STATISTICS 201
"Elements of Finite Probability"
Winter 2005

SYLLABUS

NOTE: All quizzes will be written in the lab. No formula sheets permitted for the Quizzes or Midterm!! Formula sheet will be provided for final.

Tentative schedule for quizzes and midterm

Quiz 1Jan 24th and 25th
Quiz 2 Feb 7th and 8th
Quiz 3 Feb 28th and March 1st
Midterm March 16th
Quiz 4 March 28th and 29th
Quiz 5 April 11th and 12th

No classes or labs from February 20-27th , and on March 25th
Classes end on Friday, April 15th .

Tentative schedule for topics covered

Lectures 1-5: (chapter 1) Introduction, sets and elements, subsets, unions, Venn diagrams, intersections complements, differences, distributive laws, countable sets, Cartesian products, product sets and classes of sets.

Lectures 6- 12: (chapter 2) counting principles: multiplication principle, combinations and permutations with and without repetitions, Binomial coefficients and theorem, order partitions and tree diagrams

Lectures 13-16: (chapter 3) axioms of probability, finite probability and infinite spaces.

Lectures 17-21: (chapter 4) conditional probability and independence, formula of toal probability and Bayes' theorem, multiplication principle for conditional probabilities and probability trees, and repeated trials.

Lecture 22-27: (chapter 5) random variables and their distribution, expectations, variances and covariances and their applications, simple continuous random variables, joint distribution, tchebychev's inequality and the weak law of large numbers

Lecture 28-32: (chapter 6) Binomial, Normal and Poisson distribution, normal approximation the Binomial distribution, Central limit theorem

Lecture 33-36: (chapter 7) probability vectors, stochastic matrices, fixed points, Markov chain, stationary distribution of regular Markov chains and absorbing states.