

# SAS® Analytics Training

Challenge business as usual.

April–June  
Course Schedule  
2012



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You also have options to get SAS training in the comfort of your home or office.

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At SAS Education your learning is our top priority. As part of our commitment to growing your SAS knowledge, we guarantee to run any course that has at least one registration four weeks prior to the course start date.\*

**Learn more** ▶▶ [support.sas.com/training/guarantee](http://support.sas.com/training/guarantee)

\*Due to contractual relationships with our Business Knowledge Series authors, courses within this curriculum do not apply. Other exceptions apply. Visit [support.sas.com/training/guarantee](http://support.sas.com/training/guarantee) for complete details.



## What do more than 2,000 of your fellow SAS® users learn about on the SAS Training Post?

What you're missing:

- How to catch the break room lunch thief using a discriminant analysis model.
- How can you tell an extroverted statistician from an introverted statistician? Why is creativity crucial for statisticians?
- Where to learn all the statistics you missed in B-school.
- Restructuring data using PROC IML – the rock star of programming languages.
- Help! I have too many variables for a cube!

Join the in-the-know crowd at  
▶▶ [blogs.sas.com/content/sastraining](http://blogs.sas.com/content/sastraining)

## Registration made easy.

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# Business Knowledge Series

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## Featured SAS Instructor

*We asked Catherine Truxillo (aka “Cat”) to tell us about herself.*

*Her very happy students weighed in too!*



### Q. What courses do you teach?

*I teach several, but these are the ones I teach the most these days:*

*Advanced Analytics for the Modern Business Analyst*

*Mixed Models Analysis Using SAS*

*Multilevel Modeling of Hierarchical and Longitudinal Data Using SAS*

### Q. Do you have a favorite course and why?

*I get to wear two instructor hats: business analytics classes and advanced statistics classes. Therefore, I get to pick two favorites:*

*Statistical Analysis with the GLIMMIX Procedure*

*This is the nerd in me, but PROC GLIMMIX is my favorite SAS procedure right now.*

*This class details how the procedure addresses some of the very sticky issues that arise in trying to maximize the likelihood for a generalized linear mixed model. Brilliant!*

*Advanced Analytics for the Modern Business Analyst*

*This class is different than any other class I teach because you spend considerably more time getting to know students. The student experience is much closer to a distance-learning graduate course. I love to see students grow throughout the weeks as they try out new ideas.*

### Q. We heard you ride your bike to work. Is that true?

*I have always been really active and a bit of an endorphin junkie: running on the forest trails in the state park and chasing down the person in front of me in a triathlon. I have two little kids at home so my new hobby is doing Glee-style song and dance numbers with them.*

### Q. What’s your favorite app?

*Audible.com’s app for Android. I love to listen to audiobooks when I run.*

*You didn’t ask, but the best audiobook I read last year was *The Adventure of English* by Melvyn Bragg. A close second place was *Elijah Wood’s reading of Huckleberry Finn*.*

### What Cat’s students are saying:

*“Cat is extremely knowledgeable and very easy to listen to at the same time. Perfect!”*

*“Cat kept the class interesting and the group engaged by demonstrating her knowledge of and enthusiasm for the subject matter.”*

*“Cat made a lot of effort to try to learn what we actually did so she could tailor extra explanations to our specific questions.”*

View Cat’s video tips at: [support.sas.com/training/video](https://support.sas.com/training/video)

Read Cat’s blog here: [blogs.sas.com/sastraining](https://blogs.sas.com/sastraining)

# Course Schedule

## Data Miner

### NEW! Analytics: Putting It All to Work BKS

This class starts by giving an overview of the steps involved when working out an analytics project in a practical business setting. After discussing the key data preprocessing activities, this course elaborates on how you can efficiently use and deploy both predictive and descriptive state-of-the-art analytics to optimize and streamline your strategic business processes such as marketing campaigns and/or risk management.

**\$750**

Washington, DC	June 22
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Chicago	July 10
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### Applied Analytics Using SAS® Enterprise Miner™

This classroom and Live Web classroom training is appropriate for SAS Enterprise Miner 5.3, 6.1, 6.2 and 7.1. The e-course is appropriate for SAS Enterprise Miner 5.3, 6.1 and 6.2.

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).

**\$2,250**

Live Web	May 9-11, 16-18 (6 half-day sessions)
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Chicago	June 13-15
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<b>e-Learning</b>	One-year license \$1,125
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### Credit Scorecard Development and Implementation BKS

This business-focused course provides the necessary knowledge to plan, develop, implement and maintain risk scorecards in-house. The course offers a high-level introduction to credit risk management and covers scorecard implementation strategies.

