EFFECTIVE: MAY 2005
CURRICULUM GUIDELINES

A. Division: Science and Technology

B. Department / Program Area: Chemistry

Effective Date: January 2005

Revision [X] New Course [ ]

If Revision, Section(s) Revised: E,G,P,Q

Date of Previous Revision: March 2003

Date of Current Revision: June 2004

C:	**D:**	**E:**
CHEM 1110	The Structure of Matter	4
Subject & Course No.	Descriptive Title	Semester Credits

F: Calendar Description:

This course offers a brief review of stoichiometry, and the treatment of experimental data, and then focuses on the modern view of atomic structure, theories of bonding and molecular structure, organic chemistry including nomenclature, conformation of alkanes, ring strain, substitution and elimination reactions, and oxidation and reduction reactions.

G: Allocation of Contact Hours to

H: Course Prerequisites:

CHEM 1108 (or CHEM 1105) (C or better) or CHEM 12 (C+ or better) AND MATH 11 (C or better)

I: Course Corequisites:

J: Course for which this Course is a Prerequisite

CHEM 1210

M: Course Objectives / Learning Outcomes

Upon completion of this course, the students will:

1. Carry out measurements using the correct number of significant figures, and express the precision using absolute or relative uncertainties.
2. Given a set of experimental data, calculate the average value, the average deviation, and the standard deviation.
3. Solve stoichiometry problems of the following types: percentage composition/empirical formula, gram-gram or gram-volume (of a gas), solution stoichiometry, limiting reactant, problems involving two simultaneous or two sequential reactions.
4. Explain the Bohr Theory of atomic structure.
5. Give the electronic configuration of any of the common elements in the periodic table.
6. Given a periodic table, explain the relative sizes, ionization energies, and electron affinities of the elements.
7. Explain anemrhuaffinz Tw 8rn.02 0 C74011 (n126)1 o624ng 5r1a

molecules; Valence Bond Theory: hybridization, orbital diagrams; Molecular Orbital Theory: shapes and energies of molecular orbitals, bond order, intermolecular forces, and hydrogen bonding.

R:	Prior Learning Assessment and Recognition: specify whether course is open for PLAR No

Course Designer(s)	Education Council / Curriculum Committee Representative
Dean / Director	Registrar