



## Advanced SAS® Programming and Efficiencies Course Outline

### Audience:

Existing programmers in the SAS language who wish to gain best practice programming knowledge. Those who wish to process efficiently within the data step, in addition to configure their SAS environment to maximise data throughput.

### Prerequisites:

This course is intended for those who have previously attended SAS Fundamentals, SAS Programming and SAS Macro. Additionally we recommend that attendees have six months of regular SAS programming experience to gain the most benefit from this course.

### Objectives:

After one day of instructor led tuition attendees will be able to:

- Understand the trade-off between writing shorter complex code for the ease of sharing code between programmers;
- Apply best practices in Base SAS Programming;
- Know when to apply and how to manage SAS indexes for Base SAS data sets;
- Use advanced programming within the data step;
- Program data step object components.

### Duration:

1 Day.

## COURSE TOPICS

### AP1 The SAS Environment

- What is Efficiency?
- Best Practices
- Determining the Current System Options
- Setting System Options
- Managing Storage Space
- Default Libraries
- Controlling Proc SORT
- Modes of Running a SAS Session
- National Language Support

### AP2 SAS Indexes

- What is a SAS Index and when should it be used?
- Types of Index
- Working with Indexes
- How SAS Reacts to Indexes
- Considerations when Using Indexes

### AP3 Advanced Data Step Programming

- The MODIFY statement
- SELECT Statements
- Using the SET Statement for Direct Data Access
- The SASFILE statement
- The LOCK Statement
- Generation Data Sets

### AP4 Data Step Component Object Programming

- Introduction to Objects in the Data Step
- Perl Regular Expressions
- Functions
- Hash Tables

