CS 2010 3 (3-0-3) UT - Fall 2001 Practical Programming Methodology—Course Outline

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Contents, Goals & Objective: This course introduces you to the principles, methods, tools, and practices of a professional programmer in real industry. The lectures focus on the fundamental principles of programming methodologies based on abstract data types and their implementations. The Topics covered include concepts of Input/Output, functions, arrays, pointers, and structures for C/C+ programming. The topics also include modern Object-Oriented Programming (OOP) concepts of classes and objects, abstract classes and interfaces, data hiding, operator overloading, inheritance, and polymorphism for C++ programming. The differences and borders between C and C++ languages are discussed. The labs with this course help you learn hand-on experiences about how to write/edit, compile, debug, test, and execute C/C++ programs under the Microsoft Windows and UNIX environment. Microsoft Visual C++ 6.0 compilers/Windows is adopted as the major software tool to edit, compile, debug and execute C/C++ programs. The labs also cover how to use GNU C compiler/Linux, Borland C++ compiler/Windows, and standard C compiler/UNIX, and how to develop good programming style as well as basic skills of designing, coding, debugging and documenting computer programs

Text Books:

- Programming with C, Second Ed., Byron Gottfried, 1996
- Programming with C++, Second Ed., John R. Hubbard, 2000
- Overheads and sources used in the class are available through WebCT.

Prerequisite: CS 1150 or equivalence.

Last Day to Drop: Friday, Nov 17, 2000

Examination Policy: All examinations will be in class. Students may use their textbooks as reference material unless otherwise specified for specific tests or segments of a test.

Make-Up Exam Policy: Make-up examinations will be given only in case of serious need and only when the instructor is notified prior to the examination time. If this is not done, the grade is automatically 0 for that examination. It is the responsibility of the student to contact the instructor for arranging a make-up time. Written verification for the student's inability to take an exam will be required.

Homework Policy: All homework and assignments are due in class on the specified date. All assignments must be individually and independently completed and must represent the effort of the student turning in the assignment. Should two or more students turn in substantially the same solution or program, in the judgment of the instructor, the solution will be considered a group effort. Both or all involved in a group effort homework will receive a zero grade for that homework/assignment. A student turning in a group effort homework/assignment more than once will automatically receive a "F" grade for the course.

Assignment Pages: All assignments must include

1. Cover page with assignment number, date due, date handed in, and explanation if late penalty was waived by prior arrangement
2. Listing of all files
3. Output of all test runs
4. Typed report containing discussion of your design, discussion of each result, discussion of any part of the assignment not implemented or not correct; report may refer to highlighted section of the syntax.

Late Assignment: An assignment is to be turned in at the beginning of class on the day it is due. An assignment turned in later than the due date will be penalized 10% of the total possible points for the assignment for each day late (excluding weekends and University holidays). No late assignment will be accepted after the assignment is graded and returned.

Course Grade: The course grade is based on a student's overall performance through the entire Semester. The relative weights for the final grade is distributed among the following:

	Date	Weight
Quiz #1	9/28/2001	5% (30 minutes)
Midterm	10/24/2001	25% (1.5 hours)
Quiz #2	11/24/2001	5% (30 minutes)
Final	12/12/2001	35% (1.5-2.0hours)
Programs and Assignments (6-10)	TBA	30%

Course Schedule: The schedule of topics and their order of coverage is given below. Every effort will be made to follow this table, however, it will vary to some extent depending on the progress made. Reference column in the schedule includes names of power point files. These files will be used in the class. Other power point file names will be added to the reference list as and when they are ready and this addition will be announced in the class. Students are encouraged to download them and bring copies to the class.

TENTATIVE SCHEDULES

DATE	DESCRIPTION	References/Notes
9/4//01 – 9/15/01	C fundamentals including variables, constants & expressions, and Control structures	Introduction to C LanguageBasics
9/15/01 – 9/27/01	C Data Input/Output, control statements, functions, arrays,	Input/Ouput
9/28/01	Quiz #1	
9/29/01 – 10/14/01	String, pointers, structure, other topics in C	Pointer
10/15/01 – 10/23/01	C Part of C++ (Review)	CPartOfCPlus
10/24/01	Mid Term examination	
10/25/01 – 11/4/01	References, C-Strings, C++ String, C++ I/O	CPlusPrime
11/5/01 – 11/15/01	Exception handling, Overloading	Exceptions
11/16/01 – 11/23/01	Classes & Objects, inheritance, Polymorphism	Classes
11/24/01	Quiz #2	
11/25/01 – 12/11/01	Templates, Iterators, STL in C++	Templates
12/12/01	Final examination	