

El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	<u>Chemistry</u>
COURSE RUBRIC AND NUMBER	<u>CHEM 1107</u>
COURSE TITLE	<u>Health Science Chemistry Laboratory II</u>
COURSE CREDIT HOURS	<u>1 0 3</u> Credits Lecture Lab

I. Catalog Description

Accompanies CHEM 1307, Health Science Chemistry II. This is a laboratory-based course. Activities will cover reactions of organic compounds, biochemical concepts such as metabolism, enzyme-catalyzed bio reactions, the functioning of hormones, neurotransmitters, and niobic acids. **Corequisite: CHEM 1307. (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. Observe chemical and physical properties of organic and inorganic compounds. Identify functional groups in three-dimensional models. Draw formulas for alkanes, cycloalkanes and haloalkanes from their three-dimensional models. Write the names of alkanes, cycloalkanes and haloalkanes. Construct models of isomers of alkanes, cycloalkanes and haloalkanes. Observe some reactions of hydrocarbons. Distinguish alkanes from alkenes through chemical tests. Write equation for combustion, addition, and substitution reactions of alkanes and alkenes.
- B. Determine chemical and physical properties of alcohols and phenols. Distinguish among primary, secondary and tertiary alcohols. Perform chemical tests to distinguish between the classes of alcohols. Write the equations of oxidation reactions of alcohols. Identify the functional groups of aldehydes and ketones. Determine physical and chemical properties of aldehydes and ketones. Perform chemical tests to distinguish between aldehydes and ketones.
- C. Identify the functional groups for carboxylic acids and Esters. Determine the solubility and acidity of carboxylic acids and their salts. Prepare esters and identify their characteristic odors. Draw structural formulas and give the names of amines. Observe some physical properties of amines. Identify solubility and neutralization of amines using several reactants.
- D. Distinguish physical and chemical properties of some common carbohydrates, use several chemical tests to distinguish between monosaccharides, disaccharides and polysaccharides. Relate the process of digestion to the hydrolysis of carbohydrates. Prepare soap by saponification of a fat or oil. Observe the reactions of soap with oil. And chemical compounds.
- E. Identify the structural patterns of proteins, observe reactions of denaturation of proteins. Use the isoelectric point of casein in milk to isolate its protein. Use chemical tests to identify proteins and amino acids.

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

- D. Final Examination
A final examination is required in all Chemistry 1107 labs. The exam should consist of all material covered on the experiments during the semester in the scheduled two-hour final examination period.
- E. 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
- F. Remediation
There will be no remediation. Since the lowest exam grade is dropped, there are no make-up examinations.
- G. 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 (American 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.