

Chindlers

C++

Program: C++

Title: C++

Prerequisites: Basic Computer Skills

Certifications Upon Completion: Certificate of Completion

Length of Course: 200 Hours

PRICE: \$4500

CIP:110201

COURSE OBJECTIVE:

C++ is a statically-typed, free-form, (usually) compiled, multi-paradigm, intermediate-level general-purpose middle-level programming language.” In simple terms, C++ is a sophisticated, efficient and a general-purpose programming language based on C. It was developed by Bjarne Stroustrup in 1979. Many of today’s operating systems, system drivers, browsers and games use C++ as their core language. This makes C++ one of the most popular languages today. Since it is an enhanced/extended version of C programming language, C and C++ are often denoted together as C/C++.

PROGRAM DESCRIPTION:

This course prepares individuals to successfully use the software and apply to a job.

INSTRUCTIONAL STRATEGIES:

Our institution has developed its own e-learning platform (www.tutoracademy.org) together with a combination of class lectures, hands on with a computer, one on one demonstrations, and in-house lab experiences applicants can accomplish certification.

PROGRAM LENGTH

The following hours are recommended program lengths. It is understood, however, each student learns at his or her individual pace and there will be students who successfully complete the program in fewer or more hours that what is recommended.

METHOD OF EVALUATION

Our onsite testing program through(Pearson Vue) will evaluate and certify each candidate, reports will be produced to assist candidates in becoming certified.

GRADING FORMULA

Percentage %	Grade
90+	A
87-89	A-
84-86	B+
80-83	B
77-79	B-
74-76	C+
70-73	C
65-69	D+
60-64	D
<59	F

Course content

[Expand all](#)

266 lectures

200:00:00

- Introduction		20:01
AbouttheCourse	Preview	03:39
WhyLearnC++?	Preview	05:00
ModernC++andtheC++Standard	Preview	02:58

How does all this work?	08:13
FAQ -- Please Read!	00:11

Installation and Setup **30:32:39**

Installation and Setup Overview 02:16

[Installing the C++ Compiler on Windows](#) [Preview](#) 04:53

Installing CodeLite on Windows 03:06

Configuring CodeLite on Windows 12:02

Installing the C++ Compiler on Mac OSX 02:01

Installing CodeLite on Mac OSX 01:56

Configuring CodeLite on Mac OSX 10:29

Installing CodeLite on Ubuntu Linux 04:04

Configuring CodeLite on Ubuntu Linux 10:26

Creating a Default CodeLite Project Template (All Versions) 06:21

[Using the Command-Line interface](#) [Preview](#) 01:32

Using the Command-Line Interface on Windows 09:43

Using the Command-Line Interface on Mac OSX 07:49

Using the Command-Line Interface on Linux (Ubuntu)		08:55
Using a Web-based C++ Compiler	Preview	03:22
Using the Included Source Code Course Resources		03:44
<u>– Curriculum Overview</u>		09:33
Curriculum Overview	Preview	06:58
Overview of the Section Challenge Exercises	Preview	01:29
Overview of the Section Quizzes		01:06
<u>– Getting Started</u>		31:02:51
Section Overview		00:58
An Overview of the CodeLite Interface		14:52
Writing our first program		08:23
Building our first program		12:33
What are Compiler Errors?		09:07
What are Compiler Warnings?		03:51
What are Linker Errors?	Preview	04:07
What are Runtime Errors?		00:41
What are Logic Errors?	Preview	01:49
Section Challenge		01:21
Section Challenge - Solution		05:09
Section 4 Quiz		10 questions
<u>– Structure of a C++ Program</u>		42:36

Section Overview	00:56
Overview of the Structure of a C++ Program	04:20
#includePreprocessorDirective	Preview 02:11
Comments	07:29
The main() function	03:05
Namespaces	03:56
Basic Input and Output (I/O) using cin and cout	20:39
Using cout and the insertion operator to say Hi to Frank	1 question
Using cout and the insertion operator	1 question
Using cin and the extraction operator	1 question
Section 5 Quiz	10 questions
<u>- Variables and Constants</u>	<u>31:13:03</u>
Section Overview	01:10
What is a variable?	03:08
Declaring and Initializing Variables	14:04
Declaring and Initializing Variables	1 question
Global Variables	03:23
C++Built-inPrimitiveTypes	Preview 15:59
What is the Size of a Variable (sizeof)	06:52
What is a Constant?	05:03
Declaring and Using Constants	18:26
	01:50

