Stat 326 Exam 2 Topics

Confidence Intervals (Sections 7.1 – 7.4)
- Formulas (or R commands) for common confidence intervals for means and proportions (see handout)
- General (Pivot Quantity Method)
  - Definition of pivots
  - Use pivots to make a confidence interval
- Confidence intervals for Variances
- One-sided confidence intervals
- Interpret Confidence Intervals

Bootstrap Confidence Intervals (Sections 5.3 – 5.4)
- Know why Bootstrap is used
- Know how to construct a Bootstrap CI

Two-Sample Permutation Tests (Section 3.3)
- Know why Permutation tests are used
- Know how to conduct a two-sample permutation test

Hypothesis tests (Sections 8.1 – 8.2)
- Terminology
- Conduct common hypothesis tests for means and proportions
- Computing power and P(Type II error)

Bayes (Section 10.3)
- Prior Distributions
- Posterior Distributions
- Bayes Estimates
- Credible Intervals
- Difference between Bayes and Frequentist philosophies, including interpreting credible intervals
- Congujate Prior Distribution
- Non-informative Priors
- Finding Informative Priors

Concepts from Probability
- Results from the end of Stat 325 (t, F, χ^2)
- Working with common distributions (quantiles and probabilities)

Plus anything else I forgot!

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In-class Exam #1:
Thursday, April 20

You may bring:
Laptop
Calculator
One sheet (two sides) of handwritten notes
RStudio, Statkey, and Symbolab (or other calculus technology) will also be available (but you need to know how to use them)

I'll provide a copy of the distributions