

## Certificate Course in Programming in C++

### Objective of the Course:

By the end of this course, you will be able to:

- Read and write C++ code
- Use C++ interfaces and libraries
- Understand how to use object oriented design principles in the context of the C++ language
- Understand key concepts such as abstract interfaces, polymorphism, and data abstraction.

### Learning Outcomes:

At the conclusion of this course, you should be able to:

- Understand object-oriented programming features in C++,
- Apply these features to program design and implementation,
- Understand object-oriented concepts and how they are supported by C++
- Gain some practical experience of C++
- Understand implementation issues related to object-oriented techniques,
- Build good quality software using object-oriented techniques, and
- Understand the role of patterns in object-oriented design

**Duration of the Course (in hours)**      80 hrs

**Appr. Fees (INR):**                      Rs.4000/-

**Minimum Eligibility Criteria and pre-requisites, if any**                      Basic knowledge of any programming Language

### Outline of Course

S. No	Topic	Minimum No. of Hours
1	Introduction to OOP's concept	02 hrs
2	Data types. Operator & Logical /looping	05 hrs
3	Functions and arrays	15 hrs
4	Classes & objects	10 hrs
5	Inheritance	10 hrs
6	Polymorphism	10 hrs
7	Operator overloading	05 hrs
8	Function overloading	05 hrs
9	Exception handling	05 hrs
10	File Handling Operations	08 hrs
11	Introduction to Template	05 hrs
<b>Theory / Lecture Hours:</b>		40 hrs
<b>Practical / Tutorial / Lecture Hours:</b>		40 hrs
<b>Total Hours:</b>		80 hrs

## Short Term Courses – NIELIT

**Books recommended  
for reference and  
reading:**

“Object Oriented programming with C++”  
By M.T.Somashekara, D.S.Guru,  
H.S.Nagendraswamy, K.S.Manjunatha(PHI)

**Group Code:** PRGL

**Group Name:** Programming Languages

**Course Code:** CT02

**Course Name:** Certificate Course in Programming in C++