



## **Applied Analytics Using SAS Enterprise Miner**

This course covers the skills required to assemble analysis flow diagrams using the rich tool set of SAS Enterprise Miner for both pattern discovery (segmentation, association, and sequence analyses) and predictive modeling (decision tree, regression, and neural network models).

### **Learn how to**

- define a SAS Enterprise Miner project and explore data graphically
- modify data for better analysis results
- build and understand predictive models such as decision trees and regression models
- compare and explain complex models
- generate and use score code
- apply association and sequence discovery to transaction data
- use other modeling tools such as rule induction, gradient boosting, and support vector machines.

### **Who should attend**

Data analysts, qualitative experts, and others who want an introduction to SAS Enterprise Miner. Before attending this course, you should be acquainted with Microsoft Windows and Windows-based software. In addition, you should have at least an introductory-level familiarity with basic statistics and regression modeling. Previous SAS software experience is helpful but not required.

This course addresses SAS Enterprise Miner software.

## Contents

### Introduction

- introduction to SAS Enterprise Miner

### Accessing and Assaying Prepared Data

- creating a SAS Enterprise Miner project, library, and diagram
- defining a data source
- exploring a data source

### Introduction to Predictive Modeling with Decision Trees

- cultivating decision trees
- optimizing the complexity of decision trees
- understanding additional diagnostic tools (self-study)
- autonomous tree growth options (self-study)

### Introduction to Predictive Modeling with Regressions

- selecting regression inputs
- optimizing regression complexity
- interpreting regression models
- transforming inputs
- categorical inputs
- polynomial regressions (self-study)

### Introduction to Predictive Modeling with Neural Networks and Other Modeling Tools

- introduction to neural network models
- input selection
- stopped training
- other modeling tools (self-study)

### Model Assessment

- model fit statistics
- statistical graphics
- adjusting for separate sampling
- profit matrices

## Model Implementation

- internally scored data set
- score code modules

## Introduction to Pattern Discovery

- cluster analysis
- market basket analysis (self-study)

## Special Topics

- ensemble models
- variable selection
- categorical input consolidation
- surrogate models

## Case Studies

- segmenting bank customer transaction histories
- association analysis of Web services data
- creating a simple credit risk model from consumer loan data
- predicting university enrollment management