CHEMISTRY 101
UNIT 1 – OUTCOMES

The student will be able to:

1) Define the following terms basic to chemistry:
- a) Chemistry
- b) Matter
- c) Energy
- d) Mass
- e) Weight
- f) Mixture
- g) Homogeneous
- h) Heterogeneous

2) Define the following relating to chemical components:
- a) Substance
- b) Compound
- c) Molecule
- d) Atom
- e) Element

3) Define the following relating to changes and properties:
- a) Physical Property
- b) Physical Change
- c) Chemical Property
- d) Chemical Change

4) List the three states of matter and describe the characteristics of each.

5) Describe the difference between mass and weight.

6) Classify units as being basic or derived.

7) Identify given and wanted quantities in a problem that are related by a "per" expression (conversion factor).

8) Set up and solve problems involving a "per" expression (conversion factor) by dimensional analysis.

9) Write the standard symbols for:
a) Grams b) Liters c) Meters d) Moles

10) Write the standard symbols for the metric prefixes:
a) Kilo- b) Centi- c) Milli-

11) State and write with appropriate metric prefixes the relationship between any unit and its corresponding kilo-unit, centi-unit, and milli-unit.

12) Given a mass, length or volume expressed in metric units, kilo units, centi units, or milli units express that quantity in the three other units.

13) In a measured quantity distinguish the numeral and the unit label.

14) Recognize that to be added or subtracted measured quantities must have identical units.

15) Add and subtract measured quantities, correctly expressing units in the answer.

16) Multiply and divide measured quantities correctly expressing units in the answer.

17) Recognize that dividing a unit by the same unit gives an answer of one. (This is called CANCELLATION.)

18) Reduce the units obtained as a result of a calculation to their lowest terms.