

Syllabus of C++

Software for Hands-on Learning:

- Borland C++ 4.5
- Turbo C ++ V 3.0

This course offers the following modules:

Module 1: Getting Started with C++ Programming

- Audience for this Course
- Job Roles and Employment Opportunities
- Pre-requisite Knowledge and Skills
- Inspire with C Programming
- History of C++
- What is C++?
- Why we learn C++?
- Course Objective
- Checklist for Installation
- Step by Step Installation Process
- Hello World Program

Module 2: Fundamentals of C++ Language

- The Programming Languages
- Compiler & Interpreter
- The Structure of C++ Programs
- Understanding Header Files
- The Main Function
- Our First C++ Program

Module 3: Data Types and Operators

- Primitive Types
- Identifiers and Keywords
- Operators
- Operator Precedence
- Simple Input and Output

Module 4: Flow of Control

- IF Statements
- The Nested 'if' Statements
- The 'switch case' and 'goto' Statements
- The 'for' Loop
- The 'while' Loop
- The Do While Loop
- Working with 'break' and 'continue' Statements

Module 5: Handling Arrays

- Understanding Array
- Declaring Arrays
- Passing Arrays to Functions

Module 6: Pointers

- Understanding Pointers
- Arrays in Pointers
- Pointing Pointers
- Call by Value and Call by Reference
- Advanced Pointers

Module 7: Manipulators and Default Arguments

- The "setw" and "setfill" Manipulators
- The "setprecision" and "endl" Manipulators
- Understanding Default Arguments
- Using Inline Function

Module 8: Object Oriented Programming

- An Overview of Object Oriented Programming
- Understanding Class
- Working with Objects
- Array of Objects

Module 9: Constructors and Destructors

- What is Constructor?
- Understanding Dynamic Constructors
- What is Copy Constructor?
- Understanding Destructors

Module 10: Behaviors and Properties

- Understanding Members and Methods
- Nesting of Member Functions
- What is Scope Resolution Operator?
- Method Overloading

Module 11: Static Members and Methods

- What are Static Members?
- Understanding Static Member Function
- Using “this” Pointer

Module 12: Inheritance and ‘friend’ Keyword

- Understanding Inheritance
- Working with Single Inheritance
- What is the Friend Function?
- Understanding Friend Class

Module 13: Inheritances Revisited

- Understanding Multiple Inheritances
- Multi-level Inheritance
- Working with Hybrid Inheritance
- Using Hierarchical Inheritance
- Understanding Overriding

Module 14: Polymorphism

- What is Polymorphism?
- Virtual Functions
- Virtual Base Classes
- Pure ‘virtual’ Function
- Virtual Constructors and Destructors
- Data Binding

Module 15: Operator Overloading and Encapsulations

- Understanding Operator Overloading
- Overloading Subscript [] Operator
- Overloading Parenthesis () Operator
- Overloading an Assignment Operator
- Exploring Encapsulation
- Understanding Data Abstraction

Module 16: File Management Systems

- Understanding Files and Streams
- Reading Data Files
- Using File Modes
- Characters in Files
- Random Access File
- Binary Files

Module 17: Templates

- Understanding Templates
- Function Templates
- Function Overloading using Templates
- Class Templates

Module 18: Exception Handling and Enumeration

- Understanding Exception
- Exception Specifications
- Catchable Types
- Understanding Enumerations
- Type Casting

Module 19: Graphics

- Understanding 'initgraph' Function
- Sketch Line and Rectangle
- Working with Colors
- Using Ellipses and Arcs
- Understanding Pixels
- Text Formatting Functions
- The Delay and Sleep Functions
- Working with SetFillStyle Function

Duration

120 Hours to be covered in either 2 months (8 weeks) or 3 months (12 weeks).

Options	Type	Weeks	Days per Week	Hours per Day	Total Hours
Option 1	2 Month Part Time	8	5	3	120
Option 2	2 Month Part Time	8	6	2.5	120
Option 3	3 Month Part Time	12	5	2	120

Medium

The medium of instruction is English.

Eligibility

MS-CIT passed preferred.

Fees

Regular Mode: Rs. 3500/- (including course fees, examination fees and certification fees)

Installment Mode :

Mode	Total Fee (Rupees)	1st Installment (Rupees)	2nd Installment (Rupees)	3rd Installment (Rupees)
Single Installment	4300	-	-	-
Two Installment	4500	2250	2250	

