Discover the possibilities

SAS® Analytics Training

April – June 2015
Course Schedule
support.sas.com/training/analytics
Discover the Possibilities With SAS® Analytics Training

There’s a lot going on in the world of analytics. New advancements. New ideas. New possibilities. Lead the way with SAS® training.

Free training to get you started

• Access nearly 200 how-to video tutorials. Visit support.sas.com/training/tutorial.
• Download the Statistics 1: Introduction to ANOVA, Regression and Logistic Regression e-course.
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• SAS e-learning. Gain immediate access to multimedia training.

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• Visit support.sas.com/mentoring.

New courses

• Data Science: Building Recommender Systems With SAS and Hadoop
• Introduction to SAS and Hadoop
• Presenting Analytics to the Organization
• Best Practices in Demand-Driven Forecasting
• Getting Started With In-Memory Statistics for Hadoop
• Predictive Modeling Using SAS In-Memory Statistics for Hadoop

Best Value Certification Packages

Save at least 35% on your road to SAS Certification with packages that bundle training and certification materials.

• SAS Certified Predictive Modeler Using SAS® Enterprise Miner™ 7 Credential
• SAS Certified Statistical Business Analyst Using SAS® 9: Regression and Modeling Credential

Read all about it!

Big Data, Big Innovation: Enabling Competitive Differentiation Through Business Analytics
Evan Stubbs
sas.com/store/books

“Brilliant and scintillating read, peppered with pragmatic doses of analytical insights . . . Evan’s ability to weave together a confluence of factors into a coherent and clear framework for organizations embarking on this journey makes it a remarkable read.”
Rahul Bhandari, Chief Analytics Officer, Cathay Pacific Asia Miles

SAS® Social Channels

Won’t you join us? We have a lively and informative online SAS community where you will find analytical tips, SAS Certification advice and the opportunity to share best practices. Visit support.sas.com/social.
**Course Schedule**

**SAS® FOR HADOOP**

**NEW! Introduction to SAS® and Hadoop**
This course teaches you how to use SAS programming methods to read, write and manipulate Hadoop data. Base SAS methods that are covered include reading and writing raw data with the DATA step, managing the Hadoop file system, and executing MapReduce and Pig code from SAS via the HADOOP procedure. The course also includes the SAS/ACCESS® Interface to Hadoop methods that allow LIBNAME access and SQL pass-through techniques to read and write Hadoop Hive or Cloudera Impala table structures. Although not covered in any detail, the course also includes a brief overview of additional SAS and Hadoop technologies, including DS2, high-performance analytics, SAS® LASR® Analytic Server, and in-memory statistics, as well as the computing infrastructure and data access methods that support these. This course is included in the Expert Exchange on Hadoop: Using SAS/ACCESS service offering to configure the SAS/ACCESS Interface to Hadoop or the SAS/ACCESS Interface to Impala to work with your Hadoop environment. $1,300

- New York, NY April 8-9
- SAS Global Forum Dallas, TX April 30-May 1
- Cary, NC May 27-28
- Rockville, MD June 22-23

**DATA MINING**

**Analytics: Putting It All to Work**
Many companies are flooded with huge amounts of data available in corporate databases and/or data warehouses. A key challenge is how to optimally manage this data overload and use analytics to better understand, manage and strategically exploit the complex dynamics of customer behavior. 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. Examples of business applications that are covered include credit scoring and risk modeling, customer retention and response modeling, market basket analysis and cross-selling, customer lifetime value modeling, and web intelligence and social network analytics. $850

- Live Web April 22-23 (two half-day sessions)
- Atlanta, GA May 11

**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). $2,400

- Chicago, IL May 13-15
- Live Web May 27-29, June 3-5 (six half-day sessions)
- San Francisco, CA June 16-18
- E-Learning $1,440

**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. $1,600

- Live Web April 14-17 (four half-day sessions)
- Rockville, MD May 7-8

**Data Mining Techniques: Theory and Practice**
This course introduces a data mining methodology that is a superset to the SAS SEMMA methodology around which SAS Enterprise Miner is organized. The course also introduces a wide range of data mining algorithms and both theoretical knowledge and practical skills. In this class, you work through all the steps of a data mining project, beginning with problem definition and data selection, and continuing through data exploration, data transformation, sampling, partitioning, modeling and assessment. $2,475

- Rockville, MD June 24-26

**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. $1,600

- Live Web April 7-10 (four half-day sessions)
- Minneapolis, MN May 28-29

**Managing SAS® Analytical Models Using SAS® Model Manager 12.3**
This course focuses on the following key areas: managing SAS Model Manager data sources, creating a SAS Model Manager project, importing models into SAS Model Manager, using the SAS Model Manager Query Utility, creating scoring tasks, exporting models and projects into a SAS repository, and creating and configuring version life cycles. The course also covers generating SAS Model Manager model comparison reports, publishing and deploying SAS Model Manager models, creating SAS Model Manager production model monitoring reports, and creating user-defined reports. $1,650

- Chicago, IL April 16-17

**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. $1,600

- Live Web April 7-10 (four half-day sessions)
- New York, NY May 20-21
- Live Web June 23-26 (four half-day sessions)
- E-Learning $960

## Preparation for SAS® Certification Exam
## Business Knowledge Series
NEW! SAS® Visual Statistics: Interactive Model Building
This course introduces SAS® Visual Statistics for building predictive models in an interactive, exploratory way. Exploratory model fitting is a critical step in modeling big data. $1,300

SAS Global Forum  
Dallas, TX  
April 30-May 1

NEW! Strategies and Concepts for Data Scientists and Business Analysts
Note: This course has been revised to focus on data science in addition to business analytics.