**\$1,500**

New York	June 18-19
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### Customer Segmentation Using SAS® Enterprise Miner™ BKS

No marketing strategy can be effective without segmentation. While the concept of segmentation is deceptively simple, in practice it is extremely difficult to execute. Emphasizing practical skills as well as providing theoretical knowledge, this hands-on, comprehensive course covers segmentation analysis in the context of business data mining.

**\$2,250**

Philadelphia	April 4-6
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Irvine	May 8-10
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### NEW! Data Mining: Principles and Best Practices BKS

This course introduces you to the power and potential of data mining and how to discover useful patterns and trends from data. Data mining or inductive learning is an advanced science that can be difficult to do correctly; this course provides valuable practical advice on how to properly set up experiments and interpret results with confidence. Examples are drawn from real-world experience in several industries, including credit scoring, fraud detection, biology, investments and cross-selling.

**\$2,250**

Chicago	April 2-4
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### Decision Tree Modeling

This course covers tree-structured predictive models and the methodology for growing, pruning and assessing decision trees. In addition, this course discusses many of the auxiliary uses of trees such as exploratory data analysis, dimension reduction and missing value imputation.

**\$1,500**

Rockville	June 7-8
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### Exploratory Analysis for Large and Complex Problems Using SAS® Enterprise Miner™ BKS

This course is intended for analysts working with virtually any type of exploratory data analysis problem. Discovery in a complicated data set is one of the analyst's toughest problems. The course covers this discovery process using many real-world problems. There is a focus on fraud detection, with the recognition that the core principles of modeling to solve fraud detection are the basis of all exploratory data analysis.

**\$1,500**

Live Web	May 15-18 (4 half-day sessions)
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San Francisco	June 4-5
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### Net Lift Models: Optimizing the Impact of Your Marketing Efforts BKS

The true effectiveness of a marketing campaign is not the response rate; it is the incremental impact. That is, true effectiveness is additional revenue, directly attributable to the campaign that would not otherwise have been generated. The problem is that targeting strategies often are not designed to maximize the incremental impact. Incremental lift models are designed to maximize incremental impact by targeting the undecided clients who can be motivated by marketing.

**\$1,500**

Chicago	May 21-22
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### Neural Network Modeling

This two-day course helps you understand and apply two popular artificial neural network algorithms, multi-layer perceptrons and radial basis functions. Both the theoretical and practical issues of fitting neural networks are covered. Specifically, this course teaches you how to choose appropriate neural network architecture, how to determine the relevant training method, and how to construct custom neural networks using the NEURAL procedure.

**\$1,500**

Chicago	May 31-June 1
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### Predictive Modeling Using Logistic Regression

This course covers predictive modeling using SAS/STAT® software with emphasis on the LOGISTIC procedure. This course also discusses selecting variables, assessing models, treating missing values and using efficiency techniques for massive data sets.

**\$1,500**

New York	May 31-June 1
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Live Web	June 26-29 (4 half-day sessions)
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### Text Analytics Using SAS® Text Miner

This course covers the functionality of SAS Text Miner software, which is a separately licensed component available for SAS Enterprise Miner. In this course, you learn to use SAS Text Miner to uncover underlying themes or concepts contained in large document collections, automatically group documents into topical clusters, classify documents into predefined categories, and integrate text data with structured data to enrich predictive modeling endeavors.

**\$1,500**

Live Web	April 11-13, 16-17 (5 half-day sessions)
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**CP** Preparation for SAS® Certification Exam

**BKS** Business Knowledge Series

## Forecaster

### Advanced Topics in Applied Econometrics **BKS**

This sequel to Introduction to Applied Econometrics focuses on intermediate/advanced topics in working with econometric models. This course will enable analysts to better understand their economic/business landscape and to improve their ability to make sound forecasts. Through applications, participants gain knowledge of the practical elements of applied econometric analysis.

**\$2,250**

Boston	May 2-4
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### Forecasting Using SAS® Forecast Server Software

This course prepares you to generate large volumes of forecasts automatically using the SAS Forecast Studio interactive interface. Forecasters and analysts in any industry, including retail, financial services, manufacturing and pharmaceuticals, will benefit from this course.

**\$1,500**

Boston	June 28-29
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### Forecasting Using SAS® Software: A Programming Approach

This course teaches analysts how to use SAS/ETS® software to diagnose systematic variation in data collected over time, create forecast models to capture the systematic variation, evaluate a given forecast model for goodness-of-fit and accuracy, and forecast  $t$  future values using the model.

