

### Basic Course Information

Semester:	Spring 2023	Instructor Name:	Dr. Behrang Madani
Course Title & #:	Chemistry 200 General Inorganic Chemistry I	Email:	Behrang.madani@imperial.edu
CRN #:	20504	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:	Feb 13 to Jun 9	Office Hours:	MTWR: 1:00 – 2:00pm online zoom <a href="https://us06web.zoom.us/j/85721037914">https://us06web.zoom.us/j/85721037914</a>
Class Days:	Online	Office Phone #:	N/A (online)
Class Times:	Online	Emergency Contact:	N/A (online)
Units:	5.0		

### Course Description

Basic principles and calculations of chemistry with emphasis on stoichiometry and dimension analysis applied to various problem types. Fundamental principles and theory of atomic and molecular structure as related to bonding and molecular geometry. Study of kinetic molecular theory, the first law of thermodynamics, periodic relationships of the elements, physical states of matter, solution chemistry, and oxidation-reduction. The laboratory is closely related to lecture topics and includes methods of classical experimentation as well as certain instrumental analysis. (C-ID CHEM 110) (CSU, UC)

### 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. Student will demonstrate ability to perform dimensional analysis calculations as they relate to problems involving percent composition and density.
2. Student will write chemical formulas, name inorganic compounds, and demonstrate a knowledge of basic atomic theory

3. Student will relate chemical equations and stoichiometry as they apply to the mole concept, molarity, and acid-base titrations. Student will derive formulas from percent composition.
4. Student will identify the basic types of chemical reactions including precipitation, neutralization, and oxidation-reduction.
5. Student will demonstrate knowledge of atomic structure and quantum mechanics and apply these concepts to the study of periodic properties of the elements.
6. Student will relate the general concepts of atomic structure to a study of ionic bonding.
7. Student will relate the general concepts of covalent bonding and molecular structure.
8. Student will demonstrate the first law of thermodynamics both in theoretical and practical contexts and apply the theory to the solution of Hess' Law.
9. Student will manipulate the various gas laws in both theory and practice to solve mathematical problems relating to the behavior of both ideal and non-ideal gases.
10. Student will describe the general properties of liquids and solids including intermolecular attractions and phase changes.
11. Student will relate the general properties of solutions and employ knowledge of concentration to explain colligative properties. Student will investigate the phenomenon of vapor pressure.
12. Student will demonstrate knowledge of computer-assisted methods of data acquisition, analysis and presentation.

### Textbooks & Other Resources or Links

1. There are two sites to get our textbook:

a. (Preferred) <https://chem.libretexts.org>

- For the textbook: click on (in above link) < Bookshelves/General Chemistry/Book: Chemistry (OpenSTAX)>
- Exercises: click on (in above link) <Homework Exercises/Exercises: General Chemistry/Exercises: OpenStax>

b. Chemistry. Paul Flowers, Klaus Theopold, Richard Langley. 3rd ed. Openstax (2016)

Textbook: Chemistry. Paul Flowers, Klaus Theopold, Richard Langley. *3rd ed. Openstax* (2016)

<https://openstax.org/details/books/chemistry>

2. Lab Manuals: There is no lab manual required. We will use Labster to do some experiments virtually, and some other experiments will be delivered 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 Achieve via Canvas to do your homework and exams online (42\$) – requires credit/debit card.

### Course Requirements and Instructional Methods

**Exams:** You have 5 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 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). For other experiments, I have a recorded video for each experiment. You will watch the video and prepare your lab report using a composition notebook (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 exams:** Lab exams will contain problems and/or explanation type questions based on the preceding laboratory experiments. Your Lab Notebook can be used during the Lab Exams. There are 3 Lab exams, each of which count toward your course grade. No Make-up Lab exams will be allowed.

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

Homework	17.05%
Lab report	11.36%
Lab exams	20.46%
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

- 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.
- Absences during Lab Classes, or leaving during Lab Classes automatically result in a grade of zero (0) for the Lab Experiment.

### 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, only students enrolled in the class may attend; children are not allowed.
- **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.
- **Leaving during lecture or lab** is considered an unexcused absence. If you have to leave anytime during class, other than established break times, you must inform your instructor.

### 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

### SPRING 2023 IMPORTANT DATES AND DEADLINES

**NOTE:** The deadlines below are for full-term classes. Deadlines for short-term classes vary with the length of the class. Most deadlines are mandated in the CA Code of Regulations and are a percentage of the length of the class.

