

C++ Programming

Course Level	:	Introduction
Course Duration	:	5 days
Prerequisites	:	Delegates should have a fluency in the C programming Language

▼ Course Content

○ Course Objectives

○ Why C++

- C vs C++
- Abstract Data Types
- History
- I/O Services

○ Operator Overloading

- Simple Operator Overloading
- The This Pointer
- Conversions
- Member vs Non Member Functions
- Overloading I/O Operators
- Friend Functions
- Restrictions on Overloading
- Advanced Operator Functions

○ I/O in C++ Programs

- Standard Streams
- Insertion and Extraction Operators
- Unformatted Input and Output
- File Input and Output
- Stream States
- Problems with Object I/O

○ Functions

- Function Overloading
- Variable Number of Arguments
- Default Arguments
- References
- The Const Type-Qualifier

○ Initialisation

- Constructors
- Array of Objects
- Where does Initialisation Occur
- Branching Past Initialisation
- Constant Class Members

○ Classes

- Class definition
- Public and Private
- Instantiating and Using Classes
- Member Functions



- Encapsulation
- Constructors and Destructors

○ Inheritance

- Base and Derived Classes
- Overriding Names
- Constructor and Destructor Calls
- Conversions
- Members not Inherited
- Protected Members
- When to Use Inheritance

○ Storage Management

- Memory Allocation
- New and Deleted Operators
- Handling Problems with Storage Allocation

○ Polymorphism and Virtual Functions

- Loss of an Objects Original Type
- Polymorphism
- Constructors and Destructors
- Pure Virtual Functions