List of topics for Exam 1

Chapter 7

- State the CLT
- The variance of the sum of independent rvs is the sum of the variances
- Know the distribution of the sample mean for large sample sizes.
- To get a normal sample mean for small samples, what must be true?
- Know the distribution of the sample variance when the data are normal.
- Know the definition of a *t*-distribution.
- Know the definition of a χ^2-distribution.
- Know the definition of an *F* distribution.

Chapter 8

- MSE, bias
- error in estimation, margin of error
- CIs for a mean or variance for large *n*
- CIs for a mean or variance for small *n*
- pooled sample variance across multiple populations
- CIs for a difference in means or proportions
- Interpretations of CIs
- pivotal quantities, pivotal method for generating CIs
- sample size calculations when the parameter of interest is a mean or proportion

Chapter 9

- consistency (recall the main theorem, where the variance of an estimator must go to zero in order for it to be consistent for a parameter).