

**Chemistry 202 - General Chemistry II**  
**Imperial Valley College**  
**Lecture/Lab**

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**Required Materials:**

- Textbook: Chemical Principles: The Quest for Insight. Peter Atkins, Loretta Jones. 5<sup>th</sup> ed. W. H. Freeman (2009)
- Lab Manuals: General Chemistry on the Laboratory; Postma et al, 7th ed. 2009
- Supplemental Lab Manual: Chemistry 202 Laboratory Packet; IVC chemistry website
- Safety Glasses or Goggles: must be acid and heat resistant. These must comply with:
  - Meet ANSI\* Z87.1-2003 standards.
  - Polycarbonate lens
  - Wraparound protection offers a wide field of vision
- Non programmable Calculator: a highly recommended calculator is the Texas Instruments TI36X Solar Scientific Calculator (not the "Pro").
- Scranton for your final exam. Preferably the 882-E, for 100 answers.

**Additional Required Supplies:** Closed toed shoes.

**CLASSROOM ETIQUETTE AND ACADEMIC HONESTY**

**Removal of students**, by the Instructor, for "good cause" either temporary or permanent is found in California Education Code Section 76030-76307. Definition of Good Cause including but not limited to: Continued disrupted behavior, continued willful disobedience...open and persistent defiance of the authority...

**No electronic equipment** will be allowed to be used in the classroom, **including cell phones and computers**, without permission of instructor. This is a college classroom; disruptive or disrespectful behavior will not be tolerated. It is NOT OK to be late, sleep, talk, whisper, or do homework for another class. Class will end on time, so do not pack up early and disrupt the class. 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.

A college education is supposed to be challenging. This class requires hard work. **Students must do their own work**. Looking on someone else's quiz or exam, handing in a paper or lab you did not write (or with significant portions written by someone else), discussing your answers to quizzes, and passing notes during exams, are all examples of cheating. Anyone whom I determine to have cheated will receive a zero score on the exam or assignment. Repeated acts of cheating may lead to an "F" for the final course grade and/or college administrative disciplinary action. For a complete discussion of disciplinary procedures for academic dishonesty or other student misconduct, please refer to the current IVC General School Catalog.

**Cheating and Plagiarism.** IVC expects honesty and integrity from all students. A student found to have cheated on any assignment or plagiarized will receive a zero for the assignment and sent to Disciplinary Officer Sergio Lopez. A second occurrence of cheating or plagiarism may result in dismissal from class and expulsion from IVC as outlined in the General Catalog.

**Course Objective:** Chemistry 202 is designed for students majoring in various science fields requiring a complete and thorough knowledge of general chemistry principles and applications and have not previously taken a chemistry course.

**Course Prerequisites:** *Chemistry 200*

**Course Overview:** Chemistry is the study of matter - its composition and how it changes. All sciences are based on chemistry to some extent. That is why Chemistry is known as the Central Science.

**SLO Student Learning Outcomes: Assessment:** Lab Exam 2, see below for more information.

**Chemistry Writing Assignments:** You have a writing assignment for each chapter. 250 word max limit, 10 points. You will be graded on both content and style. I won't struggle to find your point. All your essays must be organized, logical and specific; above all they must be clear. Clarity is a primary virtue in this class. Your assignments are turned in at Turnitin.com. For instructions on (1) Class Id, and (2) Class Password go to our website listed under faculty: <http://faculty.imperial.edu/jim.fisher/item/508-chemistry-assignments>, and look for "Writing Assignment Instructions" for links to (A) setting up a new account, and (B) returning students. You will have three days from the assigned date to submit your work, starting and ending at 8AM. Zero points awarded for plagiarized work.

**Lecture Quizzes:** A short quiz on lecture material will periodically be given at the beginning of class. Quizzes are worth 10-15 points each with **no makeup** quizzes allowed. Quizzes will not be given on lecture exam days.

**Lecture Exams:** There will be 6 exams in the Fall & Spring and ALL 6 exams count. During Winter and Summer 5 exams are given no exams are dropped. No **make-up** exams will be allowed. Exams will be graded and then returned as soon as possible.

**Final Exam:** The Final Exam is comprehensive. Final exam questions are in multiple-choice format. You will be given a 882 Scantron for the exam. There are **no make-ups** because the date and time of the Final is the last day of class. **You MUST score at least 50% on the final to receive full credit for the final.** Full credit means you will receive 4 pts for each question on the final exam. If you score less than 50%, you will receive only 1 point for each question on the final. NO "cheat-sheet" on the final

Quizzes	5 @ 10	50 pts
Writing Assignments	11@10	110 pts
Exams	6 @ 100	600 pts
Lab Exams	3@ 100	300 pts
Labs	14 @ 10	140 pts
Lab Cleanup	14@10	140 pts
Lab Attendance	14@10	140 pts
Final Exam	240 pts; You MUST SCORE 50% or better to receive credit for the final!	
TOTAL (about)		≈1350 pts

Letter grades will be assigned based upon the % of points earned: Grading scale, A: 90-100%; B: 80-89%, C: 70-79%, D: 60-69, F: <59.

**Lecture Attendance** is recorded. Students are expected to attend every class session. Any student who misses the first class will be dropped. Students may be dropped at instructor discretion if they miss more than a week of class hours continuously. Please make arrangements with the instructor or a fellow student to keep up with all assignments in case you cannot attend a class session for any reason.

