

**Zarka Private University**  
**Faculty of Science**  
**Department of Computer Science**  
**Evening Studies**  
**First Semester 2002-2003**

**Programming 2 ( C++ ) 0306211.**

**Lecturer :** Salah F. Saleh.

**Office:** 217D.

**Outline:**

**1. Advanced Topics in Functions:**

Recursion, inline functions, default parameters, function overloading, function templates.

**2. Pointers:**

Pointers declaration, pointers operators, calling function by reference using pointers, using const qualifier with pointers, array of pointers, relationship between pointer and array, function pointer.

**3. Strings:**

String declaration, string manipulation functions.

**4. Classes and Data Abstraction:**

Structure definition, access members of structure, class definition, class scope, access members of class, controlling access to members, access functions and utility functions, constructors, default parameters of constructors, destructors.

**5. Advanced Topic in Classes:**

Constant objects, constant member functions, object as a member of a class, friend function and friend class, dynamic allocation of objects, static class members, operator overloading, unary operators overloading, inheritance, type of inheritance, multiple inheritance, virtual functions, polymorphism, class templates, I/O streams.

**6. File Processing:**

Data hierarchy, file streams, file operations.

**Textbook:** C++: How to Program by Deitel & Deitel.

- References:**
1. C++ for Programmers by Leerdert Ammeraal.
  2. Teach Your Self ANSI C++ in 21 Days by J. Libirby and M. Hord.

**Grading:**

First Exam. 15 Marks.

Second Exam. 15 Marks.

Homework , Quizzes, Activities, and Project: 20 Marks.

Final Exam. : 50 Mark.