

## Certificate in Programming Basics - C and C++ Programming





Embark on a journey to master the power of C and C++ programming! This comprehensive course starts with the Fundamentals of C, building a strong foundation in variables, data types, and operators. You'll then Understand Control Structures to manage program flow effectively. Gain mastery over Functions and Pointers for modular design and memory control. Delve into essential Data Structures using C, including arrays and structures. Explore Advanced C Features for enhanced program capabilities. Learn crucial File Handling techniques. Transition seamlessly to C++, embracing Object-Oriented Concepts. Discover C++ for GUI Development and Graphics on Windows.







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## Syllabus & Skills covered (60 hours)

- Master Functions and Pointers: Gain proficiency in using functions and pointers for modular programming and effective memory management.
- Deep Dive into Data Structures: Understand the implementation and application of essential data structures like arrays, structures, and pointers.
- Explore Advanced Features of C: Cover advanced topics such as storage classes, preprocessors, bit manipulation, and C under Windows to enhance program functionality and efficiency.
- Develop Proficiency in File Handling: Learn how to handle files for input/output operations and understand file manipulation at a deeper level
- Implement Object-Oriented Concepts in C++: Transition from C to C++ programming to embrace object-oriented programming paradigms.
- Leverage C++ for GUI Development and Graphics: Utilize C++ for graphical user interface development and graphical applications in Windows.
- Understand Exception Handling and Templates in C++: Master advanced C++ features including templates and exception handling to write robust and high-performance software.
- Prepare for Real-world Programming: Through practical case studies and projects, prepare Learners for actual programming scenarios in business and gaming

## **Career Opportunities**



- Embedded Systems Programmer (Entry-Level)
- Systems Programming Assistant
- Coding Trainer



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