Chemistry 100 (Introduction to Chemistry) Syllabus and Schedule

Basic Course Information

Semester:	Fall 2017	Instructor Name:	Dr. Alto Benedicto
Course Title & #:	Chemistry 100	Email:	alto.benedicto@imperial.edu
CRN #:	10050	Units:	4
Classroom:	2715	Office #:	2779
Class Dates:	Aug 14 to Dec 8, 2017	Office Hours:	MTWR 6:10 – 6:30 pm (Rm 2723) MTWR 9:40 – 10:10 pm (Rm 2723) S 9:00 – 10:00 am (Rm 2715) or special appointment
Class Days:	Tuesday (Lab)	Office Phone #:	(760)355-5751
Class Times:	6:30 pm – 9:40 pm	Emergency Contact:	Department Secretary (760) 355-6155

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. analyze chemical reactions and chemical problems through stoichiometry. (ILO2)
2. predict properties of matter using atomic theory. (ILO2)
3. use the periodic table properly to determine trends in elements (atomic size, number of valence electrons, metallic character, electronegativity, etc.). (ILO2, ILO4)
4. perform chemical experiments in a safe, accurate, and scientific manner, using proper glasswares, graphs, and spreadsheets. (ILO2, ILO4)

Course Objectives

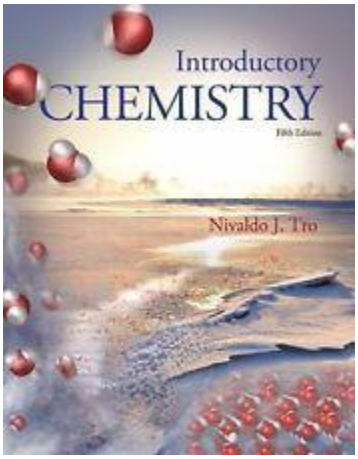
Upon satisfactory completion of the course, students will be able to:

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 Chemistry*, by Nivaldo J. Tro (Custom Edition for IVC. Prentice-Hall Publishing, 5th Ed, **ISBN:** 1269713876)



2. Chemistry 100 Laboratory Manual available at **IVC Chemistry/STEM Club** ($15)
3. Eight (8) Scantron Sheets Form No. 889-E (submitted on the second day of class) and pencil
4. safety goggles ($5 - $10; needed on second class day), non-programmable scientific calculator ($15 - $25), close-toed shoes
5. registration with www.saplinglearning.com for online HW ($40) – requires credit card
6. free access to Net Tutor (online tutoring with a live person) via Canvas

Course Requirements and Instructional Methods

1. Attendance and remaining during the entire class period is mandatory for Chem 100 Lab Classes. A Lab roll call will be initiated by the instructor within the first 5 minutes of Lab class. If you are sent out during class (e.g., failure to obey safety rules such as wearing Safety Goggles, etc.), you will be marked absent for that Lab, and will garner zero points for the experiment.

2. There are **no make-up Exams or Lab Classes**. A score of **zero (0)** will be recorded unless the absence is attributed to representation of official college functions. It is the student's responsibility to show proof of such function **prior** to the date of the absence.
3. During Exam, the only things allowed are: **pencil, nonprogrammable calculator, and I.D.** You will be supplied with a Periodic Table and a Scantron. You may use the Exam Questionnaire as scratch paper. The Exam Questionnaire, Periodic Table, and Scantron are to be submitted at the end of the Exam. **Possession of electronic devices (phones, ipod, programmable calculator, etc.) during Exam is considered cheating** and will be dealt with according to IVC policy.
4. Each student is REQUIRED to **buy the Chem 100 Lab Manual** and to **sign up for online HW no later than the second day of class**. Personal laptop is highly encouraged for online HW during Lab Class.
5. **Due dates for Online HWs are found in the Class Schedule of Topics (see last page).** For help in online HW beyond the instructor, go to support@saplinglearning.com . Also, there's online tutoring with a live person in **Net Tutor** (embedded inside Blackboard or Canvas).
6. Prior to start of Lab Class, read the relevant experiment and answer any Pre-Lab Questions. **Pre-Lab Questions sheet should be torn from the Lab Manual and submitted to the Instructor within two (2) minutes from start of Lab Class to gain full points**. So tear out the relevant Pre-Lab sheets before coming to class, and don't be late!!!
7. Before leaving the Lab Class, make sure the **instructor has signed** your Lab Data Sheet. Data should be recorded in **ink**. Cross-out mistakes with a single strike-through line. **Data Sheets and Post-Lab Questions are to be submitted within the first two minutes of the next time Lab meeting**.
8. Lab clean-ups are done 15 minutes before the end of lab. A **wet towel** should be used to wipe the lab bench in order to gain full points. Make sure sink and work area is clean. Points will be deducted to the entire class if the common work areas (fume hood, analytical balances) are dirty.
9. There are no bonus work available. Kindly seek assistance immediately to clarify any questions.
10. Since this is an Hybrid section, with the lecture discussion being done online, you must have access to a computer and an Internet connection. No other special technical skills are needed other than knowledge on how to use Canvas.