**Lab Attendance** is recorded just as lecture attendance, the difference being that 10 pts are added to your score for being at the start of lab, zero for missing lab explanation though not marked absent if late. **You will receive no points for a lab you miss. 3 unexcused absences and you will be dropped. You may be asked to have your lab signed by the Instructor, at the beginning and end of the lab to receive any credit. Since Closed Toed Shoes are mandatory for Lab, not having closed toed shoes counts as an absence, and you will NOT receive credit for the lab. Locker checkout counts as 2 labs or 20 points.**

**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. **Falling behind will be disastrous**

**Lab Cleanup** is 10 pts for each lab. Clean your area up. The entire class will lose points if the sinks, scales, hoods, floor are not clean, chemical caps not screwed back on, and chairs not put in place.

### Chemistry 202 Lab Procedure

**Laboratory:** All experiments are required to be prepared as **formal lab write-ups** as described in the lab notebook handout. The core of the write-up in your notebook will include the title, objective, and procedures, and must be done **prior** to the start of the lab. In order to begin an experiment, the instructor must initial the pre-lab. This is necessary to insure safety in the lab. In addition, each lab experiment will require a data, calculations, and discussion write-up that is completed in your lab notebook. There are no lab make-ups. Unless otherwise instructed, each student will work on experiments individually.

**Safety** in the laboratory is of utmost importance - those who do not follow the outlined safety procedures will have points deducted from their lab score or asked to leave the lab during that lab. Closed toed shoes and goggles are required.

**Lab Notebook:** The format of the lab notebook is described in the lab notebook handout. The notebook will be checked continuously during laboratories-Do Not Fall Behind!! You will not be allowed to start an experiment until the Prelab is completed and checked. Experiments are due as directed, late experiments are acceptable with a *loss of points (one point per lab point)* up to the lab before the lab exam. Your lab notebook can be used on the lab exams. No attachments of any kind may be included i.e. glue or staples extra pages, etc...!

**Completed** experimental lab write-ups are due the following lab meeting, **1 pt will be lost per lab day late following the second day late. NOTE**, the definition of a Lab Day is at the end of the Lab period since labs are Only graded During lab, and Never between labs; in other words the next lab day starts at the end of that

days lab or any lab graded after that lab is officially over is considered the next lab day. All labs included on a lab exam must be graded prior to taking the lab exam or they will earn no points. The lab notebook will be checked continuously during laboratories.

**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. See Course Schedule for Lab Exam dates and content. No Make-up Lab exams will be allowed.

This Point Total is added to your Lecture Score to obtain a total score that includes both the lecture and lab component of this class.

**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!!!!**

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (SDP & S) as soon as possible. DSP & S Room 2117 Health Services Building (760) 355-6312.

**Student learning outcomes:** Student learning outcomes or SLOs are statements that specify what students will know, be able to do or be able to demonstrate when they have completed or participated in a program/activity/course/project. Outcomes are usually expressed as knowledge, skills, attitudes or values.

SLOs specify an action by the student that must be observable, measurable and able to be demonstrated! The purpose of having SLO's is to help departments understand how to better facilitate student learning. It gives departments feedback about skills students are learning. It also helps students to articulate what they are learning and have learned inside and outside of the classroom. Ultimately, this will provide students with a map of where various learning opportunities are available throughout IVC.

The most basic SLO is an Institutional Student Learning Outcomes, and they are categorized as **ISLO1** = communication skills; **ISLO2** = critical thinking skills; **ISLO3** = personal responsibility; **ISLO4** = information literacy; **ISLO5** = global awareness. There are also Division and Department SLO's.

For this class, we are focusing on the following: Students examine and develop concepts of covalent bonding, orbital hybridization and molecular orbital theory (ISLO4); Students identify and perform organic addition and elimination reactions (ISLO2); Students compare and analyze Thermodynamics properties and

differentiate between spontaneity and maximum useful work heat and Free energy (ISLO2); Students develop ideas of Chemical Kinetics from experiments using concentration dependence then determining rates and rate law (ISLO4); Students recognize oxidation-reduction reactions in electrolytic cells, sacrificial anodes, the use of the Nernst equation, and how to balancing red-ox reactions (ISLO2).

**Chemistry 202**  
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**Rubric for Laboratory Exam**

Levels of Implementation Score%	Characteristics of Effective Laboratory Examination Assessment			
	INVESTIGATE & RESEARCH	ANALYZE & EXAMINE	INSTRUCT & SYNTHESIZE	REFLECT & INTERPRET
<b>Emerging</b> <b>&gt;50%</b>	Meandering and incoherent knowledge shown	Detects few if any connections or patterns.	Applies little information. Combines few facts or ideas. Needs more development.	Conceives few ideas. Draws few inferences. The meaning of the topic is vague.
<b>Competent</b> <b>75-95%</b>	Understanding of the problem. Adequate knowledge displayed.	Sifts and organizes information. Detects patterns. Connects information to explain the topic.	Assembles and combines knowledge to form a coherent whole.	Uses perspectives and insights to explain relationships.
<b>Exemplary</b> <b>Full Credit</b>	Knowledge base displays scope, thoroughness, and quality.	Prospects for patterns and connections. Uses plans or models to explain the nature of the whole problem.	Combines facts and ideas to create knowledge that is comprehensive and complete.	Point of view reveals meaning of topic with insight into its significance.