

C Programming

Course Level : Introduction

Course Duration : 5 days

Prerequisites : Delegates should have a familiarity with structured programming techniques

▼ **Course Content**

○ **Course Objectives**

○ **Introduction to C**

- The History of C
- Features of the Language
- General form of a C program

○ **Variables, Constants, Operators and Expressions**

- Identifier Names
- Data Types
- Declaration of Variables
- Local Variables
- Storage Class specifiers
- Constants
- Operators
- Expressions

○ **Program Control Constructs**

- C Statements
- Conditional Statements
- Iteration
- Unconditional Flow Constructs

○ **Functions**

- Declaration, Definition and invocation
- The Return Statement
- The Scoping Rules of Functions
- Function Arguments
- Functions that return Non-Integer Values
- Recursive Functions

○ **Arrays**

- Single-dimension arrays
- Two-dimensional Arrays
- Multi-dimensional Arrays
- Arrays and Pointers
- Array Initialisation

○ **Pointers**

- Pointer Variables and Addresses
- The Pointer Operators
- Pointer Expressions
- Pointers and Arrays
- Pointers to Pointers
- Initialising Pointers



- Pointers to Functions
- Cs Dynamic Allocation

○ **Structures, Unions and User Defined Groups**

- Structures
- Arrays of Structures
- Passing Structures to Functions
- Structure Pointers
- Arrays and Structures within Structures
- Bit Fields
- Unions

- Enumerations
- Using sizeof
- Typedef

○ **Input, Output and Disk Files**

- The File System
- Console
- Formatted Console I/O

○ **The C Preprocessor**

- Preprocessor directives
- Conditional Compilation Directives

○ **Workshop**