

## PROGRAMMING WITH C++

Available Dates: **Request Dates**

Class Length: **5 day**

Cost: **\$2,495**

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### **Class Outline:**

#### **Description:**

This course covers basic programming concepts and teaches students how to build a program using the C++ .NET programming language. Students will learn the differences between low-level and high-level languages. They will also learn how to use C++ to program variables, constants, control structures, value-returning and void functions, selection structures, loops, and arrays. Students will learn how to build, execute, and debug a C++ program, as well as how to implement sequential access files and access data from a database. This course also covers object-oriented programming concepts, such as classes and objects.

#### **Table of Contents:**

Unit 1: Computers and programming languages

Topic A: Components of a PC system

Topic B: History of programming languages

Unit 2: Control structures

Topic A: Introducing control structures

Topic B: Applying control structures

Unit 3: Problem solving

Topic A: Problem-solving techniques

Topic B: Building an algorithm

Unit 4: Programming basics

Topic A: Variables and constants

Topic B: Working with variables

Topic C: Input and output methods

Unit 5: Building an application

Topic A: Program construction

Topic B: Creating and managing a project

Unit 6: Value-returning functions

Topic A: Functions

Topic B: Implementing value-returning functions

Unit 7: Void functions

Topic A: Introducing void functions

Topic B: Implementing void functions

Unit 8: Selection structures

Topic A: Introducing selection structures

Topic B: Implementing selection structures

Unit 9: Nested selection structures

Topic A: Introducing nested selection structures

Topic B: Multiple-path selection structures

Topic C: Implementing nested selection structures

Unit 10: Pretest loops

Topic A: Introducing pretest loops

Topic B: Applying pretest loops

Unit 11: Posttest loops

Topic A: Introducing posttest loops

Topic B: Applying posttest loops

Unit 12: Object-oriented programming  
Topic A: Introducing object-oriented programming  
Topic B: Implementing object-oriented programming

Unit 13: Sequential access files  
Topic A: Introducing sequential access files  
Topic B: Writing and reading sequential access files  
Topic C: Implementing a sequential access file

Unit 14: Arrays  
Topic A: Introducing arrays  
Topic B: Implementing arrays

Unit 15: Advanced arrays  
Topic A: Understanding advanced arrays  
Topic B: Implementing String arrays

Unit 16: Accessing data from a database  
Topic A: Introducing data access  
Topic B: Implementing database access