

STAT 252 Statistical Inference for Management II Winter 2010

Exam 1 Preparation

- Logistical details
 - Wednesday, February 17
 - 50 minutes
 - Open-book, open-notes
 - Calculator needed
 - Tables (z - and t - and chi-square and F -) needed
- Coverage
 - Handouts 10-16
 - Quizzes 10-16
 - Investigations 6-9
- Resources available online
 - This preparation sheet
 - Day-by-day handouts
 - Quiz solutions
 - Investigation solutions
- Types of questions to expect
 - Short answer
 - Calculations
 - Interpretations and explanations
 - Some based on computer output
 - Possibly including irrelevant output
 - Similar to in-class examples, quizzes, investigations, previous exam
- Advice for preparing
 - Prepare and organize your notes carefully
 - Don't study less because it's open-notes/book
 - Plan not to rely on your notes/book too much
 - Re-read the day-by-day handouts
 - Re-answer those questions without consulting your earlier answers
 - Focus on understanding, not memorization
 - Review and make sure that you can answer quiz, investigation questions
 - Ask questions during review class session, office hours
- Advice during the exam
 - Show up on time!
 - Be cognizant of time constraint
 - Read carefully
 - Relate conclusions to context
 - Write and explain clearly
 - Do not elaborate excessively
 - Show details of calculations
 - Take advantage of partial information

Outline (of most important topics)

- Analysis of variance (ANOVA)
 - Purpose, need
 - Big idea: compare variation between groups to variation within groups
 - ANOVA table
 - Sums of squares
 - Degrees of freedom
 - Mean squares
 - Inter-relationships
 - F -test
 - Technical conditions
 - Transformations
 - Multiple comparisons
 - Tukey procedure
- Linear regression
 - Association
 - Scatterplot
 - Form, direction, strength
 - Correlation coefficient
 - Least squares (regression) lines
 - Least squares criterion
 - Calculating coefficients from summary statistics
 - Residuals
 - Residual plots
 - Prediction
 - Interpretation of slope coefficient
 - Coefficient of determination (r^2)
 - Residual standard deviation
 - Transformations
 - Inference for slope coefficient
 - Standard error
 - t -test
 - Confidence interval
 - Test for correlation coefficient
 - Confidence interval for mean value
 - Prediction interval