



Softcrayons

C++

PROGRAMMING

*Empowering minds
shaping futures*



PROFESSIONAL CERTIFICATION IN

C++ PROGRAMMING



PROSPECTUS



Key Advantages of Choosing Softcrayons

FOR STUDENTS

Supplemental Learning Resources: Softcrayons offers offline and online courses, educational materials, and additional resources that can complement and enhance college students' learning.

Skill Development: Softcrayons offer courses and certifications focused on developing specific skills that are in high demand in the job market.

Career Exploration: Softcrayons offer a wide range of courses across various disciplines, enabling college students to explore different fields and potential career paths.

Industry Relevance: Softcrayons frequently collaborates with industry professionals and experts to ensure that the knowledge and skills imparted are relevant and aligned with current industry practices and trends.

FOR FREELANCER & JOB SEEKER

Flexibility: Softcrayons offers online courses and programs that can be accessed from anywhere.

Skill Development: To acquire in-demand skills according to the latest industry trends and technologies to stay competitive in the job market.

Key Advantages of Choosing Softcrayons

Certifications: Softcrayons provides you with Professional Certifications and helps you with Resume Enhancement.

Career Support: Softcrayons also offers career counseling and job placement assistance, which can be invaluable for freelancers seeking new projects or job seekers looking for employment.

FOR ENTREPRENEURS AND BUSINESS OWNER

Upskilling and Reskilling: As the business landscape evolves rapidly, Softcrayons ensure that you stay up-to-date with the latest trends, technologies, and best practices.

Flexible Learning: Online courses offered by Softcrayons allow you to learn at your own pace, fitting your studies around your busy schedules.

Entrepreneurial Skills Development: Softcrayons offers courses and programs specifically designed to help entrepreneurs develop essential skills.

Cost-effective: Softcrayons provides more affordable learning options that help you invest in your professional development without straining your budget.

About The Program



Our C++ Programming Training course is designed to provide a deep understanding of the C++ language, from basic syntax to advanced programming techniques. The course covers topics such as object-oriented programming, data structures, algorithms, file handling, and more. Students will also work on real-world projects to apply their knowledge practically. The objective of our C++ Programming course is to: Provide a solid foundation in C++ programming concepts, Enhance problem-solving and logical thinking skills, Develop proficiency in object-oriented programming, Prepare students for advanced programming challenges, Equip students with the skills required for software development roles.



INDEX

- 1 C++ PROGRAMMING CONTENTS**
- 2 ARRAYS**
- 3 STRINGS**
- 4 POINTER**
- 5 FUNCTIONS**
- 6 STRUCTURE**
- 7 DYNAMIC MEMORY ALLOCATION**
- 8 PRACTICE & REVISION**
- 9 OOPS INTRODUCTION**
- 10 EXCEPTION HANDLING**
- 11 FILE MANAGEMENT**
- 12 MULTI THREADING**
- 13 TEMPLATES (GENERIC PROGRAMMING)**
- 14 STANDARD TEMPLATES LIBRARY**
- 15 INTRODUCTION TO DATA STRUCTURE & ALGORITHMS**
- 16 LINEAR DATA STRUCTURE**

INDEX



17 NON-LINEAR DATA STRUCTURE

18 SEARCHING AND SORTING

19 GRAPH

20 HASHING

C++ PROGRAMMING

TRAINING CURRICULUM

1 C++ Programming Basics

– Day 1

- Introduction to C++ Language
- Difference and similarities Between C and C++
- Role of Compilers and Assemblers
- Introduction to C++ Basics
- Flow Control Statement
- Jump Statements
- Conditional Statement
- Iteration Statement

2 Arrays

– Day 2-3

- Introduction to Arrays
- Several Examples of Arrays Like Insert, Delete
- Counter Occurrence of items etc
- Searching
- Sorting
- 2D Arrays
- Several examples of 2D Arrays
- Multidimensional Array

