Topics to be covered in the final exam

1. Potential Outcomes Framework (framework for causal inference)
2. Types of data (discrete and continuous)
3. Examples of continuous distributions and how they come to be (from continuous data measurements -> frequency distributions -> relative frequency distributions -> theoretical statistical distributions)
4. Conditional expectation and conditional variance
5. Elements, Sample spaces and events of interest
6. Constructions of Probabilities and conditional probabilities
7. Confusion matrix (all four types of 'statistical judgments')
8. Reference Distribution (aka null distribution) and its relationship to our calculated test statistic
9. Interpretation of p-values (aka probability values)
10. All applications of t-test
11. All applications of tests of proportions
12. All applications of chi-squared test (only including tests of association/independence)
13. One factor ANOVA
14. Two factor ANOVA
15. One factor ANCOVA
16. Two Factor ANCOVA
17. Correlation
18. Univariate Linear Regression
    a. When explanatory variable is continuous
    b. When explanatory variable is a grouping variable
19. Coefficient of Determination
    a. SStotal
    b. SSerror
    c. SSregression
20. And, generally speaking, questions about why we do statistics:
    a. What is the role of inferential statistics?
    b. Why do we bring in additional columns of data?
    c. What is the main column of interest in our dataset?