**\$2,250**

Chicago	May 2-4
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### Introduction to Applied Econometrics **BKS**

This course, the first of two, focuses on the development and use of single-equation econometric models that enable analysts to better understand their economic/business landscape and to improve their ability to make sound economic/business forecasts. Through hands-on exercises, participants gain knowledge of the practical elements of applied econometric analysis.

**\$2,250**

Minneapolis	April 16-18
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Washington	June 25-27
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### Modeling Trend, Cycles, and Seasonality in Time Series Data Using PROC UCM **BKS**

This class teaches how to model, interpret and predict time series data using UCMs. The UCM procedure analyzes and forecasts equally spaced univariate time series data using the unobserved components model (UCM).

**\$750**

Live Web	May 23-24 (2 half-day sessions)
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### Stationarity Testing and Other Time Series Topics **BKS**

The lecture addresses a basic question in time series modeling and forecasting: whether a time series is nonstationary. This question is addressed by the unit root tests. One of the most common tests, the Dickey-Fuller test, is discussed in this lecture.

**\$375**

Live Web	May 25 (1 half-day session)
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## Market Researcher

### Advanced Analytics for the Modern Business Analyst **BKS**

This course introduces the basics of data management, decision trees, logistic regression, segmentation, design of experiments and forecasting.

This course combines scheduled, instructor-led Live Web sessions with independent activities, such as reading assignments and hands-on exercises, for a highly engaging learning experience. The course is delivered over a period of nine weeks with an online orientation in week one and one Live Web session per week thereafter.

**\$3,900**

Live Web	May 7, 14, 21, 29 June 4, 11, 18, 25 (8 half-day sessions)
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### Applied Clustering Techniques

The course looks at the theoretical and practical implications of a wide array of clustering techniques currently available in SAS. The techniques considered include cluster preprocessing, variable clustering, k-means clustering and hierarchical clustering. This course is appropriate for intermediate- or senior-level statisticians, data analysts and data miners.

**\$1,500**

Live Web	May 29-June 1 (4 half-day sessions)
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Chicago	April 12-13
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### Design of Experiments for Direct Marketing

This course teaches you how to design marketing experiments with more than one factor and how to maximize the information that is gleaned from a marketing campaign. Learn how to do the following: identify challenges associated with analyzing experimental designs; test as many factors as possible in a given campaign; and apply well-known experimental design practices to direct marketing efforts.

**\$1,500**

Live Web	April 2-5 (4 half-day sessions)
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New York	June 21-22
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## Operations Researcher

### Building and Solving Optimization Models with SAS/OR®

This course focuses on formulating and solving mathematical optimization using the OPTMODEL procedure, from inputting data to interpreting output and generating reports. The course covers linear, integer, mixed-integer and nonlinear programming problems, with an emphasis on model formulation and construction.

**\$1,800**

Rockville	April 11-13
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Live Web	June 13-15, 20-22 (6 half-day sessions)
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### Custom Designs for Experiments **BKS**

This course introduces a state-of-the-art approach to designing industrial laboratory experiments that is based on the latest statistical theory and numerical methods. Advances in computer algorithms and hardware make this approach, once considered exotic and the domain of a few experts, available to everyone for all experiments.

**\$375**

Live Web	May 4 (1 half-day session)
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### Our users say it best!

*"The class went so far beyond what to do and how to do it. We explored the why and how it works that way. That provided a much greater understanding of the material. Thank you."*

Stuart Spencer, Client Information Analyst, BB&T

**Bayesian Analyses Using SAS®**

The course focuses on Bayesian analyses using the PHREG, GENMOD and MCMC procedures. Most of the examples are in the area of clinical trials. This course is key for biostatisticians, epidemiologists and social scientists who are interested in the Bayesian analysis approach.

**\$1,500**

Live Web	April 10-13 (4 half-day sessions)
New York	May 10-11

**Categorical Data Analysis Using Logistic Regression**

This course focuses on analyzing categorical response data in scientific fields. The SAS procedures addressed are PROC FREQ, PROC LOGISTIC and PROC GENMOD. The course is not designed for predictive modelers in business fields.

**\$1,800**

Rockville	May 22-24
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**Design and Analysis of Probability Surveys**

This course focuses on designing business and household surveys, and analyzing data collected under complex survey designs. The course addresses the SAS procedures POWER, SURVEYSELECT, SURVEYMEANS, SURVEYFREQ, SURVEYREG and SURVEYLOGISTIC. In addition, the graphing procedures GPLOT, SGPlot and SGPANEL are also covered.

