



## Base 3 Systems delivers knowledge

Through exceptionally well-documented training courses delivered by highly qualified instructors, re-enforced with relevant industry specific exercises and, if required, one to one mentoring.

### About Base 3 Systems

Base 3 Systems is an established, highly regarded Software Consultancy and SAS Institute Consulting Alliance Partner, specialising in solutions to business problems using SAS® Software.

Our instructors are all experienced SAS consultants who have been using SAS software for many years. The approach we use is to tackle learning needs by reinforcing the technical information delivered on our training courses with comprehensive practical sessions, leading to much more workshop based, rather than 'stand and deliver' courses.

Our standard courses are appropriate for a wide range of abilities and centre around the core of the SAS System. All are developed with MS Windows in mind, however, they can be tailored to suit your operating system requirements.

The costs of courses are extremely competitive and will vary according to number of attendees, duration of course and individual requirements. Please note that, unlike our competitors, we do not offer public courses. Instead, our standard courses are delivered exclusively to your organisation at public course prices.



Base 3 Systems Head Office and Training Rooms

## SAS Macro

### Course Aims

After attending this course, attendees should have a thorough knowledge of the principles of Macro processing and be able to use the SAS Macro Language to generate dynamic, maintainable code.

### Duration

2 days

### Required Knowledge

Attendees should have a level of knowledge equivalent to that given by Programming with SAS or have at least five months experience of programming with the SAS System.

## SAS® Macro - Concepts Covered

### Basics

- *What is a Macro?*
- *When to use Macros*
- *Creating Macros*
- *Referencing Macros*
- *Macro Variable Scope*
- *Storing Macros*
- *Accessing Macros*

### Macro Processing Foundations

- *Tokens*
- *Compilation*
- *Execution*
- *Symbol Tables*
- *Debugging Macro Code*

### Coding SAS Macros

- *Declaring Macro Variables*
- *Controlling Macro Variable Resolution*
- *Using SAS Macro Functions*
- *Conditional Processing with the SAS Macro Language*
- *Repetitive Processing with the SAS Macro Language*
- *Evaluating Numerical Expressions*
- *Positional and Keyword Parameters*

### Considerations

- *Stored Macros*
- *SAS System Options*
- *Best Practice*
- *Maintainability vs Efficiency*

