the instructor.
- Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the [General Catalog](#).
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.
- As this is an online course, please also review the Netiquette guidelines for online interactions in the Course Logistics folder.
- **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, 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.

### Online Netiquette

**What is netiquette?** Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online. • Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!!)].

### Academic Honesty

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the [General Catalog](#) for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

### Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- **CANVAS LMS.** Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The [Canvas Student Guides Site](#) provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **Learning Services.** There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).
- **Library Services.** There is more to our library than just books. You have access to tutors in the [Study Skills Center](#), study rooms for small groups, and online access to a wealth of resources.

### Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the [Disabled Student Programs and Services](#) (DSP&S) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

### Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center.** A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services.** Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information..

### **Veteran's Center**

The mission of the [IVC Military and Veteran Success Center](#) is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

### **Extended Opportunity Program and Services (EOPS)**

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, [lourdes.mercado@imperial.edu](mailto:lourdes.mercado@imperial.edu).

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, [alexis.ayala@imperial.edu](mailto:alexis.ayala@imperial.edu).

### **Student Equity Program**

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity

Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.

- The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

### **Student Rights and Responsibilities**

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).

### **Information Literacy**

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.



**Important dates**

**FALL SEMESTER 2022  
IMPORTANT DATES AND DEADLINES**

**NOTE: The deadlines below are for full-term classes. Deadlines for short-term and non-credit classes vary by the class.**

**July 5** Priority registration begins **Students may register up to 19 units at their assigned time.**

**July 19** Registration begins for students concurrently enrolled in grades K-12

**August 14** **Residency determination date.**

**August 15** **Semester begins.** Beginning on the first day each class meets, add authorization codes from the instructor are required to register for that class, filled or open.

**August 15 – August 27** **Late Registration. Beginning on first day each class meets, add authorization code from instructor required to register for that class, filled or open.**

**August 28** **Last day to drop and receive a refund for full-term classes and not receive a “W”.**

**September 5** **Holiday – Labor day. No classes.**

**September 9** Financial Aid Freeze Date – Units enrolled as of this date will be used to determine enrollment status for financial aid payment.

**October 20** Return to Title IV Drop Date – Complete withdrawal before this date will require financial aid eligibility recalculation and funds may be owed.

**\*\* November 5\*\*** **Deadline to drop full-term classes.**

**November 11** **Holiday – Veterans Day. No classes.**

**November 21 – 22** No classes (Campus Open)

**November 23 – 27** Holiday – Thanksgiving. No classes.

**December 9** **Deadline to submit *Petition for Graduation* for degree to be awarded for Fall 2022.** Completed petition must be received in Admissions & Records Office by this date. Students must meet with a Counselor to petition by this date.

**December 5 – 10** Final Exams.

**December 12 – 16** No classes (Campus open)

**December 19 – January 2** Winter Recess (Campus closed)

<b>Anticipated Class Schedule/Calendar</b>
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Wk	Date	Lecture	Lab
1	Aug 15- Aug 19	Syllabus and Ch 1 & 2: Chemical World, Measurement Problem set 1	Labster 1: Lab Safety
2	Aug 22 – Aug 26	Ch 3: Matter and Energy Problem Set 1	Labster 2: Matter and its phase changes
3	Aug 29 – Sep 2	Ch 4: Atoms and Elements Problem Set 2	Labster 3: Periodic table of elements
4	Sep 5 – Sep 9	Ch 5: Molecules and Compounds Problem Set 3	<b>Lecture Exam 1 (Chap. 1-4)</b>
5	Sep 12 – Sep 16	Ch 6: Chemical Composition Problem Set 4	Labster 4: Stoichiometry calculations
6	Sep 19 – Sep 23	Ch 7: Chemical Reactions Problem Set 5	<b>Lecture Exam 2 (Chap. 5-6)</b>
7	Sep 26 – Sep 30	Ch 8: Quantities in Chemical Reactions Problem set 6	Lab 5: Chemical reactions (using Canvas)
8	Oct 3 – Oct 7	Ch 9: Electrons in Atoms and the Periodic Table Problem Set 7	<b>Lecture Exam 3 (Chap. 7-8)</b>
9	Oct 10 – Oct 14	Ch 10: Chemical Bonding Problem Set 8	Labster 6: Atomic structure
10	Oct 17 – Oct 21	Ch 11: Gases Problem Set 9	Lab 7: Formula of hydrate (using Canvas)
11	Oct 24 – Oct 28	Ch 12: Liquid, Solids, and Intermolecular Forces Problem Set 9	Labster 8: Ionic and covalent bonds
12	Oct 31 – Nov 4	Ch 13: Solutions Problem Set 10	<b>Lecture Exam 4 (Chap. 9-11)</b>
13	Nov 7 – Nov 11	Ch 14: Acids and Bases Problem Set 11	Labster 9: Solution preparation
14	Nov 14 – Nov 18	Ch 15: Chemical Equilibrium Problem Set 12	Labster 10: Titration
15	Nov 22 – Nov 26	Thanksgiving Holidays – No Classes	
16	Nov 29 – Dec 3	Ch 16: Redox Reactions Problem Set 12	<b>Lecture Exam 5 (Chap. 13-15)</b>
17	Dec 5 – Dec 9	<b>Final Exam (all chapters)</b>	<b>Lab Final Exam (all labs)</b>

**Note:** The course syllabus is intended to provide students with basic information concerning the course. The syllabus can be viewed as a “blueprint” for the course; **changes in the syllabus can be made and students will be informed** of any substantial changes concerning exams, grading or attendance policy and/or changes to reading or homework assignments.