STAT 270
Introduction to Probability and Statistics

Summer 2010
Day Course

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Instructor: Dr. Tim Swartz
Lab Instructor: Robin Insley

Prerequisite:

Corequisite: MATH 152 or MATH 155 or MATH 158. Students wishing an intuitive appr oach to a broad range of statistical strategies may wish to take STAT 100 first.

Textbook:

Probability and Statistics for Engineering and the Sciences, 7th ed, by J. Devore, Duxbury Publishers.

Calendar Description:

Basic laws of probability, sample distributions. Introduction to statistical inference and applications. **Quantitative**

Outline:

1. Introduction to descriptive statistics and chance phenomena.
2. Elementary probability rules, basic combinatorial formulae, conditional probability, independence, and Bayes' theorem.
3. Discrete distributions, expectation, and variance.
4. Continuous distributions, uniform, exponential, normal approximation to the binomial distribution.
5. Discrete, bivariate distributions, joint, marginal, conditional distributions, covariance and independence.
6. Sums of random variables, law of large numbers, the central limit theorem.
7. Introduction to sampling distributions with application to basic hypothesis testing, and confidence interval problems for a proportion and a mean. (subject to time availability)
8. Scatterplots, simple linear regression, and the correlation coefficient (subject to time availability).

Grading Scheme:

4 Midterms – 12% each
Final – 52%

Students should be aware that they have certain rights to confidentiality concerning the return of course papers and the posting of marks. Please pay careful attention to the options discussed in class at the beginning of the session. Students are reminded that Academic Honesty is a cornerstone of the acquisition of knowledge. Scholarly integrity is required of all members of the University. Please consult the General Guidelines of the calendar for more details.

Revised February 16, 2010