**BI-102 Learning Objectives – Chapter 2: Basic Chemistry**

**Fall '08**

1. Be able to explain why Dr. Tritt thinks the periodic table is so cool (seriously, this is important).
2. Be able to state what the atomic number of an element describes.
3. Be able to explain what feature determines the chemical behavior of atoms.
4. Be able to state what is required to move an electron into an orbital more distant from a nucleus.
5. Be able to state a concise technical definition of the term *oxidation*.
6. Be able to state a concise technical definition of the term *reduction*.
7. Be able to state and use the “octet rule.”
8. Be able to name and give the atomic symbols (letters) for the four main (primary) elements contained in organic molecules.
9. Be able to name and describe 3 types of chemical bonds.
10. Be able to describe hydrophobic interactions particularly with regard to biological molecules.
11. Be able to describe 3 attributes of water that makes it so important to life on earth.
12. Be able to concisely define *pH*.
13. Be able to give practical definitions, with respect to aqueous solutions, of the terms *acid*, *base* and *buffer*.
14. Be able to explain why the bicarbonate buffer system is of interest in biology.