Current Courses Taught by Dr. Lianjun Zhang:

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. Fall 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. Spring 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, Robust and Loess regression, generalized linear models (Logistic and Poisson regression), and re-sampling methods (bootstrapping and cross-validation). 3 cr. Fall semester.

APM 730 – Advanced Regression Modeling Methods. This is a continuation of APM 630 (pre-requisite) and covers basic regression techniques, generalized linear models (Logistic, Poisson and Beta regression), quantile regression, linear and nonlinear mixed models, variogram and kriging, linear mixed models for spatial data, spatial regression models (spatial lag and spatial error models), local spatial statistics and models (geographically weighted regression), Spline, Loess and GAM. 3 cr. Spring semester.