



## Syllabus for "C++ Programming Language – introduction"

### Course Outlines:

#### Introduction

- What is C++?
- Why C++?
- C and C++
- Exception Handling
- Object Oriented Programming
- Standard Template Library

#### Types and declarations Types

- Booleans Integer Types
- Floating-Point Types
- Sizes
- Void
- Enumerations
- Declarations

#### Pointers, Arrays and Structures

- Pointers
- Arrays
- Pointers into Arrays
- Constants
- References
- Pointers to void
- Structures

#### Expressions and Statements

- A Deck Calculator
- Operator Summary
- Statement Summary
- Comments and Indentation

#### Functions

- Function Declarations
- Argument Passing
- Value Return
- Overloaded Function Names
- Default Arguments
- Pointer to Function
- Macros



## Namespaces and Exceptions

- Namespaces
- Exceptions

## Source Files and Programs

- Separate Compilation
- Linkage
- Using Header Files
- Programs

## Classes

- Classes
- Access Control
- Constructors
- Member functions
- Static members
- Destructors
- Memory allocation
- Member initialization

## Operator overloading

- Introduction
- Operator Functions
- A Complete Number Type
- Conversion Operators
- Friends
- Large Objects
- Essential Operators
- Subscripting
- Functions Calls
- Dereferencing
- Increment and Decrement
- A String Class

## Derived class

- Introduction
- Derived Classes
- Abstract Classes
- Design of Class Hierarchies
- Class Hierarchies and Abstract Classes