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# C/C++ COURSE DETAILS

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DURATION : 2.5 MONTHS

## **Mindscares Technologies**

**Off # 01 , Mezzanine Floor, Park View AptNear Usmania  
Resturant,13 A, Gulshan-e -Iqbal Karachi, Pakistan. |**

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# C/C++ Programming

Are you fascinated with software? Have you always tried to find out the coding and encoding of any software?

If you have so much interest in the subject, then make sure that you take our C/C++ language course. By learning to understand, break and write the codes you can make yourself mandatory in the software industry. If you have some time at hand to enroll for training program and you will find the usefulness afterwards.



## What will you learn?

C/C++ language is most primitive languages in computer. If you want to learn Java and want to excel in the software industry, then you have to make sure you learn them well. In this training you will learn,

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- To understand the codes of a software better.
- To break and rectify the code.
- Write your own code of software.
- The other complicated aspects of software and its codes.

After learning these things you will be able to get into the software industry and make it big.

## Why us?

You may ask this question and it is quite valid one too. Good computer training institutes are not lacking in the market, so why you should opt for this one? The following facilities will provide you with the answer.

- Very convenient location.
- Reasonable course fee.
- Proper course duration, not more and not less.
- Experienced and highly qualified teachers.
- Very friendly approach and friendly relations of the teachers with the students.

***All these facilities will be more than enough to make you choose this institution.***

## What skills will the student gain?

- Programming Constructs

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- Data Structure & Algorithms

### Who will the course benefit?

University Students looking to gain basic programming skills.

## C Language Course Contents

### Introduction of C

The Basic of C Programming Syntax of C and C program  
structure Arithmetic expressions and variables  
Characteristics of C  
Control structures  
Why we use C?  
Loops in C  
Arrays  
Functions  
Arguments – Call by value & Call by reference  
External variables and scope

### Types, Operators and Expressions

Variable Names  
Data Types and Sizes  
Constants  
Declarations  
Arithmetic Operators  
Relational and Logical Operators  
Type Conversions  
Increment and Decrement Operators  
Bitwise Operators  
Assignment Operators and Expressions  
Conditional Expressions

### Control Flow

Statements and Blocks  
If-Else statement  
Else-If  
Switch  
Nested Loops  
Loops – While, Do-While and For  
Type Conversions

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**Break and Continue**  
**Goto and labels**

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**Using of Functions and types of function**  
**Functions Returning Non-integers**  
**Function Declaration**  
**Scope rules and header files**  
**Functions and Types**  
**Static variables and register variables**  
**Parameters and Functions**  
**Block Structure and initialization**  
**Function arguments passed by value and by reference**  
**Declaring parameters**  
**Recursion**  
**The C Preprocessor**

**Functions and Program Structure**

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**Arrays ,String**  
**Using Arrays, Strings**  
**Multi-dimensional Arrays**  
**Array initialization**  
**Character arrays**  
**Working with character strings**

**Arrays & String**

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**Defining a Structure**  
**Array in Structures**  
**Arrays and pointers of Structures**  
**Structures as Function Arguments**  
**Self-referential Structures**  
**Table Lookup**  
**Typedef**  
**Unions**  
**Structures within Structures (Nested Structures)**  
**Bit-fields**

**Structures**

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## C++ Language Course Contents

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**Introduction of C ++**

- Introduction to C++
- Features of C++
- What is C++?
- Why C++?
- C and C++

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**Variables and data types**

- Expressions
- Constants
- Operators
- Type conversions

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**Functions**

- Passing arguments
- Function prototyping
- Default argument initializers
- Inline functions
- Function Declarations
- Argument Passing
- Value Return
- Overloaded Function
- Names Default Arguments

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**C++ classes**

- Class initialization
- Data members/ functions
- Class and object
- Creating objects
- The new and delete operators
- Classes Access Control
- Constructors
- Member functions
- Static members
- Destructors
- Memory allocation
- Member initialization
- Reference type arguments

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<b>Encapsulation</b>	<p>Encapsulation Data Hiding Data Abstraction</p>
<b>Function/Operator overloading</b>	<p>Rules for Operator Overloading Overloading Member/non-Member Functions friend Functions Assignment Operator Overloading Increment and Decrement Operators const Objects and References</p>
<b>Inheritance</b>	<p>Introduction Derived Classes Base / derived classes Inherited member access Base class initialization Protected members of a class The protected Access Level Member Initialization Lists Assignments Between Base and Derived Objects Method Overriding Compile-Time vs. Run-Time Binding</p>
<b>Virtual functions</b>	<p>Virtual Functions Polymorphism Pure virtual Function Interfaces Constructor and destructor ordering</p>
<b>Exception handling</b>	<p>try...throw...catch block Nested catch handlers</p>

**Participant Profile:**

This course is valuable for programmers and software engineers who are interested in learning to develop Object oriented programming applications.



**Difficulty Level:**

Beginner

**Applicable Job Roles:**

Desktop application developers.

**Pre-Requisite:**

No prior knowledge about C/C++ is required, but people are expected to have some basic knowledge about computers, some knowledge about one or two other programming languages such as Perl, PHP, Python or Java etc is preferred.

**Course Duration and Fee:**

**Duration:** 2.5 Months

**Schedule:** 2 Days a Week

**Instructor:** The trainer is an IT professional working in IT- based Organization in Karachi, Pakistan.

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