To be effective in a competitive business environment, analytics professionals need to use descriptive, predictive and prescriptive analytics to translate information into decisions. An effective analyst also should be able to identify the analytical tools and data structures to anticipate market trends.

In this course, you gain the skills data scientists and statistical business analysts must have to succeed in today’s data-driven economy. Learn about visualizing big data, how predictive modeling can help you find hidden nuggets, the importance of experiments in business, and the kind of value you can gain from unstructured data.

This course combines scheduled, instructor-led classroom or Live Web sessions with small-group discussion, readings and hands-on software demonstrations for a highly engaging learning experience. $2,475

San Francisco, CA  
May 5-7

NEW! Survival Data Mining Using SAS® Enterprise Miner® Software
This advanced course covers predictive hazard modeling for customer history data. Designed for analysts, the course uses SAS Enterprise Miner to illustrate survival data mining methods and their practical implementation. $1,650

Live Web  
May 12-15 (four half-day sessions)

Survival Data Mining: A Programming Approach
This advanced course covers predictive hazard modeling for customer history data. Designed for data analysts, the course uses SAS/STAT software to illustrate various survival data mining methods and their practical implementation.

Note: Formerly titled Survival Data Mining: Predictive Hazard Modeling for Customer History Data, this course now includes hands-on exercises so that you can practice the techniques that you learn. Other additions include a chapter on recurrent events, new features in SAS/STAT software, and an expanded section that compares discrete time approach versus the continuous time models such as Cox Proportional Hazards models and fully parametric models such as Weibull. $2,475

San Francisco, CA  
May 19-21

DATA SCIENTIST

Social Network Analysis for Business Applications
Go beyond the traditional clustering and predictive models to identify patterns in your business data. Social network analysis describes customers’ behavior, but not in terms of their individual attributes. Rather than basing models on static individual profiles, social network analysis depicts behavior in terms of how individuals relate to each other. In practical terms, this approach highlights connections between individuals and how important they might be in viral effect throughout communities. For business purposes, social network analysis can be employed to avoid churn, diffuse products and services, and detect fraud and abuse, among many other applications. This course shows you how to analyze your customers, focusing on their relationships within the network, and therefore, how to exploit their roles in the communities identified to improve business performance. $2,475

Chicago, IL  
May 5-7

FORECASTING AND ECONOMETRICS

Advanced Topics in Applied Econometrics
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. The overall aims are to sharpen the quantitative, statistical and analytical skills of participants in dealing with problems and issues related to business and economics, as well as to improve communication skills in reporting findings to decision makers. $2,475

Rockville, MD  
May 19-21

NEW! Best Practices in Demand-Driven Forecasting
This course focuses on using the practical aspects of business forecasting to generate accurate demand forecasts. Demand forecasting continues to be one of the most sought-after objectives for improving supply-chain management across all industries around the world. Over the past two decades, companies have learned that focusing exclusively on supply is a recipe for failure. As a result, there is a renewed focus on improving the accuracy of their demand response. This course provides a structured framework to transition companies from being supply-driven to becoming demand-driven with an emphasis on customer excellence, rather than operation excellence. $1,650

Atlanta, GA  
May 19-21
Optimization and Simulation

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. $2,100
Atlanta, GA April 22-24

Live Web May 7-8 (two half-day sessions)

Discrete-Event Simulation With SAS’ Simulation Studio
This course is for analysts who need to use discrete-event simulation in order to model complex systems that are difficult or impossible to model using traditional analytical techniques. Discrete-event simulation models dynamic systems whose state changes only when distinct, discrete events occur. The simulation models can then be used to look at various changes to the processes to determine the impacts those changes may have. $2,100
Orlando, FL April 15-17

Bayesian Analyses Using SAS®
The course focuses on Bayesian analyses using the PHREG, GENMOD and MCMC procedures. The examples include logistic regression, Cox proportional hazards model, general linear mixed model, and the zero-inflated Poisson model. A Bayesian analysis of a crossover design and a meta-analysis are also shown. $1,600
San Francisco, CA April 21-22
Live Web May 5-8 (four half-day sessions)
Boston, MA June 4-5

Categorical Data Analysis Using Logistic Regression
This course focuses on analyzing categorical response data in scientific fields. The SAS/STAT procedures addressed are PROC FREQ, PROC LOGISTIC and PROC GENMOD. The ODS Statistical Graphics procedures used are PROC SGPLOT and PROC SGPANEL. The course is not designed for predictive modelers in business fields, although predictive modelers can benefit from the content of this course. $2,100
Live Web June 3-5, 10-12 (six half-day sessions)

