CS3341 - Probability and Statistics in Computer Science and Software Engineering

**CS 3341** Probability and Statistics in Computer Science and Software Engineering (3 semester credit hours)
Axiomatic probability theory, independence, conditional probability. Discrete and continuous random variables, special distributions of importance to CS/SE, and expectation. Simulation of random variables and Monte Carlo methods. Central limit theorem. Basic statistical inference, parameter estimation, hypothesis testing, and linear regression. Introduction to stochastic processes. Illustrative examples and simulation exercises from queuing, reliability, and other CS/SE applications. Credit cannot be received for both courses, (**CS 3341** or **SE 3341** or **STAT 3341**) and **ENGR 3341**. Prerequisites: (**MATH 1326** or **MATH 2414** or **MATH 2419**), and (**CE 2305** or **CS 2305** or **TE 2305** with a grade of C or better). (Same as **SE 3341** and **STAT 3341**) (3-0) S