

Statistics I: Basic ANOVA, Regression and Logistic Regression Analysis

Course Length: 3 days **CEUs** 1.8

Format: Hands on Training

AUDIENCE

This course is designed for analysts and statisticians who need to learn how SAS® procedures are used to analyze data and create statistical output.

BENEFITS

Students will learn how SAS handles:

- Logistic and Multiple Linear Regression
- Categorical Data Analysis
- Analysis of Variance and Statistical Inference
- Graphs for data visualization
- Confidence intervals and Test hypotheses
- Categorical analyses
- Fit models

PREREQUISITES

Programming I: SAS Essentials and a basic course in statistics. You should understand hypothesis testing, frequency tables, chi-square analysis, regression analysis, analysis of variance and p-values.

COURSE TOPICS

Overview of Statistics

- Basic statistical concepts and theory
- Data distributions
- Simple tests of hypothesis
- Two sample t-tests
- Confidence intervals
- Descriptive statistics
- Proc MEANS and Proc UNIVARIATE

Creating Analysis of Variance

- Multiple comparisons
- Design of Experiments
- One-way analysis of variance
- Nonparametric analysis
- Proc ANOVA and Proc GLM

Creating Regressions

- Assumptions
- Determining influential observations
- Simple linear and Multiple linear regressions
- Using Stepwise techniques to fit multiple regression models
- The effects of multi co-linearity
- Use Proc REG and Proc CORR

Creating Categorical Data Analysis

- Understanding categorical data
- Frequency Analysis and Proc FREQ
- Tests for Linear Association
- Logistic Regressions

Advanced Regression Topics

- Understanding influence
- Understanding the role of co-linearity
- Examine residual values