3 Strings

– Day 4-5

- Introduction to Strings
- Strings Handling built in Functions
- Several examples of Strings
- Array of Strings
- Searching in Array of Strings
- Sorting in Array of strings

4 Pointer

– Day 6-9

- Introduction of Pointers
- Pointers Expressions
- Types of Pointers
- Void Pointers
- Null Pointers
- Wild Pointers
- Dangling Pointers
- Various Examples of Pointer
- Pointers Arithmetic's
- Array using Pointer
- Array of Pointers
- Changing Pointer
- String using Pointers
- Pointers in Functions

5 Functions

– Day 10-13

- Introduction to Functions
- Types of Functions
- Nesting of Functions
- Various example of Functions
- String Passing in Functions
- Array Passing in Functions.
- Pointer Passing in Functions
- Function Returning Address
- Recursion
- Various Examples and Interview Questions on Recursion and Function Storage Classes

6 Structure

– Day 14-16

- Introduction of Structure
- Advantage of Structure
- Array of Structure
- Structure using Pointer
- Structure with Functions
- Applications of Structure

7 Dynamic Memory Allocation

– Day 17

- Introduction to Dynamic Memory Allocation
- Advantage of Dynamic Memory Allocation
- New And Delete Operators
- Array implementation using Dynamic Memory Allocation

8 Practice & Revision (Day 18)

9 OOPs Introduction

– Day 19-23

- Oops vs. Procedural Programming Approach
- Oops Implementation
- Accessing class Members
- Array of Objects
- Types of members of class
- Instance Members
- Statics Members
- Scope Resolutions Operators (::)
- Oops Approach
- Encapsulation
- Nesting of Class (i.e. Outer Class, Inner Class, Class)
- Polymorphism
- Functions Overloading
- Constructor & Destructor
- Deep Copy
- Shallow Copy
- Operator Overloading
- Functions Overloading
- Reference Variable
- Pointers
- Class Object using Pointers
- Array of Objects Using Pointers
- This Pointers Etc
- Inheritance
- Single Inheritance
- Multiple Inheritance
- Multilevel Inheritance

- Hierarchical Inheritance
- Hybrid Inheritance
- Need of Virtual
- Friend Function And Friend Classes
- Function Overriding
- Binding Types
- Statics Binding and Dynamic Binding
- UP casting and Down Casting
- Virtual Function
- Abstractions
- Data Abstraction
- Abstract Class
- Pure Virtual Functions
- Inline Functions
- Composition and Aggregations

10 Exception Handling

– Day 24

- Introduction to Exception Handling
- Need of Exceptions Handling
- Try, throw, Catch
- Multiple catch Blocks

11 File Management

– Day 25

- Introduction to file Management
- Files Opening Models
- Opening and Closing a file
- Input Output Operations on file
- Error Handling
- Applications of file Management

12 Multithreading

– Day 26

- Thread Introduction
- Thread Synchronization
- Life cycle of Thread
- Deal Lock situation

13 Templates (Generic Programming)

– Day 27

- Introduction to template and Generic Programming
- Advantage of template
- Template function and template class

14 Standard Templates Library

– Day 28

- Container
- Class
- Functions
- Iterators
- List Class
- Stack Class
- Queue Class
- De Queue etc

15 Introduction to Data Structure & Algorithms

– Day 29-30

- What is Data Structure?
- Benefits of Data Structure
- Type of Data Structure
- Introduction to Algorithm
- Type of Algorithm
- Time and space Complexity
- Interview Questions

16 Linear Data Structure

– Day 31-34

- Array
- String
- Link List
- Introduction to link list
- Array vs. link lists
- Types of link lists
- Implementation of link list