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. $800
Live Web June 4-5 (two half-day sessions)

Fitting Poisson Regression Models Using the GENMOD Procedure
This course is for those who analyze the number of occurrences of an event or the rate of occurrence of an event as a function of some predictor variables. For example, the rate of insurance claims, colony counts for bacteria or viruses, the number of equipment failures, and the incidence of disease can be modeled using Poisson regression models. $400
Live Web June 5 (one half-day session)

Imputation Techniques in SAS®
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. $825
Live Web April 6-7 (two half-day sessions)
### 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. **$2,400**

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### Mixed Models Analyses Using SAS®
This course teaches you how to analyze linear mixed models using PROC MIXED. A brief introduction to analyzing generalized linear mixed models using PROC GLIMMIX is included. **$2,400**

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### Multilevel Modeling of Hierarchical and Longitudinal Data Using SAS®
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. **$2,475**

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### Multivariate Statistics for Understanding Complex Data
This course teaches how to apply and interpret a variety of multivariate statistical methods to research and business data. Strong emphasis is on understanding the results of the analysis and presenting your conclusions with graphs. **$2,400**

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### Probability Surveys 1: Design, Descriptive Statistics and Analysis
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. **$2,100**

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### Propensity Score Matching, Adjustment and Randomized Experiments
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 because of mailing sales fliers? Was the health improvement because of 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. **$1,650**

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### Robust Regression Techniques in SAS/STAT
This course is designed for analysts, statisticians, modelers and other professionals who have experience and knowledge in regression analysis and who want to learn available procedures in SAS/STAT software for robust regression. The two procedures addressed in the course are the ROBUSTREG procedure and the QUANTREG procedure. **$415**

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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 course is written for SAS Enterprise Guide 4.3 along with SAS 9.3, but students with SAS Enterprise Guide 4.2 and 4.1 and SAS 9.1.3 will also get value from this course.

The e-course is appropriate for SAS Enterprise Guide 5.1 and SAS Enterprise Guide 4.3. **$2,100**

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### Statistical Analysis With the GLIMMIX Procedure
This course focuses on the GLIMMIX procedure, a procedure for fitting generalized linear mixed models. **$1,600**

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<td>San Francisco, CA</td>
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### Statistical Process Control Using SAS/QC® Software
This course is designed for professionals who use quality control or SPC methods to monitor, evaluate and improve the quality of their processes. It is an ideal statistical training module to complement or supplement corporate quality training programs and Six Sigma programs. **$1,400**

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1 Preparation for SAS® Certification Exam
2 Business Knowledge Series
### Statistics 1: Introduction to ANOVA, Regression and Logistic Regression

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

A more advanced treatment of ANOVA and regression occurs in the Statistics 2: ANOVA and Regression course. A more advanced treatment of logistic regression occurs in the Categorical Data Analysis Using Logistic Regression course and the Predictive Modeling Using Logistic Regression course. **$2,100**

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### Statistics 2: ANOVA and Regression

This course teaches you how to analyze continuous response data and discrete count data. Linear regression, Poisson regression, negative binomial regression, gamma regression, analysis of variance, linear regression with indicator variables, analysis of covariance and mixed models ANOVA are presented in the course. **$2,100**

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### Structural Equation Modeling Using SAS

This course introduces the experienced statistical analyst to structural equation modeling (SEM) and the new PATH language in the CALIS procedure in SAS/STAT software. The course also features a self-study chapter introducing the SAS Structural Equation Modeling for JMP® interface for performing analysis of structural equation models with an easy-to-use diagram-creating interface.

Structural equation modeling is a statistical technique that combines elements of traditional multivariate models, such as regression analysis, factor analysis and simultaneous equation modeling. These models are often represented as matrices, equations and/or path diagrams and can explicitly account for uncertainty in observed variables and for estimation bias due to measurement error. Competing models can be compared to one another, providing information about the complex drivers of the outcome variables of interest. Many applications of SEM can be found in the social, economic and behavioral sciences, where measurement error and uncertain causal conditions are commonly encountered. **$1,650**

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### 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. **$1,600**

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### TEXT ANALYTICS

#### Brand Management Using SAS® Text Miner

This course shows how to use consumer-generated content in social media as a tool for brand management. The course aims to develop the necessary skills needed to implement brand strategies based on consumers’ view of a brand. Using lectures, hands-on exercises, cases and discussions students will learn the core principles associated with brand management including developing brand association and positioning maps, managing brands over time using brand positioning maps, and developing marketing strategy based on brand positioning maps. Few branding situations have a definitive, unqualified “right” answer as to which approach is best. However, when armed with relevant research-based frameworks and models, managers can make informed decisions that are more likely to be effective. **$1,650**

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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. **$1,600**

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For complete course descriptions

[Support SAS Training](https://support.sas.com/training)

Registration made easy

Register via the web:

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Explore the latest topics, trends and methodologies in big data, visual analytics, forecasting and much more.

Bellagio
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