



CHEM 113

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COURSE NAME / NUMBER

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**LEARNING OBJECTIVES / GOALS / OUTCOMES/ LEARNING OUTCOMES:**

Students will become familiar with principles of atomic and molecular structure and chemical bonding. They will be able to display their expertise in understanding the lecture material and handling the laboratory equipment.

**METHODS:**

Lectures, labs, group problem-solving sessions.

**PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):**

Credit can be awarded for this course through PLAR      YES   X        NO

**METHODS OF OBTAINING PLAR:**

Course Challenge

**TEXTBOOKS, REFERENCES, MATERIALS:**

Brown and LeMay, *Chemistry*

**SUPPLIES / MATERIALS:****STUDENT EVALUATION:**

Labs	20%
Assignments and tests	80%

**COURSE CONTENT:**

1. Atomic structure and atomic spectra.
2. Electronic structure of many-electron atoms, periodic trends.
3. Chemical bonding. Ionic and covalent bonds. Lewis diagrams.
4. Molecular structure. VSEPR model. Valence bond and MO theories.
5. Intermolecular interactions. Liquids, solids, gases. Gas stoichiometry.
6. Chemical kinetics.