



## Level Five

### Computer Programming (1)

Course Code	Course Num.	Course Name	Credit Hours	Lec	Lab	Tut	Prerequisites
CS	140	Computer Programing (1)	4	4	2	0	

#### *Objectives:*

This course introduces the fundamental programming concepts in C++, the language most commonly used in modern programming applications. Topics covered include: Introduction to Computers and C++ Programming, Control Structures, Functions & Recursion, Arrays, Pointers & Strings, Classes & Data Abstraction. Elements of object-oriented design and programming are introduced to prepare students for the following course, CS 141 (Computer Programming II), which covers advanced object-oriented programming techniques, such as polymorphism, inheritance, overloading, templates, etc.

#### *Syllabus:*

- Introduction to computers and C++ Programming.
- Introduction to Classes and Objects.
- Introduction to algorithms; Pseudo codes; Selection structures; Repetition Structures; Assignment Operators; Increment and Decrement Operators; Logical Operators.
- Program Components in C++; Math Library Functions; User Defined Functions; Recursion functions.
- Concept of Arrays; Passing Arrays to Functions; Searching Arrays (leaner, binary search, etc); Notions of Multiple-subscripted Arrays.
- Notion of Pointers; Pointers Operators; Calling Function by Reference; Relation between pointers and Arrays; Introduction to Character and String Processing.

#### *References:*

C++ **HOW TO PROGRAM**, 4<sup>th</sup> edition, Deitel & Deitel, Prentice Hall International Edition, (2003).

