Lamar University

COSC 1374-01, Fall 2003

Principles of Computer Science II (C++)

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Office Hours: MWF 10:00 ~ 11:00 AM or by appointment

Class meeting times and place:

MWF 9:05 ~ 9:55 AM, Maes 109
(Attendance will be taken impulsively)

HomePages of the course: `http://hal.lamar.edu/~licc/cosc1374`

From there, you can find some important information, assignments, assignment data, due dates, sample programs, announcements, and old quizzes and tests.

Note: An announcement made in the class **will be considered as an OFFICIAL one**, since I may not be able to update every announcement.

Course Description and Purposes:

This is a continuous course of COSC 1373. We assume that students already have basic programming skill in C++ and we will study more advanced features of the language in this course. Also, we will shift the programming environment to Unix. Topics to be covered include introduction to Unix, string manipulation, pointers, file I/O, recursion, OOP design, and introduction to data structures and algorithm analysis.

This is the second course of the three-course-series, COSC 1373-1374-2371, which is required for CS major students. The first two courses are designed to build students' muscle for taking COSC 2371 Data Structure and Algorithm Analysis. By the time students finish the three courses, they should be able to program in C++ for most entry-level jobs. Also, with a solid knowledge of C++, students will find it easy to learn other programming languages by themselves for their future studies. An obvious example is that a C++ programmer can easily transfer to program Java due to the great similarity between the two languages.

Prerequisites: COSC 1373 (if CS major, with a grade B or better).

Textbook:

- Absolute C++, by Walter J. Savitch, Addition Wesley Publishers, 2002

Reference Books:

- Problem Solving, Abstraction, and Design Using C++, by F.I. Friedman and E.B. Koffman, Addition Wesley Publishers, 2003

- Computer Science Tapestry – Exploring Programming and Computer Science with C++, by Owen L. Astrachan, McCraw Hill Publishers
- Practical C++ Programming, by Steve Oualline, O'Reilly Publishers

Examinations and Dates: (300 points)

All tests are accumulative, closed book, and indispensable.

No makeup-test will be given.

A documented absence authorized by the university and approved by a student's academic advisor **may be** used to have *one* missed test dismissed from the final grade.

Midterm I	100 points	Sep. 29, 9:05 $\sim$ 9:55 AM (6th week)
Midterm II	100 points	Nov. 3, 9:05 $\sim$ 9:55 AM (11th week)
Final Exam	100 points	(16th week, TBA)

- Every student is allowed to bring a self-prepared crib sheet to the test. You can **write** down everything on both sides of **one piece of** letter-sized paper. No circulation during the test.

Programming Assignments: (210 $\sim$ 240 points)

About 7 or 8 programming assignments will be given. Students are encouraged to discuss assignments and help each other. However, this does not mean that you can either entirely or partially copy or modify someone else's works.

Any form and any degree of plagiarism will receive 0 point.

Late works will be graded with penalty; -5 points per day after the due date.

Attendance: (50 points)

Each attendance, if taken, contributes 5 points towards students' final scores. In other words, an absence on the day the roll is checked costs 5 points.

Pop quizzes: (50 points)

Five pop quizzes will be given impulsively. Each quiz carries 10 points towards students' final scores. The coverage of every quiz is also accumulative, including the materials covered in the class right before the quiz. A typical quiz takes about 10 minutes. On the day a quiz is given, the attendance will not be taken. No makeup quiz will be given if missed. If you miss a quiz due to a university authorized absence, we will use the average of your rest quizzes; otherwise, you get a 0 on the absent quiz.

Grading Policy: At least 600 points will be given. The grade is based on the following scheme.

Points	Grade	
540 $\sim$ 600	A	Excellent
420 $\sim$ 539	B	Good
300 $\sim$ 419	C	Satisfactory
200 $\sim$ 299	D	Passing
0 $\sim$ 199	F	Failure

Curve would not be considered.

Tentative Topics and Schedules for COSC 1374-01

Week	Topics	Reading
1: Aug. 27	(Aug. 27, first class day), Introduction to Unix	Syllabus Ch 1 ∼ 8
2: Sep. 1	(Sep. 1, no class), Introduction to Unix, Basic C++	Notes Ch 1 ∼ 8
3: Sep. 8	Basic C++, C-string and String class	9.1∼9.3
4: Sep. 15	Pointers, Dynamic variables, Dynamic arrays	10.1∼10.3
5: Sep. 22	More on pointers, Class pointers, and Separate compilation	10.3, 11.1
6: Sep. 29	**(Midterm 1, Monday)**, Namespaces	11.2
7: Oct. 6	I/O streams, File streams	12.1∼12.3
8: Oct. 13	Random access files, Recursions	12.4 13.1∼13.3
9: Oct. 20	Class, Inheritance	14.1∼14.2
10: Oct. 27	Inheritance, Polymorphism, and Virtual functions	14.2∼15.1
11: Nov. 3	**(Midterm 2, Monday),** Polymorphism, Virtual functions, and Templates	15.1∼15.2 16.1∼16.3
12: Nov. 10	Linked list and Data structure	17.1∼17.2
13: Nov. 17	Linked list, Data structure, and Recursions.	17.2∼17.4
14: Nov. 24	Iterators and Trees (Thanksgiving, no class on Nov.28)	17.3∼17.4
15: Dec. 1	Exception handling, Templates, Generic algorithms	18.1∼18.2
16: Dec. 8	(Dec. 9, last class day) **Final examination TBA**	19.1∼19.3
17: Dec. 15		
18: Dec. 22		