

STATISTICS (STAT)

STAT 661 PROBABILITY AND STATISTICS (3 Hours)

This course covers multivariate discrete probability distributions, bivariate normal distribution, maximum likelihood estimation, confidence interval, the Dirichlet distribution, Wishart expectation identities, Hotelling's T^2 and distribution of quadratic forms, quantile transformations and moments, Laws of large number, convergence of moments, characteristic functions of standard distributions, error of the Central Limit Theorem, central order statistics, extremes, Markov chains, and random walks.

STAT 672 COMPUTATIONAL STATISTICS (3 Hours)

This course covers R, SAS, SPSS, S-Plus, Mathematica, computational statistics packages and other big data statistical computational packages with emphasis on reading, manipulating, summarizing and modeling data and implementations of simulation through random number generating, Monte Carlo method and bootstrapping.

STAT 680 COMPUTATIONAL DATA ANALYSIS & VISUAL I (3 Hours)

This course covers basic descriptive statistics, basic probability distributions, simple linear regression, point estimation, comparison of data sets and how to use mathematical and statistical software and packages as well as program to conduct analysis and provide visualized representations.