

# Advanced Topics in the SAS Macro Language

This one day course is designed for students with a good understanding of the DATA and PROC steps and who already understand the basic structure and syntax of the SAS Macro Language. The course will start with a short review of the macro basics and quickly move on topics selected to improve your macro language expertise. Several key macro functions will be introduced, explained and demonstrated.

## ***Macro Language Review***

- Macro variable resolution
- Macro statements
- Using Macro Variables in a PROC SQL Step
- Macro functions
- Macro Quoting Functions

## ***Writing Dynamic Code***

- Logical Branches
- Iterative Step Execution
- Building Statements

## ***Controlling Your Environment***

- Operating System Operations
- Working with Listings and Reports

## ***Working With SAS Data Sets***

- Creating Flat Files
- Subsetting a SAS Data Set
- Checking the Existence of SAS Data Sets
- Working With Lists of Data Set Variables
- Counting Observations in a Data Set

## ***SAS System AUTOCALL Macros***

- Selected Macros - What They Are
- Selected Macros - How They Work

## ***Miscellaneous Macro Topics***

- &&&var - Using Triple Ampersand Macro Variables
- Doubly Subscripted Macro Arrays
- Programming Smarter - Efficiency Issues

## ***Using Macro References with Screen Control Language (SCL) (time permitting)***

- The Problem is ...
- Using Macro Variables
- Calling Macros From Within SCL Programs