

# *Wireclass*

## *SAS Course Syllabus*

### *Getting Started Using SAS Software*

- *The SAS Language*
- *SAS Data Sets*
- *The Two Parts of a SAS Program*
- *The DATA Step's Built-in Loop*
- *Choosing a Mode for Submitting SAS Programs*
- *Windows and Commands in the SAS Windowing Environment*
- *Submitting a Program in the SAS Windowing Environment*
- *Reading the SAS Log*
- *Viewing Your Results in the Output Window*
- *Creating HTML Output*
- *SAS Data Libraries*
- *Viewing Data Sets with SAS Explorer*
- *Using SAS System Options*

### *Getting Your Data into SAS*

- *Methods for Getting Your Data into SAS*
- *Entering Data with the View table Window*
- *Reading Files with the Import Wizard*
- *Telling SAS Where to Find Your Raw Data*
- *Reading Raw Data Separated by Spaces*
- *Reading Raw Data Arranged in Columns*
- *Reading Raw Data Not in Standard Format*
- *Selected Informats*
- *Mixing Input Styles*
- *Reading Messy Raw Data*
- *Reading Multiple Lines of Raw Data per Observation*
- *Reading Multiple Observations per Line of Raw Data*
- *Reading Part of a Raw Data File*
- *Controlling Input with Options in the INFILE Statement*
- *Reading Delimited Files with the DATA Step*
- *Reading Delimited Files with the IMPORT Procedure*
- *Reading PC Files with the IMPORT Procedure*
- *Reading PC Files with DDE*
- *Temporary versus Permanent SAS Data Sets*
- *Using Permanent SAS Data Sets with LIBNAME Statements*
- *Using Permanent SAS Data Sets by Direct Referencing*
- *Listing the Contents of a SAS Data Set*

## ***Working with Your Data***

- *Creating and Redefining Variables*
- *Using SAS Functions*
- *Selected SAS Functions*
- *Using IF-THEN Statements*
- *Grouping Observations with IF-THEN/ELSE Statements*
- *Subsetting Your Data*
- *Working with SAS Dates*
- *Selected Date Informats, Functions, and Formats*
- *Using the RETAIN and Sum Statements*
- *Simplifying Programs with Arrays*
- *Using Shortcuts for Lists of Variable Names*

## ***Sorting, Printing and Summarizing your Data***

- *Using SAS Procedures*
- *Subsetting in Procedures with the WHERE Statement*
- *Sorting Your Data with PROC SORT*
- *Printing Your Data with PROC PRINT*
- *Changing the Appearance of Printed Values with Formats*
- *Selected Standard Formats*
- *Creating Your Own Formats Using PROC FORMAT*
- *Writing Simple Custom Reports*
- *Summarizing Your Data Using PROC MEANS*
- *Writing Summary Statistics to a SAS Data Set*
- *Counting Your Data with PROC FREQ*
- *Producing Tabular Reports with PROC TABULATE*
- *Adding Statistics to PROC TABULATE Output*
- *Enhancing the Appearance of PROC TABULATE Output*
- *Changing Headers in PROC TABULATE Output*
- *Specifying Multiple Formats for Data Cells in PROC TABULATE Output*
- *Producing Simple Output with PROC REPORT*
- *Using DEFINE Statements in PROC REPORT*
- *Creating Summary Reports with PROC REPORT*
- *Adding Summary Breaks to PROC REPORT Output*
- *Adding Statistics to PROC REPORT Output*

## ***Enhancing your Output with ODS***

- *Concepts of the Output Delivery System*
- *Tracing and Selecting Procedure Output*
- *Creating SAS Data Sets from Procedure Output*
- *Using ODS Statements to Create HTML Output*
- *Using ODS Statements to Create RTF Output*
- *Using ODS Statements to Create PRINTER Output*
- *Customizing Titles and Footnotes*

- Customizing PROC PRINT Output with the STYLE= Option
- Customizing PROC REPORT Output with the STYLE= Option
- Customizing PROC TABULATE Output with the STYLE= Option
- Adding Traffic-Lighting to Your Output
- Selected Style Attributes

### **Modifying and Combining SAS Data Sets**

- Modifying a Data Set Using the SET Statement
- Stacking Data Sets Using the SET Statement
- Interleaving Data Sets Using the SET Statement
- Combining Data Sets Using a One-to-One Match Merge
- Combining Data Sets Using a One-to-Many Match Merge
- Merging Summary Statistics with the Original Data
- Combining a Grand Total with the Original Data
- Updating a Master Data Set with Transactions
- Using SAS Data Set Options
- Tracking and Selecting Observations with the IN= Option
- Writing Multiple Data Sets Using the OUTPUT Statement
- Making Several Observations from One Using the OUTPUT Statement
- Changing Observations to Variables Using PROC TRANSPOSE
- Using SAS Automatic Variables

### **Writing Flexible Code with the SAS Macro Facility**

- Macro Concepts
- Substituting Text with Macro Variables
- Creating Modular Code with Macros
- Adding Parameters to Macros
- Writing Macros with Conditional Logic
- Writing Data-Driven Programs with CALL SYMPUT
- Debugging Macro Errors

### **Using Basic Statistical Procedures**

- Examining the Distribution of Data with PROC UNIVARIATE
- Producing Statistics with PROC MEANS
- Testing Categorical Data with PROC FREQ
- Examining Correlations with PROC CORR
- Using PROC REG for Simple Regression Analysis
- Reading the Output of PROC REG
- Using PROC ANOVA for One-Way Analysis of Variance
- Reading the Output of PROC ANOVA
- Graphical Interfaces for Statistical Analysis

## ***Exporting Your Data***

- *Methods for Exporting Your Data*
- *Writing Files Using the Export Wizard*
- *Writing Delimited Files with the EXPORT Procedure*
- *Writing PC Files with the EXPORT Procedure*
- *Writing Raw Data Files with the DATA Step*
- *Writing Delimited and HTML Files using ODS*
- *Sharing SAS Data Sets with Other Types of Computers*

## ***Debugging Your SAS Programs***

- *Writing SAS Programs That Work*
- *Fixing Programs That Don't Work*
- *Searching for the Missing Semicolon*
- *Note: INPUT Statement Reached Past the End of the Line*
- *Note: Lost Card*
- *Note: Invalid Data*
- *Note: Missing Values Were Generated*
- *Note: Numeric Values Have Been Converted to Character (or Vice Versa)*
- *DATA Step Produces Wrong Results but No Error Message*
- *The DATA Step Debugger*
- *Error: Invalid Option, Error: The Option Is Not Recognized*
- *Note: Variable Is Uninitialized or Error: Variable Not Found*
- *SAS Truncates a Character Variable*
- *SAS Stops in the Middle of a Job*
- *SAS Runs Out of Memory or Disk Space*

## ***SAS Business Intelligence***

- *Reporting techniques and roles*
- *Creating Info Maps*
- *Building a SAS BI Dashboard Application*
- *Building Stored Processes (Enterprise Guide)*
- *Consolidating information into a Business Reporting Application*
- *Web Report Studio*
- *Business Report Application*
- *Multidimensional Data Sources (OLAP Cube Studio)*
- *SAS Visual BI*
- *Examining the Environment Metadata*

## ***Real Industrial Projects Reviews***

- *Pharmaceutical / Healthcare / Clinical Industry*
- *Financial Industry*
- *Information Technology Industry*