C++ Course Syllabus

1. Basics

- Introduction to C++
- Running C++
- Dissecting the First Code
- Basic Concepts
- Error Analysis
- Comments
- Keywords
- Variables
- Data Types
- Taking Input
- Operators
- Performing Mathematics

2. Decision Making

- Introduction
- if-else
- else if
- Nesting
- Switch
- Ternary Operator

3. Loops

- introduction
- for Loop
- while Loop
- do-while Loop
- Break and Continue Loops
- Nesting of Loops

4. Functions

- Introduction
- Defining a Function
- Calling a Function
- Parameters and Arguments
- Function Examples
- More about Functions
- Function Overloading
- Calling a Function inside another Function
- Recursion
- Inline Functions

5. Scope of Variables

- introduction
- Local Variables
- Global Variables

6. Pointers

- Introduction
- Using Pointers
- Dereferencing Pointers
- Passing Pointers to Functions
- Returning Pointers from Functions
- More About Pointers

7. Arrays

- Introduction
- Using Arrays
- Pointers to Arrays
- Passing Arrays to Functions
- Returning Arrays from Functions
- Two Dimensional Arrays
- std::array
- Inbuilt Functions of std::array

- Iterators

- std::vector

8. Strings

- Introduction

- C-style Strings

- std::string

9. Preprocessors and Macros

- Preprocessor

- Macros

- More Preprocessors

10. Structure

- Introduction

- Using Structures

- Array of Structures

- Pointers to Structures

- Structures and Functions

11. Object Oriented Programming

- Introduction
- Classes and Objects
- Constructors
- Access Modifiers
- Constructor Overloading
- Destructors
- static
- Objects and Functions
- Inheritance
- Polymorphism
- Multiple Inheritance
- Array of Objects
- Initialization Lists
- Early Binding and Late Binding
- Abstraction

12. File Handling

- Introduction
- File Stream Classes
- Modes
- Playing with Cursor

13. Dynamic Memory Allocation

- malloc
- calloc
- realloc
- free
- new
- delete

14. Extras

Templates

const

Enum

Enum Class

Union

typedef

Binary

Storage Classes