**BI-102 Learning Objectives – Chapter 11: Sexual Reproduction (Meiosis)**

**Fall '08**

1. Be able to explain what it means when meiosis is called a *reductive process*.
2. Be able to define or explain the terms: *gamete*, *somatic*, *haploid*, *diploid*, *homologue*, *sister chromatid*, *centromere*, *synapsis*, *chiasmata* and *karyotype*.
3. Be able to explain a simple analogy for replicated chromosomes, homologues, sister chromatids (you can use the library one I described in the Chapter 10 lecture slide show or any other valid one).
4. Be able to describe the overall process of sexual reproduction (see Figure 11.3).

1. Be able to explain what happens during *crossing-over* and why this is important.
2. Be able to describe the products of meiosis (how many are there, are they haploid or diploid, do they contain duplicate DNA?).
3. Be able to state during which phase of meiosis homologous chromosomes are separated.
4. Be able to state during which phase of meiosis sister chromatids are separated.
5. Be able to explain what independent assortment is and why it is important.
6. Be able to briefly state what major events occur in each stage of meiosis (see slides 16 and 17 in the posted slide show).
7. Be able to explain two ways in which meiosis assures genetic variety.
8. Be able to speculate on the evolutionary importance of meiosis and sexual reproduction.