

## **Courses Taught by Dr. Lianjun Zhang:**

**FOR 323. Forest Biometrics.** The course is a continuation of APM 391 and teaches statistical techniques for analyzing problems in forest resource management including hypothesis testing, analysis of variance, correlation analysis, simple linear regression, and multiple linear regression. 3 cr. Spring semester.

**FOR 796. Quantitative Silviculture.** This course is taught as a special topic in forest resource management. It covers the concepts and principles of forest tree and stand growth and yield, and quantitative techniques used for evaluating site quality, measuring stand density, predicting forest growth and yield. Applications of ecological and biological rationales to forest growth and yield modeling will be emphasized. 3 cr. TBA.

**APM 630. Regression Analysis.** The course covers the review of basic statistical concepts and matrix algebra, classical simple and multiple linear regression models, indicator or dummy variables in regression, residual analysis, transformation and weighted least squares, influence diagnostics, multicollinearity, nonlinear regression models, and linear mixed models. It focuses on statistical computing using SAS and applications in forestry, biology, engineering, and social sciences. 3 cr. Spring semester.

**APM 635. Multivariate Statistical Methods.** This is an applied multivariate analysis course. It covers the review of basic statistical concepts and matrix algebra, multivariate normal distribution, Hotelling's  $T^2$ , multivariate analysis of variance (MANOVA), principal component analysis, factor analysis, discrimination and classification, cluster analysis, canonical correlation analysis, and emphasizes on statistical computing using SAS and interpretation of results. 3 cr. Fall semester.

**APM 645. Nonparametric Statistics and Categorical Data Analysis.** The course covers review of basic statistics, sign and ranked sign tests, median and Wilcoxon tests, Chi-square test, binomial tests, contingency tables (with correspondence analysis), goodness-of-fit, nonparametric correlation and association analysis, logistic and Poisson regression, nonparametric regression techniques such as LOESS, GAM, and robust regression, bootstrapping and jackknifing. 3 cr. Fall semester of even year.