**Homework Assignment #3, due Friday 9/28/12**

p. 101: 3.2, 3.5, 3.6, 3.7, 3.11, 3.15, 3.21, 3.22 a) and b) only

Make sure you use Satterthwaite correction for small strata sample sizes.

9) a) Show that for estimating a population proportion using stratification, with two strata, that stratification is not necessary to estimate an overall proportion if both success probabilities are between .3 and .7. Explain precisely why.

b) Argue why this is the case for any amount of strata.

c) Consider the class example (also in the book, Example 3.4) on estimating the proportion of females across 7 academic disciplines. It is interesting to see the benefits, or lack of benefits to stratification in this example. What would be the approximate SE under SRS using the same sample size, n, as used in the stratification? How does this agree/disagree with your results in a) and b)?