**\$1,800**

New York	May 22-24
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**Determining Power and Sample Size Using SAS/STAT® Software**

This course teaches you how to use the POWER and GLMPower procedures to compute prospective power and sample size calculations. Topics covered include how to estimate the parameters for a power analysis and conduct a sensitivity analysis of the parameters.

**\$750**

Live Web	June 5-6 (2 half-day sessions)
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**Imputation Techniques in SAS® BKS**

Concentrating on the needs of those relatively new to the use of multiple imputation tools in SAS, this course provides a general introduction to using the MI and MIANALYZE procedures for multiple imputation and subsequent analyses with imputed data sets. Learn how to recognize the type of missing data patterns that exist in your data sets and analyze imputed data sets using standard SAS procedures.

**\$750**

Live Web	April 12-13 (2 half-day sessions)
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**NEW! Introduction to Causal Inference in Real-World Data: Applications for Finance, Telecommunications, Retail, Pharmaceuticals and the Public Sector BKS**

This course focuses on testing whether the results of a program can be attributed to a given cause. For example, was the increase in customer sales due to mailing sales fliers? Was the health improvement due to the new medication? What conclusion can be drawn? The following cases are examined: randomized controlled experiments and observational studies that require adjustment to reduce bias by using propensity score analysis through either propensity score matching or propensity score adjustment.

**\$1,500**

Chicago	May 3-4
San Francisco	June 21-22

**Introduction to Statistical Concepts: Means, Standard Deviations, Confidence Intervals, and Hypotheses Testing BKS**

This course covers the fundamental concepts needed to understand statistical analyses. The relationships among populations, population parameters, samples and estimates are discussed. In addition, both simple linear and multiple regression topics are covered. SAS Enterprise Guide is used for demonstrations and exercises. No SAS programming is taught or used in this course.

**\$750**

Live Web	May 2-3 (2 half-day sessions)
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**Longitudinal Data Analysis with Discrete and Continuous Responses**

This course is for scientists and analysts who want to analyze observational data collected over time. It is not for SAS users who have collected data in a complicated experimental design; they should take the Mixed Models Analyses Using SAS course instead.

**\$2,250**

Live Web	June 19-21, 26-28 (6 half-day sessions)
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**Multilevel Modeling of Hierarchical Data Using SAS® BKS**

This course teaches students how to identify complex and dynamic patterns within multilevel data to inform a variety of decision-making needs. The course provides a conceptual understanding of multilevel linear models (MLM) and multilevel generalized linear models (MGLM) and their appropriate use in a variety of settings.

**\$2,250**

New York	April 25-27
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**Multivariate Statistical Methods: Practical Research Applications**

This course teaches how to apply a variety of multivariate statistical methods to research data. You will learn to perform multivariate analysis of variance (MANOVA) and multivariate regression analysis as well as how to perform canonical correlation and discriminant function analyses and more.

**\$2,250**

Chicago	May 9-11
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**SAS® Enterprise Guide®: ANOVA, Regression, and Logistic Regression**

This course is designed for SAS Enterprise Guide users who want to perform statistical analyses. The e-Learning course is taught using SAS Enterprise Guide 4.3. For training on SAS Enterprise Guide 4.2, access our SAS Enterprise Guide: ANOVA, Regression and Logistic Regression course.

**\$1,800**

Live Web	April 18-20, 25-27 (6 half-day sessions)
<b>e-Learning</b>	One-year license \$900

**Statistical Analysis with the GLIMMIX Procedure**

This course focuses on the GLIMMIX procedure, a relatively new procedure for fitting generalized linear mixed models. Learn to analyze repeated measures data with discrete outcomes, perform post-processing analysis and use ODS Graphics and the SG procedures in SAS/GRAPH.

**\$1,500**

Live Web	May 1-4 (4 half-day sessions)
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**Statistics 1: Introduction to ANOVA, Regression, and Logistic Regression**

This course is for SAS software users who perform statistical analyses using SAS/STAT software. The focus is on t tests, ANOVA, linear regression and logistic regression. This course (or equivalent knowledge) is a prerequisite to many of the courses in the statistical analysis curriculum.

**\$1,800**

New York	April 11-13
<b>e-Learning</b>	One-year license \$900

**Survival Analysis Using the Proportional Hazards Model**

This course discusses survival analysis concepts with an emphasis on health care problems. The course focuses on the Cox proportional hazards model, not the parametric models, and is not designed for predictive modelers.

**\$1,500**

Live Web	May 1-4 (4 half-day sessions)
Irvine	June 21-22

**BKS Business Knowledge Series**

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