Genetics

Biol 215

**Human Genetic traits/Population Genetics Lab (6-7) report—Due in lab on Thursday November 5th , 2015.**

General suggestions:

Background

Again the 2 labs deal with separate but related genetic topics. Include applicable, useful background on both. Lab 5 should include background on transmission of genetic traits in humans, but need not and **should not describe each trait we examined—maybe 1 or 2 traits could be explained in detail**. Lab 6 should include background on examination of a population (chapter 25)--define a population and gene pool), genetic individuality, concepts of phenotype/genotype/allele frequencies, application of Hardy-Weinberg law (What is the basis of the H-W equation for equilibrium) etc.

# Procedure

The procedures for both labs are basic. **lab 5—** **do** **include procedure for blood typing, specifically. Include details of the assay---what causes a reaction with specific blood types and the reagents you use.**  The other phenotypes were determined more or less by the some type of simple observation. Include the basis of determining genotypes for these traits. **Lab 6**—Used phenotype data from the class:

We did 3 types of analysis:

 1) genetic individuality

2) phenotype frequency (including X2 analysis)—repeat the exercise for 2 traits (You must do a DIFFERENT COMBINATION THAN THE ONE DONE AS A CLASS)

3) genotype frequency using H-W equation--include some detail about determining genotype ratios using H-W law—do the 4 suggested traits (OR ANY 4 TRAITS YOU WISH).

# Data/analysis

 **Include phenotype and genotype data on yourself and the data table from class.**

**Pedigree**—State clearly the trait you are following!

Use standard symbols and conventions---i.e. shade those individuals who show the version of the trait you are following.

Suggest a most probable genotype for EACH individual. If 2 genotypes are equally probable, include both.

Show yourself as the **proband**.

# Conclusions/discussion

Comment first and foremost on the data and its analysis—the handouts prompted you with interesting questions concerning, genetic individuality, free association of traits, applications of calculating genotype frequencies.

**Indicate in the discussion which trait you followed in the pedigree and discuss your family.** Comment on pedigree (suggest genotypes). If there are gaps (individuals with unknown traits) in the pedigree predict what you might have seen. Tell whether your family is consistent with the known transmission of the trait or not.