

CHEMISTRY 120: Introductory Chemistry

Fall 2017

Lecture: MW 5:25 pm – 6:50 pm
Discussion: MW 7:00 pm – 7:55 pm

Instructor
Office Hours
Course Website
Email Address

Greg Sanchez Ph.D.
By appointment only
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Course Description: This one-semester course is designed for students intending to major in science or engineering. The course primarily prepares students for Chemistry 130; additionally, it fulfills the general education requirement in the physical sciences. This course introduces the fundamental principles of general chemistry, with emphasis on chemical nomenclature and quantitative problems in chemistry. The lecture presents classical and modern chemistry including atomic theory, periodic properties, chemical bonding, chemical reactions, stoichiometry, acids and bases, gas laws and solutions. The laboratory introduces the techniques of experimental chemistry with examples from all areas of chemistry.

Prerequisite

Math 70 (Intermediate Algebra) or equivalent

Required Materials

Text: Introductory Chemistry Essentials, Rio Hondo College Custom Edition, by Nivalda Tro (Bookstore)
Laboratory Book: Chemistry 120 Laboratory (Bookstore)
Sapling Learning Systems – Chemistry 120 Access (\$40/semester)
Safety Goggles
Crucible with cover
Calculator – must be nonprogrammable, non-graphing with log functions and exponential notation

Important Dates

September 1st Last day to add **or** drop with a refund
September 4th Labor Day
September 15th Last day to drop **without** a "W"
November 9th Last day to drop with a "W"
November 10th Veterans Day
Thanksgiving November 23rd & 24th
December 6th Final Exam 4:45pm to 6:45pm

Grading Summary			
Grading Scale		Point Distribution	
A	90% - 100%	Homework	100
B	80% - 89%	Quizzes	130
C	70% - 79%	Lab Reports	190
D	60% - 69%	Exams	300
F	Below 59%	Final	180
		Total	900

Note: Attendance, punctuality, and conduct will be taken into consideration when determining final grades

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Student Learning Outcomes	
Students will correctly determine the value of measured quantities and express results with the correct units and number of significant figures.	
Students evaluate quantitative and/or qualitative data and develop a reasonable hypothesis based on these results.	
Given the formula of an atom or ion, students construct the corresponding electron configuration and/or orbital diagram.	
Students represent molecules of simple compounds with Lewis Structures which they then use to determine the three-dimensional shape of the molecule.	
Given the formulas of a diverse range of chemical compounds, students will determine the correct name(s) of the compound following IUPAC nomenclature procedures.	
Students will accurately predict the products of elementary chemical reactions and provide balanced chemical and/or net-ionic equations for these reactions.	
Students will determine the limiting reagent in a given reaction system and accurately calculate the amount of product which should theoretically be produced.	
Students determine the concentration (e.g. molarity) of compounds and/or ions present in an aqueous solution.	
Students know the common rules of laboratory safety and consistently demonstrate safe behavior in the chemistry labs	

Homework	You should expect to spend several hours studying and completing homework each week. Most students find this course to be very demanding. Diligent completion of homework assignments is the single most important factor for succeeding in the class. Homework will be completed online using Sapling Learning's interactive system. Additional homework (to be turned in during class time) may be assigned at my discretion. See my website for details.
Quizzes	There will be a quiz once a week during the discussion session . Quizzes will cover recent material from lecture and lab. No makeup quizzes will be given; however, the lowest quiz score in the lecture and the lab will be dropped at the end of the semester.
Exams	Exam dates are given on the attached Lecture Schedule. No makeup exams will be given unless verifiable , extraordinary circumstances occur (be prepared to show proof). No make-up exams will be given after the exam has been returned. Exams may be given <u>early</u> to students at the instructor's discretion if the circumstances warrant. Please see your instructor as soon as possible before the scheduled exam date to discuss taking an exam early. The final is cumulative and is made up of a multiple choice and written section. The multiple-choice portion of the final exam will require a Scantron 882 form. The final will be administered on Wednesday May 24th from 4:45pm to 6:45pm . You must take the final exams at the scheduled times, no exceptions.
Calculators	You may not share a calculator with another student during quizzes and exams. Also you will frequently need to use your calculator on problems completed during class and lab so bring a calculator with you to class every day. In an emergency, you may rent a calculator from the Stockroom (U318) for a 2-hour period. Programmable electronic devices such as mobile phones, iPods, Tablets, etc. may not be used in lieu of a calculator.

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Lab Report	Lab reports should be completed and turned in at the end of the laboratory assignment. <u>Multi-page reports or assignments must be stapled.</u> <u>Neatness counts.</u> All lab work should be done individually unless otherwise instructed. Even if the lab is done as partners, the lab report must be done individually.
Lab Work	Students must keep their lockers, lab benches, reagent shelves, sinks, fume hoods, and balances clean. Leaving a mess = losing points.
Lab Participation	Participating in labs is a critical part of the chemistry experience. You are expected to do all of the lab experiments. Thus, failure to complete three lab assignments will result in a course grade no higher than a "D." Completing a lab consists of performing the experiment AND handing in the lab report. There will be no makeup labs unless <u>verifiable</u> , extraordinary circumstances occur (be prepared to show proof).
Lab Safety	By California State Law and for your protection, you are required to wear eye protection at all times in the laboratory. Food and beverages should be consumed <u>outside</u> of the lab. It is also imperative that you wear the proper attire to lab. Appropriate clothing and closed-toe shoes must be worn at all times during the lab. Failure to comply with the dress code will result in dismissal from the lab. Mobile device use is restricted in the lab. Chemicals on your hands or surfaces can easily be transferred to your mobile device and subsequently your face causing skin irritation. Unauthorized experiments are strictly prohibited; safety rules must be followed at all times. Failure to follow safety rules could result in the deduction of points and/or dismissal from the lab period. Repeated or major violations of the safety rules could result in dismissal from the course.
Academic Honesty	Rio Hondo College and your instructor believe that academic honesty is a cornerstone of the educational community. Any form of academic dishonesty, whether it occurs inside or outside the classroom will result in a score of zero for that exam, quiz, or assignment without option of dropping and may result in an "F" or dismissal from the course.
Students with Disabilities	Any student with a disability who believes that he/she may need accommodations in this class is encouraged to contact the Disabled Students Program and Services office as soon as possible to ensure that such accommodations are implemented in a timely manner. The office is located in room SS330 and the telephone number is (562) 908-3420.

Getting Help

Tutoring: Free tutoring is available in the **Math and Science Center** (MSC). For more information, visit their website:

<http://www.riohondo.edu/mathematics-and-sciences/mathematics-and-sciences-homepage/tutoring/>

On-line Chemistry Tutorial: We all have different styles of learning and there are several great resources for beginning chemistry students online. Search the subject matter of interest and you are bound to find worked out example problems, lecture slides and U-Tube video tutorials.

Study groups: Get together with other class members and form a study group which meets regularly to do homework and study.

Your instructor: E-mail and office hours. Please ask questions!