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

Assessment Type	How many	Total Points
Lecture Exams	6 @ 50	300 pts
Lecture Final Exam	1 @ 150	150 pts
Online Homework	17 @ 20	340 pts
Lab Experiments	8 @ 20	160 pts
Lab Exam and Discussion	1 @ 30+20	50 pts

OVERALL POINTS = 1,000 pts

Grading Scale Percentage	Letter Grade
85.00% to 100 %	A
75.00% to 84.99%	B

Grading Scale Percentage	Letter Grade
60.00% to 74.99%	C
50.00% to 59.99%	D

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, no one who is not enrolled in the class may attend, including children.

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.

- **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 StudentHealth 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 therapy are provided to currently enrolled students. Contact the IVC Mental Health Counseling Services at 760-355-6196 in Room 2109 for more information.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to dueprocess 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.

Anticipated Class Schedule/Calendar

WK	DATE	CHAPTER READINGS	LABORATORY ***Online HW due at 11:55 pm***
1	Aug 14 – Aug 19	Ch 1 & Ch 2: Chemical World; Measurement	Safety Quiz and Locker Check-in **HW 1 & Math Rev due**
2	Aug 21 – Aug 26	Ch 3: Matter and Energy	Lab 1: Mass of a Penny **HW 2 due**
3	Aug 28 – Sep 2	Ch 4: Atoms and Elements	Lab 2: Separation of a Mixture by Physical Methods **HW 3 due**
4	Sep 4 – Sep 9	Ch 5: Molecules and Compounds	**Lecture Exam 1** (covers Ch 1, 2, 3) **HW 4 due**
5	Sep 11 – Sep 16	Ch 6: Chemical Composition	Lab 3: Chemical Equil of a Cobalt Salt **HW 5 due**
6	Sep 18 – Sep 23	Ch 7: Chemical Reactions	**Lecture Exam 2** (covers Ch 4, 5) **HW 6 due**
7	Sep 25 – Sep 30	Ch 8: Quantities in Chemical Reactions	Lab 4: Precipitation with Net Ionic Equations **HW 7 due**
8	Oct 2 – Oct 7	Ch 9: Electrons in Atoms and the Periodic Table	**Lecture Exam 3** (covers Ch 6, 7) **HW 8 due**
9	Oct 6 – Oct 14	Ch 10: Chemical Bonding	Lab 5: Determining the Formula of a Compound **HW 9 due**
10	Oct 16 – Oct 21	Ch 11: Gases	Lab 6: Lewis Structure and Molecular Shapes **HW 10 due**
11	Oct 23 – Oct 28	Ch 12: Liquids, Solids, and Intermolecular Forces	**Lecture Exam 4** (covers Ch 8, 9, 10) **HW 11 due**
12	Oct 30 – Nov 4	Ch 13: Solutions	Lab 7: Calorie Content of Vegetable Oil **HW 12 due**
13	Nov 6 – Nov 11	Ch 14: Acids and Bases	**Lecture Exam 5** (covers Ch 11, 12, 13) **HW 13 due**
14	Nov 13 – Nov 18	Ch 15: Chemical Equilibrium	Lab 8: Titration of an Acid **HW 14 due**
15	Nov 20 – Nov 25	*Thanksgiving Break*	**HW 15 due**
16	Nov 27 – Dec 2	Ch 16: Redox Reaction	**Lecture Exam 6** (covers Ch 14, 15, 16) Locker Checkout **HW 16 and HW 17 due**
17	Dec 4 – Dec 8	Ch 17: Radioactivity and Nuclear Chemistry	**Lec Final Exam and Lab Final Exam**

*****Tentative, subject to change without prior notice*****