Section Challenge	
Section Challenge - Solution	03:08
Section 06 Quiz	10 questions
<u>- Arrays and Vectors</u>	<u>56:13</u>
Section Overview	01:07
What is an Array?	04:40
Declaring and Initializing Arrays	02:56
Accessing and Modifying Array Elements	14:13
Declaring, Initializing and Accessing an Array	1 question
Multidimensional Arrays	03:11
Declaring and Initializing Vectors	06:26
Accessing and Modifying Vector Elements	15:30
Declaring, Initializing and Accessing Vectors	1 question
SectionChallenge	Preview 02:07
Section Challenge - Solution	06:03
Section 07 Quiz	10 questions
<u>- Statements and Operators</u>	<u>31:48:26</u>
Section Overview	02:02
Expressions and Statements	03:20
Using Operators	01:58
The Assignment Operator	12:31
Arithmetic Operators	14:55

Using the Assignment Operator	1 question
Using the Arithmetic Operators	1 question
IncrementandDecrementOperators	Preview 13:11
Mixed Expressions and Conversions	12:56
Testing for Equality	09:04
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CompoundAssignmentOperators	Preview 02:15
Operator Precedence	03:48
Logical Operators and Operator Precedence - Can you work?	1 question
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Section Challenge - Solution	09:51
Section 08 Quiz	10 questions
<u>- Controlling Program Flow</u>	<u>23:27:54</u>
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if Statement	18:08
If Statement - Can you Drive?	1 question
if else Statement	05:48
If-Else Statement - Can you Drive?	1 question
Nested if Statement	22:04
Nested If Statements - Can you Drive?	1 question
switch-case Statement	20:14

Switch Statement - Day of the Week	1 question
Conditional Operator	10:37
Looping	03:12
for Loop	22:08
For loop - Sum of Odd Integers	1 question
range-based for Loop	14:59
Using the range-based for loop	1 question
while Loop	16:39
While loop exercise	1 question
do while Loop	13:46
continueandbreak	Preview 02:33
Infinite Loops	03:17
Nested Loops	19:47
Nested Loops - Sum of the Product of all Pairs of Vector Elements	1 question
Section Challenge	06:09
Section Challenge - Solution Part 1	14:47
Section Challenge - Solution Part 2	10:40
Section 09 Quiz	10 questions
<u>- Characters and Strings</u>	<u>11:18:10</u>
Section Overview	01:54
Character Functions	02:30
C-Style Strings	07:45

Working with C-style Strings	13:45
Using C-style Strings	1 question
C++Strings	Preview 15:28
Working with C++ Strings	16:45
Using C++ Strings - Exercise 1	1 question
Using C++ Strings - Exercise 2	1 question
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Section Challenge - Solution	13:15
Section 10 Quiz	10 questions
Challenge Assignment - Letter Pyramid	1 question
- Functions	09:51:21
Section Overview	02:31
What is a Function?	18:22
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Function Prototypes	10:55
Function Parameters and the return Statement	14:52
Functions and Prototypes - Converting Temperatures	1 question
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	1 question

Overloading Functions - Calculating Area	
Passing Arrays to Functions	13:33
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Using Pass by Reference - Print a Guest List	1 question
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How do Function Calls Work?	11:23
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Declaring Pointers	03:02
Accessing the Pointer Address and Storing Address in a Pointer	16:33
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L-values and R-values	04:03
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Section Recap	03:31
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Section 12 Quiz	10 questions
<u>- OOP - Classes and Objects</u>	<u>04:10:52</u>
Section Overview	03:13
What is Object-Oriented Programming?	09:54
What are Classes and Objects?	03:23
Declaring a Class and Creating Objects	18:21
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Implementing Member Methods	20:26
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Add more public methods to an existing class	1 question
Constructors and Destructors	10:28
The Default Constructor	11:40
Add a Default Constructor to an Existing Class	1 question
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Add an Overloaded Constructor to an Existing Class	1 question
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Section Challenge - Solution	11:00

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- <u>Operator Overloading</u>	<u>02:10:10</u>
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What is Operator Overloading?	17:06
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- <u>Inheritance</u>	<u>02:23:48</u>
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