Beginning October 1	New and former students may file an admission application for Winter/Spring 2023 and/or Summer/Fall 2023.
November 7	Priority registration begins
February 12	<b>Residency determination date.</b>
February 13	<b>Spring classes begin.</b>
February 13 - 25	<b>Late Registration. Beginning on first day each class meets, add authorization code from instructor required to register for that class, filled or open.</b>
February 17	<b>Holiday</b> – Lincoln’s Birthday. No classes.
February 20	<b>Holiday</b> – Washington’s Birthday. No classes.
**February 25**	<b>Deadline to register for full-term courses. Deadline to drop full-term classes and be eligible for a Refund. Deadline to select P/NP grading option for courses with that option. Does not pertain to Non-credit Program courses.</b>
February 26 *Sunday*	<b>Deadline to drop without course appearing on transcript (without receiving a W). Note: Fees will be charged and no refunds given for courses dropped</b>
February 27	<b>Census</b> – (For Short Term classes, please check your roster for Census date).  Ticketing for parking violations in student spaces on main campus begins. <u>Note:</u> tickets are issued for reserved (faculty/staff), disabled, metered, 15-minute, and no-parking spaces year around.
March 10	<b>Financial Aid Freeze Date</b> - Complete withdrawal before this date will require financial aid eligibility recalculation and funds may be owed.
April 10 – 26	<b>Spring Recess.</b> No classes.
April 21 *Friday*	<b>Deadline to submit <i>Petition for Graduation</i> for degree to be awarded for Spring and Summer 2023 and participate in Commencement.</b> Students must meet with a Counselor and have an evaluation completed before this date.
April 27	<b>Return to Title IV Drop Date</b> – Units enrolled as of this date will be used to determine enrollment status for financial aid payment
**May 13** Saturday	<b>Deadline to drop full-term classes. (Note: This deadline date is not for short-term classes.)</b>
May 29	<b>Holiday</b> – Memorial Day. No classes.
June 5 - 9	Final Exams.
June 9	<b>Deadline to apply to receive degree or certificate at end of Spring Intersession, and not participate in Commencement.</b> Completed petition must be received in Admissions & Records Office by this date. Students must meet with a Counselor and have an evaluation completed and petition signed before this date.
June 10	Commencement Ceremony



## Anticipated Class Schedule/Calendar

Wk	Date	Lecture	Problem set	Labs & Exams
1	Feb 13- Feb 17	Syllabus and Fundamental A & B (Matter & Measurement) and (Electrons, Atoms, & Compounds)	Problem sets 1 & 2	Labster: Chemistry Safety
2	Feb 20 – Feb 24	Fundamentals C (Chemical Reactions)	Problem set 3	M-A: Nomenclature
3	Feb 27 – Mar 3	Fundamentals D (Chemical Composition)	Problem set 4	Labster: Ionic and covalent bonds M-18: Net Ionic Equations
4	Mar 6 – Mar 10	Fundamentals E & F (Limiting Reagents) and (Redox Reactions)	Problem sets 5 & 7	IVC 5: Formula of a Hydrate
5	Mar 13 – Mar 17	Fundamental G & H (Solutions) and (Electrons in Atoms)	Problem sets 6 & 8	<b>Lecture Exam 1 (Fun. A-E)</b>
6	Mar 20 – Mar 24	Focus 1 (Atoms)	Problem set 9	M-7: Chemistry of Oxygen Labster: Redox Reactions
7	Mar 27 – Mar 31	Focus 2 A-D (Chemical Bonds)	Problem set 10	<b>Lab Exam 1</b> Labster: Titration
8	Apr 3 – Apr 7	Focus 2 E-F (Molecular Shape)	Problem set 10	<b>Lecture Exam 2 (Fun F-H and Focus 1)</b>
9	Apr 10 – Apr 14	Spring Break. No Classes		
	Apr 17 – Apr 21	Focus 3 A-F (Gases)	Problem Set 11	M-34 Reduction Oxidation
10	Apr 24 – Apr 28	Focus 3 G-H (Liquids & Solids)	Problem Set 11	M-B: Lewis Structures Labster: Ideal Gas Law
11	May 1 – May 5	Focus 4 and (Thermodynamic)	Problem set 12	M-11: Standard Molar Volume
12	May 8 – May 12	Focus 4 & 5 (Thermodynamics) and (Chemical Equilibrium)	Problem sets 12 & 13	<b>Lecture Exam 3 (Focus 2-3)</b> M-14: Heat Capacities of Metals
13	May 15 – May 19	Focus 5 & 6 (Chemical Equilibrium) and (acids and bases)	Problem sets 13 & 14	M-23 Equilibrium <b>Lab Exam 2</b>
14	May 22 – May 26	Focus 6 (acids and bases)	Problem set 14	Labster: Equilibrium <b>Lecture Exam 4 (Focus 4-5)</b>
16	May 29 – Jun 2	Focus 7 (Aqueous Equilibrium)	Problem set 15	<b>Lab Exam 3</b> Labster: Advanced Acids and Bases
17	Jun 5 – Jun 9	Review for final	<b>Final Exam</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.