destiny
Business and Technology Consulting SM
Education Solutions

Statistics II: Advanced ANOVA and Regression

Course Length: 3 days **CEUs** 1.8
Format: Hands on Training

AUDIENCE

This course is designed for analysts and statisticians who need to understand continuous response data with regression and analysis of variance methods.

BENEFITS

Students will learn how SAS® handles:

- Linear and mixed models
- Analysis of covariance
- General Linear, Mixed Models and Fit Models
- Validating Assumptions
- Multi factor analysis

PREREQUISITES

Statistics I: Basic ANOVA, Regression and Logistic Regression course or equivalent understanding. You should be able to:

- Fit regression models with Proc REG
- Perform one-way analysis of variance using Proc GLM
- Understand normal and sampling distributions
- Understand estimations and hypothesis testing

COURSE TOPICS

Advanced Analysis of Variance

- Creating multiple comparison/contrasts
- Balanced and unbalanced designs
- Proc GLM and MIXED for analysis of variance on random block designs
- Proc ANOVA for n-way statistics
- Uses of the Welch ANOVA

Advanced Regression Analysis

- Proc GENMOD to fit linear and poisson regressions
- Creating and verifying a multiple polynomial regression
- Proc NLIN to fit nonlinear regressions

Indicator Variables and their use in Analysis of Covariance and Regression Models

- Analysis of covariance
- Regression Models
- Interpreting the analysis
- Proc REG to create indicator variables

Remedial Measures and Model Violations

- Transforming data to meet normality assumptions and stabilize variances
- Evaluating those assumptions