G-TEC COMPUTER EDUCATION CENTRE
REGISTERED WITH COUNCIL FOR PRIVATE EDUCATION SINGAPORE
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C++ PROGRAMMING

COURSE OVERVIEW:

The intent of this course is to familiarize students with the fundamentals of Object Oriented Programming concept in C++ Programming. The course covering the basics of C++ and going in to more deeper in to the OOPS concepts like Class ,Objects, Inheritance, polymorphism, Templates a. The course curriculum is designed as a combination of theory and practical. Course materials are covered with many hands on practical exercise with each theory topics.

COURSE CONTENT:

Fundamentals of Object-Oriented Programming: Introduction to Class and Object

Basics of C++: Data Type, Variables, Constants, Operators, Comments in C++

Conditional Statements in C++: if, If –else, Switch s, for loop, While loop, Do- while loop, Break, Continue, go to, exit.

Functions: Function declaration, Function definition, Function call, Parameter Passing Mechanism; call by reference, Call by value, Recursive function

Arrays: Array declaration, Single dimension arrays, Multidimensional arrays, character arrays**,** Arrays and Functions

Strings: Working with Strings, Manipulating String Structure

Union and Bit Fields: Declaration of a structure, Initialization of a Structure, Array within structure, Union, Bit Field

Pointers: Declaration of a Pointer, Initializing Pointers, Pointer Arithmetic, Pointers and Arrays, Arrays of Pointers, Pointers and Strings, Pointers and Functions, Pointers to Pointers, Dynamic Memory Management

Class and Object Declaration of a Class, Defining the Member Functions, Creating the Objects,Class and Arrays, Objects and Functions, Friend Functions ,Pointers and Objects

Constructor and Destructors: Structure of a Constructor, Types of Constructors, Destructor

Inheritance: Structure of Inheritance Importance of Inheritance, Types of Inheritance

Polymorphism: Compile-Time Polymorphism, Run-Time Polymorphism,

Template and Exception Handling: Declaration of a Function Template, Exception Handling, try, Catch and throw, Exception Generated by the Function, Multiple catch Blocks, Single catch Block for All Exceptions

File Organization: Stream, Basic Operations with Files , Binary Files, Random Access Files, Error Handling in Files, File Pointers and Random Access

Turbo Graphics: Library Functions of the Text Mode, Library Functions of the Graphics Mode, Library Functions used for Animation and Sound

Preprocessor Directives and I/O:C++ Stream , Preprocessor Directives, Header Files , Manipulators, Unformatted I/O Functions, Character Testing and Conversion Functions, String Manipulation Function