- Singly link list
- YONS position and ons Pvt. Ltd
- Insertion(at first position, last at used specific position), deletion(at first position, last position and at used specific position), traversing operations in Singly linked list Doubly link list
- Insertion (at first position, last position dat used specific position), deletion(at first position, last position and at used specific position), traversing operations in Doubly linked list Circular link list
- Insertion(at first position, last position and at used specific position), deletion(at first position, last position and at used specific position), traversing operations in Circular linked list
- Application of link list
- Interview Questions
- Stack
- Introduction to stack
- Stack using array
- Stack using linked list
- Applications of stack
- Reverse Polish Notations Infix to Prefix) (Infix ta YONS Postfix s Pvt. Ltd. And
- Interview Questions
- Queue
- Introduction to queue
- Queue using array
- Queue using linked list Applications of queue
- Introduction to circular queue
- Application of Circular queue
- Introduction to De Queue(Double Ended Queue)
- Application of Dequeue
- Priority Queue
- Interview Questions

17 Practice & Revision

– Day 35

18 Non-linear data structure

– Day 36-38

- Tree
- Introduction of tree
- Types of trees
- Implementation of trees
- Binary tree
- Binary Search tree

- AVL Trees
- Threaded Binary Tree
- M way trees
- M way Trees
- B tree
- Heap
- Various Operations on trees
- Application of trees
- Interview Questions

19 Searching And Sorting

– Day 39-40

- Searching in Arrays
- Searching in Strings
- Linear Search
- Binary Search
- Sorting
- Various Sorting Techniques
- Selection Sort
- Bubble Sort
- Insertion Sort
- Quick Sort
- Heap Sort
- Merge Sort
- Radix Sort

20 Graph

– Day 41-43

- Introduction of graph
- Types of Graph
- Implementation of graph using ADJ. Matrix and ADJ. List
- Various Operations n Graphs
- Shortest path search in graphs
- Floyd Warshall Algorithm
- Dijkstra Algorithm
- Minimum Spanning trees
- Kruskal's Algorithm
- Prims Algorithm
- Applications of Graphs

21 Hashing

— Day 44

- Introduction of Hashing
- Hash Table
- Application of Hashing

 SOFTCRAYONS®

PLACEMENT COMPANIES



Testimonials of Students



Sukhpreet Kaur
2 reviews

★★★★★ 2 weeks ago **NEW**

Hlo mam I'm Sukhpreet your Softcrayons tarining institute in student my training is digital marketing course 😊 I'm very becoz I'm digital marketing beginner but my experience to much becoz my trainer is very intelligent and supportive and nature is very friendly 😊



Manish Malik
1 review

★★★★★ 2 weeks ago **NEW**

I'm new student in softcrayons my starting classes all gud my softcrayons experience to much better becoz my trainer is very experienced



Aman Bhardwaj
2 reviews

★★★★★ 5 months ago

I am Aman Bhardwaj, Recently I completed a Digital Marketing course from Softcrayons. After completing my course I got a placement at SNVA Ventures with a good salary package. If you want to do a course and boost your career in the Digital Marketing field. I will recommend you visit Softcrayons. If I talk about the environment and faculty then Softcrayons have a very good and friendly environment and their faculty is highly experienced in the Digital Marketing field. Specifically, Yashvant sir is one of the best trainer and they have great experience in the Digital Marketing field. Thank you Softcrayons and all staff who helped me boost my career in the Digital Marketing field.



Shivam Sharma
1 review

★★★★★ 2 months ago

I got the chance to study with the best teacher and they provided me a good career guidance. a veryb great place to learn programming and start your career.



Lalita Tiwari
1 review

★★★★★ 5 months ago

I heard about softcrayons through friends and I enroll myself here, and done my course. I suggest you all to join softcrayons. Hope you do great.



Tanish Chandrawal
5 reviews

★★★★★ 5 months ago

It is good institute, practical oriented practice is very good. This institute is very useful for graduate students to make carrier in IT. 100% job guarantee is available for all students.Very good Institute for Cloud Computing like Azure, AWS, GCP.



Aman Vishwakarma
2 reviews

★★★★★ 2 months ago

Hie guys I'm aman softcrayons institute students for AutoCAD.. softcrayons institute is best training institute sarfaraz sir is best teacher for softcrayons. And best institute softcrayons



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