Course Outline
Duration 5 days
Beneficial to programmers, operators and maintenance staff

Students must have completed the S4 Advanced Programming Stage 1 Course and have ongoing S4 Experience

Subject areas

Safety Instructions
Emergency stops

Dot Notation
Accessing Data type parts.
Checking robot at home

Creating Routines with arguments
Creating instructions with parameters

Optional Arguments
Present() Function

Switches
Mutually Exclusive Arguments

Global and Local Routines
Global and Local Data

PERS/VAR
“Present()” Versus “?”

Functions with Parameters
Variables inside Routines

Arrays
Creation
Manipulation
Printing
Resetting

In combination with routines and parameters

1,2 and 3 dimensional arrays

MultiTasking
General Description
Creating a parallel program
System parameter setting
Task Data

Synchronising using a common variable

Synchronising using interrupt
Synchronising using a dispatcher

Common data in several tasks

Teach pendant messages from parallel tasks

String Manipulation
Concatenation

Converting Values to Strings
Converting Strings to Values
Finding the length of Strings
Searching for characters in Strings
Create new strings from string parts
Common string functions

8 bit hexadecimal ASCII codes

Loop Instructions
FOR
WHILE

Communications
Reading and writing to text files
Reading and writing to Serial Channels/Ports
Binary two way communication

FTP Remote Mounted Disk
PC Software Configuration (Distinct)
Robot Configuration S4C \ S4C+

FTP Client using IIS

NFS Remote Mounted Disk
PC Software Configuration (Distinct)
Robot Configuration S4C \ S4C+

Objectives
On completion, participants will be able to perform:

- Demonstrate the techniques of advanced programming
- Use Dot notation
- Create instructions to suit any purpose
- Create and manipulate Arrays
- Utilise MultiTasking to program background tasks
- Synchronising foreground and background tasks
- Create and demonstrate a working background task
- Manipulate Strings
- Utilise Loop instructions
- Communicate using different mediums
- Mount an NFS and FTP Drive