

Chemistry 1A

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Section 1198, Fall 2009

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Prerequisite: Chemistry 4 with a minimum grade of C or a passing grade on the Chemistry Placement Exam

Course Description: This course details fundamental theory and principles of atomic and molecular structure, physical states and chemical reactions. It includes the study of elements, compounds, periodic relationships, bonding, acids and bases, oxidation-reduction, energy, solutions, electrolytes and chemical reactions. Descriptive chemistry of selected nonmetals, including hydrogen, oxygen and carbon, is also presented.

Course Objectives: Upon completion of this course, students will be able to:

1. Use scientific terminology more efficiently.
2. Name and write chemical formulas of inorganic and organic compounds.
3. Write chemical equations, predict chemical reactions and perform chemical calculations.
4. Understand the principles of modern and quantum theory of atomic structure.
5. Construct chemical bonds, corresponding Lewis structures, and determine molecular shape and molecular polarity.
6. Apply the first law of thermodynamics to calculate the heat of reaction and bond energies.
7. Determine intermolecular forces and relate them to the properties of solids, liquids and gases.
8. Understand the kinetic molecular theory of gases to explain the behavior of ideal gases, differentiate between ideal and real behavior, and perform ideal gas law and gas stoichiometric calculations.
9. Understand properties of aqueous solutions, perform concentration calculations and explain Colligative properties.
10. Understand the theories of acids and bases and predict the strength of acids and bases.

Student Learning Outcomes: Students will practice safe laboratory procedures by putting their goggles on at the beginning of a chemistry lab experiment involving burners or chemicals, and by keeping their goggles in place during the entire course of the experiment. Students will not remove their goggles until the students are leaving or until the instructor has said that it is safe to do so (whichever comes first).

On a written exercise, given the names of chemical compounds, students will be able to write the correct reactant formulas, states of matter (when required), identify reaction type, predict the formulas of products, and balance the chemical equation.

Required materials: Petrucci, et al, "General Chemistry Principles and Modern Applications," 9th edition; Scroggins, et al, "Chemistry 1A Experiments," Fall 2006 edition; safety goggles (instructor approved); non-programmable calculator.

Grading:		<u>max</u>
	Exams (3 x 100 pts)	300
	Experiments (14 x 10 pts ea)	140
	Quizzes (9 x 10 pts ea, minus low)	080
	<u>Final exam (comprehensive)</u>	<u>200</u>
	Total	720

Final letter grades will be assigned based on the following:

90-100% = A; 80-89% = B; 70-79% = C; 60-69% = D; <60% = F

Quizzes and Tests: Programmable calculators may not be used during a quiz or exam. If you miss a quiz or a test, you will receive a zero. As a general rule, there will be no make-up exams except in extreme circumstances. In the event a makeup is granted, it will be harder than the regular exam.

Lab: Lab reports are due one week after the completion of lab, at the beginning of class. Laboratory assignments will not be accepted late.

Observations and data taken in the laboratory are to be recorded in ink. Do not transcribe data to your report or use liquid paper to make corrections. All labs are individual efforts unless otherwise noted. A student must attend an assigned lab in order to receive credit for the lab.

Bring your laboratory manual to class everyday. Late students may be penalized or not permitted to perform the experiment at all. Do not copy the results of other students or bring completed worksheets from a previous semester. Read the experiment before you come to class. If you drop the course, you must check out of your lab drawer and have a card signed by the stockroom.

You must wear your goggles in the lab.

Open toe shoes can not be worn during lab experiments.

Attendance: Students who enroll in the class but do not attend the first scheduled class meeting may be dropped from the course and their place given to students who are waiting to enroll. Attendance will be taken on a daily basis. Students will be granted 2 unexcused absences, but will lose 5 points for each additional unexcused absence. Students will also lose 2 points whenever they are more than 30 minutes late to class. A student may be dropped from the class when the number of absences exceeds the number of units assigned to the course. Students that will not be able to attend or will be excessively late should contact the instructor to discuss their situation before it affects their grade. (<http://www.elcamino.edu/admissions/attendance.asp>).

