

FREC 408

EXAM 3 OVERVIEW

November 15, 1:25 to 2:15

You may bring a single sheet of paper with as many notes on it as you can fit front and back. **It must be your paper and not a photocopy of someone else's notes.** You can also bring the yellow sheet handout I gave that gives the formulas. I will supply all statistical tables needed (Z and t-distributions).

The Exam will consist of the following

- 5 True/False worth 3 pts each 15 pts
- 5 Multiple Choice worth 3pts 15 pts
- Three data problems with multiple questions involving Hypothesis Tests and C.I. for a single mean or proportion of a difference of means or proportion 20 or 25 pts each

The Exam Covers

- Chapter 6 (primarily what we covered in class, what is sampling distribution, the sampling distribution of the mean, and the Central Limit Theorem)
- Chapter 7 (but estimation of the variance, 7.6)
- Chapter 8 (but not calculating Type II Errors and Inferences about Population Variance 8.8, 8.9)
- Chapter 9 (but not 9.6 to 9.9)
- All In-Class Notes and Handouts

Terms and Concepts to Know

- Sampling distributions
- Central Limit Theorem
- Sampling Distribution of the mean
- Inferences based on a single large sample for the mean and for proportions using a Confidence Interval
- Inferences based on a single small sample for the mean using a Confidence Interval
- Bound of Error
- Parts to computing a % C.I.
- The meaning of a Confidence Interval
- t-distribution and degrees of freedom
- Inferences based on a single large sample for the mean and for proportions using a Hypothesis Test
- Inferences based on a single small sample for the mean using a Hypothesis Test
- Alpha and Type I Error
- Type II Error (only in terms of its meaning, not in terms of calculating it)
- Parts of a Hypothesis Test - Null Hypothesis, Alternative Hypothesis, Assumptions, Test Statistic, Rejection Region and the Critical Value of z or t, Conclusion
- One and Two-Tailed Hypothesis Tests
- Observed significance or p-value
- Comparing Two Means - Hypothesis Test for Large sample, small sample,
- Comparing Two proportions - Hypothesis Test for Large samples
- Pooled estimate of the variance for small sample problems
- Confidence Interval for the Difference of Two Means or Proportions - Large and Small Sample
- Paired Difference Test
- Understanding Excel output for the difference of means tests