

STATISTICS 217
“STATISTICAL METHODS II”
Fall 2003
SYLLABUS

NOTE: All quizzes will be written in the lab. No formula sheets permitted for the quizzes.

Quizzes must be written in registered lab!

Midterm will be written in class. Room location will be given at a later date.

Final will be arranged by the registrar’s office. One standard sized formula sheet permitted.

Schedule for quizzes and midterm

Quiz 1 Sept 30th and Oct 1st

Quiz 2 Oct 14th and Oct 15th

Quiz 3 Oct 28th and Oct 29th

Midterm Nov 7th

(Lab B03 cancelled for Nov 12th)

Quiz 4 Nov 18 and Nov 19th

Quiz 5 Dec 2nd and Dec 3rd

In order to write a missed quiz or midterm due to an illness, a valid letter from a physician must be presented as soon as possible and instructor notified (email is best). The quiz or midterm must be written before they are passed back otherwise that quiz is taken as the one (out of the five) that is dropped.

Topics Covered

- (1) Normal Distribution: Basic introduction to using Normal tables and calculating outcome frequencies and probabilities. Central Limit theorem. Using z and t tables.
- (2) Confidence intervals for the means, proportions. Required sample sizes for given interval width.
- (3) Introduction to hypothesis testing. Acceptance and rejection regions. P-values Type I and Type II error. Hypothesis about the means and proportions including Student T- test. Power function of test involving the mean and proportion.
- (4) Hypothesis testing and confidence interval for the variance, chi-squared distribution.
- (5) Comparison of two population standard deviations (or variances). Comparisons of two population means and two population proportions including paired Student T-test. Confidence intervals for the difference of two sample means and proportions.
- (6) Comparison of 3 or more population means. One-way and two-way ANOVA.
- (7) Non-Parametric tests. Wilcoxon signed rank test , Mann-Whitney test , Kruskal-Wallis Test.
- (8) Chi-squared goodness of fit test. Tests of homogeneity, independence and contingency tables.
- (9) Linear regression model, scattergrams, Least Squares Method. Estimation of the

intercept and slope, confidence intervals and tests. Regression ANOVA and the F- test. Coefficients of correlation and determination. Predictions and their confidence intervals.