

Data Mining for Educators Summer Program Offerings

June 15-19, 2009	July 20-24, 2009
California State University- Long Beach Long Beach, CA Hosted by: Department of Mathematics and Statistics California State University, Long Beach Local Organizing Committee: Morteza Ebneshrashoob Alan Safer Bryan Nguyen Sung E. Kim	SAS World Headquarters Cary NC Hosted by: SAS Institute Education Division Global Academic Program

The Data Mining for Educators - Summer Program is only open to invited attendees and is free of charge. The program includes all instruction, training materials and lunch each day. There will also be a reception on one evening after class to network with your colleagues and SAS staff. Transportation and lodging are NOT included in the program.

Please note: Unlike previous years, the Track II offering in Long Beach and Cary are different. Please choose the track and courses that are most appropriate for you.

California State University Long Beach, June 15 – 19, 2009

	Day and Time	Track I Class	Track II Class
Optional	Monday June 15 9:00 AM - 5:00PM	SAS Programming Essentials for Educators PART I or SAS Programming Essentials for Educators PART II	
	Tuesday, June 16 9:00 AM - 5:00 PM	Applied Analytics Using SAS Enterprise Miner 5.3	Advanced Predictive Modeling Using SAS Enterprise Miner 5
	Wednesday, June 17 9:00 AM - 5:00 PM	Applied Analytics Using SAS Enterprise Miner 5.3 (continued)	Advanced Predictive Modeling Using SAS Enterprise Miner 5 (continued)
	Thursday, June 18 9:00 AM - noon	Joint Teaching Experiences and Lessons Learned Session	Joint Teaching Experiences and Lessons Learned Session
	Thursday, June 18 1:00 PM - 5:00 PM	Applied Analytics Using SAS Enterprise Miner 5.3 (continued)	Decision Tree Modeling
	Friday, June 19 9:00 AM - 2:00 PM	Applied Analytics Using SAS Enterprise Miner 5.3 (continued)	Decision Tree Modeling (continued)

SAS Headquarters, Cary, NC July 20-24, 2009

	Day and Time	Track I Class	Track II Class
Optional	Monday July 20 9:00 AM - 5:00PM	SAS Programming Essentials for Educators PART I or SAS Programming Essentials for Educators PART II	
	Tuesday, July 21 9:00 AM - 5:00 PM	Applied Analytics Using SAS Enterprise Miner 5.3	Customer Segmentation with Numeric and Textual Data using SAS
	Wednesday, July 22 9:00 AM - 5:00 PM	Applied Analytics Using SAS Enterprise Miner 5.3 (continued)	Customer Segmentation with Numeric and Textual Data using SAS (continued)
	Thursday, July 23 9:00 AM - noon	Joint Teaching Experiences and Lessons Learned Session	Joint Teaching Experiences and Lessons Learned Session
	Thursday, July 23 1:00 PM - 5:00 PM	Applied Analytics Using SAS Enterprise Miner 5.3 (continued)	Issues in Linear Model Building and Data Mining
	Friday, July 24 9:00 AM - 2:00 PM	Applied Analytics Using SAS Enterprise Miner 5.3 (continued)	Issues in Linear Model Building and Data Mining (continued)

Course Descriptions

SAS Programming Essentials for Educators PART I

This course provides students with an introduction to SAS programming. It teaches you SAS syntax rules and naming conventions for SAS data sets and variables, how to examine a SAS library, create SAS data sets from raw data files, create new variables, subset data, use conditional logic, and create simple graphs. This course is designed for those professors who have no previous experience using SAS or who would like to brush up on their SAS programming skills.

SAS Programming Essentials for Educators PART II

This intermediate course provides students with the SAS skills needed in order to more effectively use SAS software. It teaches you how to concatenate and merge SAS data sets, use simple DO loop and ARRAY processing for repetitive calculations, access data in a Microsoft® Excel workbook, create and use macro variables, and create simple graphs. This course is designed for professors who have taken SAS Programming Essentials for Educators PART I or have the equivalent SAS knowledge.

Applied Analytics Using SAS Enterprise Miner 5

This course provides extensive hands-on experience with SAS Enterprise Miner. It covers the basic skills required to assemble analyses 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). The course includes completed case studies from the fields of database marketing, financial services, web analytics, and higher education.

Advanced Predictive Modeling Using SAS Enterprise Miner

This course continues the development of predictive models that begins in the Applied Analytics Using SAS Enterprise Miner 5 course of Track 1. You learn improved techniques for input selection and model assessment. The course also covers construction and evaluation of two-stage and multi-stage models using SAS Enterprise Miner. Variability in model predictive performance is also discussed.

Teaching Experiences and Lessons Learned Session

The lessons learned session will be led by several professors currently teaching data mining using the software. Through short presentations, panel discussions, and question and answer periods they will share their experiences teaching data mining, using SAS Enterprise Miner.

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.

Custom Segmentation with Numeric and Textual Data Using SAS

This course will emphasize practical skills as well as provide theoretical knowledge; this hands-on course covers segmentation analysis in the context of business data mining. Topics include the theory of segmentation, as well as main analytic tools for segmentation: hierarchical clustering, K-means clustering, RFM method, and SOM/Kohonen method.

Learn how to

- understand and apply both attitudinal and behavioral segmentation tools and techniques on customer data (numeric as well as textual)
- profile and validate segments
- use segmentation information in improving predictive models

Issues in Linear Model Building and Data Mining

This lecture-based course discusses methods of and problems in variable selection for present Giga-bases. Data mining applications typically imply building linear models that usually involve variable selection, of which the stepwise family of methods is the most utilized (both for linear as well as for logistic regressions). The present standard of the stepwise family as well as problems associated with it (such as the issues of redundant and suppressed variables and orthogonalization) are introduced. For the specific case of logistic regression, the difference in variable search with the linear regression case and focus on measures of classification and precision are noted. For both types of linear models, issues of goodness-of-fit are discussed.

For More Information on the topics covered in each course, please review the outlines:

SAS Programming Essentials for Educators I
<http://support.sas.com/training/us/crs/hecpes1.html>

SAS Programming Essentials for Educators II
<http://support.sas.com/training/us/crs/hecpes2.html>

Applied Analytics Using SAS Enterprise Miner 5.3
<http://support.sas.com/training/us/crs/aaem53.html>

Advanced Predictive Modeling Using SAS Enterprise Miner 5
<http://support.sas.com/training/us/crs/pmadv.html>

Decision Tree Modeling
<http://support.sas.com/training/us/crs/dmdt53.html>