Math. 115 SLO’s:

Students should be able to:
1. Have a grounding in the basics of probability theory.
2. Understand the elements of descriptive and inferential statistics.
3. Understand the meaning of and be able to calculate various types of measures of central tendency and measures of dispersion.
4. Be able to interpret and construct graphical representations of data.
5. Have an understanding of basic probability theory to range from counting rules to conditional probability and Baye’s rule.
6. Understand the concept of a discrete probability distribution and be able to work with uniform, binomial, and Poisson distributions.
7. Understand the concept of a continuous random variable and distinguish it from the discrete case; will study the normal distribution and the t-distribution.
8. Study population and sampling distributions and understand their differences.
9. Have a basic understanding of the implication of the Central Limit Theorem.
10. Show understanding of and be able to compute point and interval estimates for population parameters, and be able to determine sample sizes for fixed interval estimates.
11. Understand and be able to perform hypotheses tests for populations parameters; understand the difference between type I and type II errors; calculate p-values.
12. Be able to apply chi-square procedures to goodness of fit, tests of independence and tests of homogeneity.
13. Understand the linear regression equation; calculate a least squares fit; understand the coefficient of determination and linear correlation, and perform estimation and prediction.
14. Study the F-distribution and know the logic and procedure of how to use analysis of variance.