El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Chemistry**
COURSE RUBRIC AND NUMBER	**CHEM 1106**
COURSE TITLE	**Health Science Chemistry Laboratory I (F)**
COURSE CREDIT HOURS	**1 0 3** **Credits Lecture Lab**

I. Catalog Description

Accompanies CHEM 1306, Health Science Chemistry I. This is a laboratory-based course. Activities will include emphasis in atomic theory and bonding, chemical energetics and the theory of acids and bases. **Corequisite: CHEM 1306. (0:3). Lab fee.**

II. Course Objectives

Upon satisfactory completion of this Health Science Chemistry laboratory I section, the student will be able to:

A. Identify metric units used in measurement, correctly read a meter stick, balance, graduated cylinder, and burette. State the correct number of significant figures in a measurement and calculations. Round off a calculated answer to the correct number of significant figures. Determine areas and volumes of solids by direct measurement. Determine metric and metric to–U.S.-unit equalities and corresponding conversion factors. Use conversion factors in calculations. Calculate the density of a substance from measurements of its mass and volume. Calculate the specific gravity of a liquid from its density. Determine the specific gravity of a liquid using a hydrometer.

B. Write the correct symbols or names of some elements. Describe some physical properties for observed elements. Categorize an element as metal, non-metal or metalloid from properties and using a periodic table. Using the periodic table and given a symbol, the student will determine its mass number, atomic number, number of protons, neutrons and electrons.
Describe the color of a flame produced by an element. Use the color of a flame to identify an element. Write the electron configuration for an element. Draw and interpret a graph of atomic diameter against atomic number. Interpret the atomic radii within a family and a period. Compare physical properties of a compound with the properties of the elements that formed it. Identify Ionic and Covalent compounds. Write electron-dot structure for an atom and an ion. Write a correct formula of an ionic or covalent compound. Observe physical and chemical properties associated with chemical changes. Give evidence for the happening of a chemical reaction. Write a balanced equation. Identify a reaction as a combination, decomposition, replacement, or combustion. Use the mole conversion factors to convert grams to moles and moles to grams. Experimentally determine the simplest formula.

C. Understand Gas Laws, interpret graphs using different relationships among pressure, temperature and volume of a gas. Interpret Dalton's Law.

D. Distinguish between a calorie, kilocalorie, and nutritional Calorie. Use the specific heat of water to calculate heat lost or heat gained. Calculate the specific heat in cal/g^{0}C and J/g^{0}C of a metal. Calculate the caloric values of foods in kcal/g to calculate the kilocalories in a serving food. Use nutrition data on food products to determine the kilocalories in one serving. Prepare a heating curve and a cooling curve. Calculate the heat fusion of water. Identify a reaction as exothermic or endothermic. Identify the factors that affect the rate of a reaction. Observe that chemical reactions are reversible. Discuss factors that cause a shift in equilibrium.

E. Predict the solubility of a solute in polar and non-polar solvents. Identify a unsaturated, saturated and supersaturated solution. Compare the conductivity of strong electrolytes, weak electrolytes and non-electrolytes. Identify the electrolytes and their concentrations (mEq/L) in intravenous solutions. Calculate mass/mass, mass/volume and volume/volume percent concentration. Calculate molar concentration. Predict the formation of insoluble salts. Identify colloids and suspensions. Discuss the effects of hypotonic and hypertonic solutions on red blood cells. Use a ph Meter to obtain the pH of different solutions, and understand how a buffer works.

III. Evaluation

A. Pre-assessment

Instructors should check each student's co-requisites the first week of class; those who do not qualify should be sent back to Admissions.

B. Post-assessment

1. The instructor will maintain a continuous record of each student's progress on an institutionally approved grade sheet or computerized substitute from each experiment report. All instructors must keep records in such a way that information would be clear to a second party having to check grade computation in special cases. An explanatory legend should be provided on the grade sheet.

2. Two exams will be given: the mid-term and the final exam. In addition to reading assignments, the instructor may require quizzes and exercises according to the experiment.

It is essential that students commit themselves to the assignments throughout the semester.

Number and Types of Examinations: The course will include one mid-term written examination and one final examination.
The student has to read the experiment in advance to be able to do it.

The following approaches may be involved; however, instructors should stress the possible overlap of these strategies.

1. Process analysis
2. Critical thinking
3. Comparison/contrast
4. Classification
5. Definition
6. Description
7. Causal analysis
8. Analogy
9. Problem/solution

C. Final Examination

A final examination is required in all Chemistry 1106 labs. The exam should consist of all material covered on the experiments during the semester in the scheduled two-hour final examination period.

D. Grading Percentages

60% will be obtained from the average of the reports
20% will be obtained from the mid-term examination
20% will be obtained from the final exam

E. Remediation

There will be no remediation. Since the lowest exam grade is dropped, there are no make-up examinations.

F. Grading Scale:

A	= 90 –100	I	= Incomplete
B	= 80 - 89	W	= Withdrew or withdrawn
C	= 70 - 79		
D	= 60 - 69		
F	= below 60		

IV. Disability Statement (Americans with/Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024*)*

V. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.

VI. Title IX and Sex Discrimination

Title 9 (20 U.S.C. 1681 & 34 C.F.R. Part 106) states the following "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving Federal financial assistance." The Violence Against Women Act (VAWA) prohibits stalking, date violence, sexual violence, and domestic violence for all students, employees and visitors (male and female). If you have any concerns related to discrimination, harassment, or assault (of any type) you can contact the Assistant to the Vice President for Student and Enrollment Services at 915-831-2655. Employees can call the Manager of Employee Relations at 915-831-6458. Reports of sexual assault/violence may also be reported to EPCC Police at 915-831-2200.