Standards of Conduct: Conduct at El Camino College must conform to the laws of the State of California, District policies, and campus rules and regulations. The El Camino College faculty, staff and administration are dedicated to maintaining an optimal learning environment; the standards of behavior as outlined in this policy are essential to the

maintenance of a quality college environment. These standards will apply to all students on campus, other college property, or while attending any college-sponsored event. Violation of these laws, policies, rules or regulations, or behavior adversely affecting suitability as a student, will lead to disciplinary action.

Misconduct can include the following –

Dishonesty, including but not limited to cheating, plagiarism or knowingly furnishing false information to the College.

Forgery, alteration, or misuse of college documents, records, or identification.

Continued disruptive behavior, continued willful disobedience, profanity or vulgarity, or continued defiance of the authority of, or abuse of, college personnel or to anyone on campus.

Participation in hazing or commitment of any act that tends to injure, degrade or disgrace another student or college personnel.

Obstruction or disruption of teaching, research, administration, disciplinary proceedings, or other authorized college activities including but not limited to its community service functions or to authorized activities held off campus. Obstruction or disruption includes but is not limited to the use of skateboards, bicycles, radios, and roller skates.

Any serious, persistent misconduct not listed above.

Disciplinary Action that may be taken by El Camino College –

Warning – A verbal or written notice, given to the student by a faculty member, the Dean of Student Services, or any college manager that continuation or repetition of the specified conduct may be cause for other disciplinary action.

Reprimand – A written reprimand for violation of specified regulations sent to the student by the Dean of Student Services, noting that continued violations may result in further disciplinary action. The Dean of Student Services shall place a copy of this reprimand in the student file.

Removal by Instructor – In addition to an instructor's right to drop a student permanently from a class for lack of attendance, an instructor may remove (suspend) a student from his or her class for that day of the incident and the next class meeting.

Suspension – The President of the Dean of Student Services may suspend a student as follows:

- a. From one or more classes for a period of up to 10 days of instruction; or
- b. From one or more classes for the remainder of the term; or
- c. From one or more classes and activities of the community college for one or more terms.

Cheating or Plagiarism

See the attached statement from El Camino College's Board Policy 5138, Standards of Student Conduct.

In the case of a violation of the Standards of Conduct, an instructor may assign a failing grade to the examination or assignment in which cheated or plagiarism occurred. The instructor may also dismiss the student from the class and/or the following class as stipulated in BP5138. The instructor may also recommend suspension or expulsion of the student from the college as stipulated in BP5138. An Academic Dishonesty Report Form will also be completed and submitted to the Division Office for distribution.

Homework: I will make recommendations on problems to work at home, but not necessarily for every chapter. We will go over many of the problems from the text in class. If I am not satisfied with the overall progress of the class, then I will start assigning homework and grading it for inclusion in your final point total.

Grading Policy: see <http://www.elcamino.edu/admissions/grading.asp>

Withdrawals: see <http://www.elcamino.edu/admissions/grading.asp> or the Course Catalog. In the event you choose to withdraw from the course, the burden of following through with the withdrawal process is your responsibility. You may or may not be dropped for excessive absences; however, failure to attend does not guarantee that you will be dropped. If you do not officially withdraw before the designated deadline, you will be assigned a grade based on what you earned.

Deadlines: Quizzes, exams and any assignments will all have scheduled due dates. Occasionally it may be necessary to alter these dates due to class progress during the semester. Changes will be announced in class.

Students with Disabilities: El Camino has a tradition of providing access to education for students with disabilities. A student with a disability, who would like to request an academic accommodation, is responsible for identifying him/herself to the instructor and the Special Resources Center. Accommodations may be provided by the Special Resource Center. (<http://www.elcamino.edu/academics/src/>)