Fall 9-1-2000

MATH 341.01: Introduction to Probability and Statistics

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MATH 341 INTRODUCTION TO PROBABLITY & STATISTICS
SYLLABUS

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Coverage

1. Discrete sample spaces, probability, conditional probability, independence, counting techniques (combinations and permutations).

2. Discrete random variables, distribution function, expectation, variance, Binomial Theorem and distribution.

3. Introduction to statistical consideration, hypothesis testing and confidence intervals for a Binomial parameter.

4. Hypergeometric, geometric and Poisson Distributions.

5. Continuous random variables; general concepts, distribution function, expectation, variance.

6. Uniform, exponential and normal random variables.

7. Central limit theorem and weak law of large numbers.

8. Sums of random variables.

9. Computer Language Mathematica is used to illustrate some of the concepts.