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# Lamar University

## COSC 1374, Spring 2003

### Principles of Computer Science II (C++)

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Instructor: Dr. Chung-Chih Li  
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Office Hours: MWF 9:00 ~ 10:00 AM or by appointment

**Class meeting times and place:**

**MWF 8:00 ~ 8:50 AM, Maes 109**  
**(Attendance will be taken impulsively)**

**HomePages of the course:** <http://hal.lamar.edu/~licc/cosc1374>

These webpages contain detailed information about this course, assignments, due dates, and most recent announcements.

**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 a 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++ well enough 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 Java due to the great similarity between the two languages.

**Prerequisites:** COSC 1373

**Textbook:**

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

**Reference Books:**

- Computer Science Tapestry – Exploring Programming and Computer Science with C++, by Owen L. Astrachan, McGraw 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 unless an absence is authorized by the university with documents provided.

Midterm I	100 points	(6th week)
Midterm II	100 points	(11th week)
Final Exam	100 points	(18th week)

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

**Programming Assignments:** (210 ~ 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 and 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:** You will have at least 600 points to gain. Your grade is based on the scheme shown in the following table.

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

**Academic Honesty:**

Cheating, plagiarism, collusion, abuse of resource materials, and their consequences are defined and described under the section of Academic Affairs in the *Student Handbook*.

Students giving away academic works for assignment offered for credit to other students working on the same assignment will be considered as guilty as academic dishonesty, and will receive the same penalty.

## Tentative Topics and Schedules for COSC 1374

Week	Topics	Reading
1: Jan. 8	(Jan. 8, first class day), introduction to Unix	Syllabus
2: Jan. 13	Introduction to Unix	Lecture notes
3: Jan. 20	(Jan. 20, no class), C-string and string class	9.1~9.3
4: Jan. 27	Pointers, dynamic variables, dynamic arrays	10.1~10.3
5: Feb. 3	More on pointers, class pointers, and separate compilation	10.3, 11.1
6: Feb. 10	<b>(Midterm 1, Monday)</b> , namespaces	11.2
7: Feb. 17	I/O streams, file streams	12.1~12.3
8: Feb. 24	Random access files, recursion	12.4 13.1~13.3
9: Mar. 3	Class, inheritance	14.1~14.2
10: Mar. 10	Spring break, no class	
11: Mar. 17	<b>(Midterm 2, Monday)</b> , polymorphism and virtual functions	15.1
12: Mar. 24	More on polymorphism and virtual functions, and templates	15.2 16.1~16.3
13: Mar. 31	Linked list and data structure	17.1~17.2
14: Apr. 7	Iterators and trees	17.3~17.4
15: Apr. 14	Excepting handling (Apr. 18, no class)	18.1~18.2
16: Apr. 21	Templates and generic algorithms	19.1~19.3
17: Apr. 28	(Apr. 28, last class day)	
18: May. 5	<b>Final examination, May 5, Monday, 8:00 ~ 10:30 AM</b>	