Stat 305 C - Final Topic Outline

The final exam is comprehensive, so all topics from Exam 1 and Exam 2 are also relevant. The following topics will be emphasized.

1. Random intervals
2. One-sample inference (confidence intervals and hypothesis testing) on the mean (Ch. 6.1, 6.2)
   - under each of the following conditions:
     i) When $n \geq 25$ and σ^2 is known.
     ii) When $n \geq 25$ and σ^2 is unknown.
     iii) When $n < 25$ and σ^2 is unknown.
   - All the above using:
     i) Confidence intervals
     ii) Critical values & p-values
3. Inference for paired data under all the conditions in pt 2. (Ch. 6.3)
4. Inference for 2-sample data under all the conditions in pt 2 for each sample (Ch. 6.3)
5. Inference for simple linear regression (Ch. 9.1)
   - Confidence intervals and hypothesis testing on β_0 and β_1
   - How to estimate σ
6. Inference for simple multiple regression (Ch. 9.2)
   - Confidence intervals and hypothesis testing on $\beta_0, \ldots, \beta_{p-1}$
   - How to estimate σ