**BI-102 Learning Objectives – Chapter 13: Chromosomes and Inheritance**

**Fall '08**

1. Be able to describe the genetics of human sex determination in humans, fruit flies and birds.
2. Be able to describe the difference between *XY* and *WZ* genetic sex determination system.
3. Be able describe one genetic sex determination system other than the *XY* and *WZ* systems.
4. Be able to analyze situations and solve problems involving X and Y linked dominant traits (like white eyes in flies).
5. Be able to explain what a reciprocal cross is and what it means when the ratios of phenotypes in reciprocal crosses differs.
6. Know what *Barr bodies* are (and no, they’re not what you find in a drink establishment after last call) and in what type of individual’s they occur.
7. Be able to clearly state what the term *genetic recombination* means and give an example of its natural occurrence.
8. Be able to solve simple (two factor) linkage problems, but not 3 point crosses.
9. Be able to explain how observed patterns of inheritance can be explained by the events that occur during meiosis.
10. Be able to name and briefly describe a human disease caused by a genetic defect **not** involving an alternation in chromosome number.
11. Be able to name and briefly describe a human disease caused by an alternation in chromosome number.
12. Be able to define the terms *monosomy*, *disomy* and *trisomy*.
13. Be able to name, briefly describe and explain the differences between two methods used for the early detection of genetic abnormalities in humans.