Statistics is an exciting branch of mathematics that deals with experimental design, the collection of useful data, model building and making predictions about the future. Statisticians play a critical role in nearly every facet of the workforce, with high-paying and challenging jobs in government, business, industry, marketing, consulting, medical and environmental fields, and more.

Dr. Martin Jones – Environmental Statistics, Stochastic Processes, Bayesian Analysis

Dr. Bo Kai – Non-Parametric and Semi-Parametric Modeling, High-Dimensional Data Analysis, Variable Selection

Dr. Amy Langville – Operations Research, Mathematical Programming, Numerical Linear Algebra

Dr. Jiexiang Li – Mathematical Statistics, General Linear Models, Non-Parametric Estimation

Dr. Robert M. Norton (Professor Emeritus) – Statistical Quality Control, Non-Parametric Statistics, Mathematical Statistics

Dr. Jin-Hong Park – Time Series, Financial and Economic Applications, Robust Estimation

Dr. Jim Young – Stochastic Processes, Statistical Learning, Data Science, Predictive Analytics, Knowledge Discovery, Data Mining, Big Data, Optimization

Make Statistics Your Career Path!

Statistics
Summer 2016
Graduate Statistics Offerings

Summer I (June 3 – July 2): Resampling Methods in Statistics
Summer II (July 7 – August 5): Time Series Analysis
Classical parametric statistics assumes that we know the underlying distribution of the data up to a finite number of parameters. For increasingly complex data, these parametric assumptions may not be adequate for a robust and accurate analysis of our data. The other modeling extreme is to implement nonparametric statistics, often ignoring the data at hand. Resampling methods such as the bootstrap, jackknife and cross-validation offer a compromise between rigid parametric inference and distribution-free nonparametric inference. Enough theory is presented to know when and how effectively resampling works. Real-world applications and case studies will be presented.


Prerequisites: A solid background in mathematical statistics at the Math 530/531 level. Students will be using statistical software such as S, R, SAS, SPSS, or Minitab.

Time series are sequences of data points measured typically at successive uniform time intervals. They are used in signal processing, pattern recognition, econometrics, mathematical finance, weather forecasting and control engineering. Time series analysis is a collection of methods for analyzing time series data in order to extract meaningful characteristics of the data. In this course we will study the theory and applications of stationary processes, forecasting techniques, ARMA models, spectral analysis, non-stationary and seasonal models, and multivariate time series.


Prerequisites: A solid background in mathematical statistics at the Math 530/531 level. Students will be using the statistical software R.