

APPLD STATS FR RESEARCHRS-STAR (STAR)

Courses

STAR 501 Data Wrangling/Visualization for Researchers Credits: 2 (2-0-0)

Course Description: Data manipulation in R, importing and exporting data, variable transformation, converting dataset formats, generating summary statistics, principles of effective graphs, data visualization methods, exploratory data analysis using graphics, multi-panel plotting, high-density plotting, 3D plotting.

Prerequisite: STAR 511 or STAT 511A or STAT 511B.

Restriction: Must be a: Graduate.

Registration Information: Does not apply to Master of Applied Statistics program. Sections may be offered: Online. Credit not allowed for both STAR 501 and STAT 580A3.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

STAR 502 Multivariate Analysis for Researchers Credits: 2 (2-0-0)

Course Description: Multivariate ANOVA, principal components, factor analysis, cluster analysis, discriminant analysis.

Prerequisite: STAR 511 or STAT 511A or STAT 511B.

Restriction: Must be a: Graduate.

Registration Information: Does not apply to Master of Applied Statistics program. Sections may be offered: Online. Credit not allowed for both STAR 502 and STAT 581A4.

Term Offered: Fall (odd years).

Grade Mode: Traditional.

Special Course Fee: No.

STAR 511 Design and Data Analysis for Researchers I Credits: 4 (3-0-1)

Course Description: Statistical methods for experimenters and researchers emphasizing design and analysis of experiments.

Prerequisite: STAT 301 or STAT 307 or STAT 311 or STAT 315.

Registration Information: Must register for lecture and recitation.

Sections may be offered: Online. Credit not allowed for both STAR 511 and STAT 511A. Credit not allowed for both STAR 511 and STAT 511B.

Terms Offered: Fall, Spring, Summer.

Grade Modes: S/U within Student Option, Trad within Student Option.

Special Course Fee: No.

STAR 512 Design and Data Analysis for Researchers II Credits: 4 (3-0-1)

Course Description: Statistical methods for experimenters and researchers emphasizing design and analysis of experiments.

Prerequisite: STAR 511 or STAT 511A.

Registration Information: Must register for lecture and recitation.

Sections may be offered: Online. Credit not allowed for both STAR 512 and STAT 512.

Term Offered: Spring.

Grade Modes: S/U within Student Option, Trad within Student Option.

Special Course Fee: No.

STAR 513 Regression Models for Researchers Credits: 2 (2-0-0)

Course Description: Model estimation and goodness of fit for linear models; confidence intervals for prediction and estimation; lack of fit, model diagnostics, transformations, model selection, influential observations, collinearity, interaction, polynomial regression, regression with dummy variables, weighted least squares, imputation.

Prerequisite: STAR 511 or STAT 511A or STAT 511B.

Restriction: Must be a: Graduate.

Registration Information: Does not apply to Master of Applied Statistics program. Sections may be offered: Online. Credit not allowed for both STAR 513 and STAT 581A3.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

STAR 514 Experimental Design/Analysis for Researchers Credits: 2 (2-0-0)

Course Description: Analysis of variance, covariance, randomized block, latin square, factorial, balanced and unbalanced designs. Applications to agriculture, biosciences. Implementation in R and JMP.

Prerequisite: STAR 511 or STAT 511A or STAT 511B.

Restriction: Must be a: Graduate.

Registration Information: Sections may be offered: Online. Credit not allowed for both STAR 514 and STAT 580A4.

Term Offered: Spring (even years).

Grade Mode: Traditional.

Special Course Fee: No.

STAR 531 Generalized Regression Models for Researchers Credits: 2 (2-0-0)

Course Description: Categorical data analysis, estimation and testing for contingency tables, introduction to generalized linear models, logit and probit models for binary regression, extensions to nominal and ordinal multicategory responses, count data, Poisson and negative binomial regression, log-linear models.

Prerequisite: STAR 512 or STAR 513 or STAT 512.

Restriction: Must be a: Graduate.

Registration Information: Does not apply to Master of Applied Statistics program. Sections may be offered: Online. Credit not allowed for both STAR 531 and STAT 581A5.

Term Offered: Spring (even years).

Grade Mode: Traditional.

Special Course Fee: No.

STAR 532 Mixed Models for Researchers Credits: 2 (2-0-0)

Course Description: Topics in linear models that have both fixed and random predictors: split-plot and related designs, mixed-effects factorials, repeated measures, random coefficients, and spatial models for designed experiments. Introduction to generalized linear and nonlinear mixed models.

Prerequisite: STAR 512 or STAR 514 or STAT 512.

Restriction: Must be a: Graduate.

Registration Information: Does not apply to Master of Applied Statistics program. Sections may be offered: Online.

Term Offered: Fall (even years).

Grade Mode: Traditional.

Special Course Fee: No.

STAR 534 Machine Learning for Researchers Credits: 2 (2-0-0)

Course Description: K-means clustering, perceptron algorithm, evaluating model performance, neural networks, learning theory and dimension reduction.

Prerequisite: STAR 512 or STAR 513 or STAT 512.

Restriction: Must be a: Graduate.

Registration Information: Does not apply to Master of Applied Statistics program. Sections may be offered: Online.

Term Offered: Fall (even years).

Grade Mode: Traditional.

Special Course Fee: No.

STAR 695 Independent Study in Applied Statistics Credits:

Var[1-3] (0-0-0)

Course Description: Application of statistics to a student's specific research, guided by a statistician. Intended for students who are not in the Statistics department.

Prerequisite: STAR 511 or STAT 511A or STAT 511B.

Restriction: Must be a: Graduate, Professional.

Registration Information: Written consent of instructor. Credit not allowed for both STAR 695 and STAT 681A1.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Traditional.

Special Course Fee: No.