MATH 474 – Probability and Statistics

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Applications such as the normal approximation via the central limit theorem to the binomial will be discussed.

4. Students will learn point and interval estimation for various parameters. The parameters will include the population mean and variance and the binomial probability of a success. After exploring the one sample situation the two sample case will also be covered. Also prediction intervals, for future observations, will be explored.

5. Students will explore hypothesis testing of various parameters for both one sample and two. The parameters are those included in our confidence interval estimation.

Lecture schedule: 3 50 minute (or 2 75 minute) lectures per week

Course Outline:

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3.	Mathematical Expectation	5
4.	Some discrete probability distributions	5
5.	Some continuous probability distributions	5
6.	Functions of random variables, Moments	4
7.	Random sampling, Data description, and Fundamental sampling distributions	5
8.	One- and two- sample estimation problems	5
9.	One- and two- sample tests of hypothesis	4

Assessment: Homework essment