

Full Stack Programming

Cortex Skills Institute

Course Fee: ₹25,000

Registration Fee: ₹300

Course Duration: 8 Months

Module 1: Programming

Fundamentals

Topics Covered

- Programming Logic
- Algorithms
- Flowcharts
- Pseudocode
- Variables
- Data Types
- Operators
- Input & Output
- Decision Making
- Loops
- Functions
- Arrays
- Strings

Module 2: C Programming

Topics Covered

- C Basics
- Conditional Statements
- Loops
- Arrays
- Functions
- Pointers
- Structures
- File Handling

Projects

- Student Management System
- Library Management

Module 3: C++ Programming

Topics Covered

- OOP Concepts
- Classes & Objects

- Constructors
- Inheritance
- Polymorphism
- Templates
- Exception Handling

Projects

- Banking System
- Employee Management

Module 4: Python Programming

Topics Covered

- Python Basics
- Functions
- OOP
- File Handling
- Modules
- Libraries
- Database Connectivity
- Automation

Projects

- Expense Tracker
- Automation Scripts

Module 5: Java Programming

Topics Covered

- Java Basics
- OOP
- Collections
- Exception Handling
- Multithreading
- JDBC
- File Handling

Projects

- Student Portal
- Billing System

Module 6: Database (SQL)

Topics Covered

- DBMS
- RDBMS

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- SQL
- MySQL
- CRUD Operations
- Joins
- Views
- Stored Procedures
- Triggers
- Database Design

Projects

- College Database
- Inventory Database

Module 7: Front-End Web

Development

HTML5

- Forms
- Tables
- Semantic Tags

CSS3

- Flexbox
- Grid
- Responsive Design

Bootstrap

- Components
- Responsive Websites

JavaScript

- DOM
- Events
- Validation
- ES6 Basics

Projects

- Portfolio Website
- Business Website

Module 8: Backend Development

PHP or Python (Flask/Django

Basics)

Topics:

- CRUD Operations
- Forms

- Authentication
- Sessions
- Database Integration

Projects

- Login System
- Student Portal

Module 9: APIs

Topics Covered

- REST APIs
- JSON
- HTTP Methods
- API Testing
- Authentication

Practical

- Weather API
- Currency API

Module 10: Git & GitHub

Topics Covered

- Version Control
- Repository
- Branching
- Pull Request
- Collaboration

Module 11: Data Structures & Algorithms

Topics Covered

- Arrays
- Linked Lists
- Stack
- Queue
- Trees
- Searching
- Sorting
- Recursion

Module 12: AI & Modern

Development Tools

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Topics Covered

- ChatGPT for Developers
- GitHub Copilot Overview
- AI Prompt Engineering
- Code Debugging
- AI Code Review

Module 13: Software Engineering

Topics Covered

- SDLC
- Agile
- Testing Basics
- Debugging
- Documentation

Module 14: Career Development

Topics Covered

- Resume Building
- LinkedIn Profile
- Aptitude
- Mock Interviews
- HR Questions
- Coding Interview Preparation

Module 15: Live Projects

Mini Projects

- Calculator
- ATM
- Student Management

Major Projects

- Hospital Management System
- Inventory Management
- Online Examination System
- Library Management System
- E-Commerce Website

Software Covered

- C
- C++
- Python

- Java
- MySQL
- HTML5
- CSS3
- Bootstrap
- JavaScript
- PHP / Flask / Django (Basics)
- GitHub
- VS Code
- PyCharm
- XAMPP
- ChatGPT & AI Coding Tools

Additional Skills

- Problem Solving
- Debugging
- Competitive Coding Basics
- API Integration
- Database Design
- Software Documentation
- Deployment Basics

Career Opportunities

- Software Developer
- Python Developer
- Java Developer
- C/C++ Programmer
- Web Developer
- Backend Developer
- Full Stack Developer (Entry Level)
- Database Developer
- QA Engineer
- Technical Support Engineer
- Freelancer