

COURSE TITLE: Chemistry I
COURSE LENGTH: 1 year
COURSE CREDIT: 1 credit

COURSE TYPE: required
GRADE LEVEL: 10
PREREQUISITE: n/a

COURSE GOALS:

1. Students will recall the steps of the scientific method and apply those steps into chemistry experiments; identify and explain the required parts of an experiment; and identify the standard units of measurement and calculate their conversions.
2. Students will classify material and explain the differences between changes and properties.
3. Students will discuss early and modern atomic models and distinguish between the different subatomic particles.
4. Students will describe the development of the periodic table, explain the relationship within groups and periods, and illustrate the periodic table's use in interpreting the four quantum numbers of any electron in an atom.
5. Students will recognize element symbols, write chemical formulas, and name compounds.
6. Students will solve mole problems involving molecular mass, molarity, percent compositions, and empirical formulas.
7. Students will distinguish between bonding types of molecules and compounds; identify the difference between a bond and an attraction; and analyze molecular electron distribution to determine molecular shapes.

COURSE CONTENT:

1. Designing and conducting an experiment
2. Measurements
3. Matter and chemical energy
4. Atomic structure
5. Development and use of the Periodic Table
6. Chemical formulas
7. Moles
8. Formation of chemical bonds
9. Molecular structure
10. Polar molecules