CS250 Introduction to Computer Science II

Course Syllabus

Spring 2005

Introduction

A second course in programming that is a continuation of CS150. The focus of this course is object-oriented programming. Concepts taught include classes, function and operator overloading, inheritance, polymorphism, templates, and exception handling. These concepts will be reinforced with substantial programming projects over the course of the semester.

Aim

Master object-oriented programming and design.

Objectives

On completion of this course, you should be able to:

- Justify the philosophy of object-oriented design and the concepts of encapsulation, abstraction, inheritance, and polymorphism.

- Design, implement, test, and debug simple programs in an object-oriented programming language.

- Describe how the class mechanism supports encapsulation and information hiding.

- Design, implement, and test the implementation of "is-a" relationships among objects using a class hierarchy and inheritance.

- Compare and contrast the notions of overloading and overriding methods in an object-oriented language.

- Explain the relationship between the static structure of the class and the dynamic structure of the instances of the class.

- Describe how iterators access the elements of a container.

Topics

The topics covered in this course include:

- Object-oriented design
- Separation of behavior and implementation
- Inheritance (overriding, dynamic dispatch)
- Class hierarchies
- Internal representations of objects and method tables
- Encapsulation and information-hiding
- Classes and subclasses
- Polymorphism
- Collection classes and iteration protocols

Instructor Details

Professor:	Dr. Shereen Khoja
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Office Hours:	M 01.00 - 02.30 PM
	W 02.00 - 03.30 PM
	F 10.00 - 11.30 AM or by appointment

Course Basics

Course Title:	CS250 Introduction to Computer Science II
Prerequisite:	CS150 Introduction to Computer Science I with a grade of C or better
Note:	CS250 is a prerequisite for CS300 Data Structures, CS310 Theoretical Computer Science, CS315 Interaction to Human Computer Interaction, CS380 Algorithms, and CS360 Special Topics, thus a grade of C or better in CS250 is required to get into CS300, CS310, CS315, CS320, or CS360.
Meeting Times:	MWF 09.00 - 10.00 AM
Location:	Marsh LL15
Textbook:	C++ How to Program (Fourth Edition) by Deitel & Deitel *Prentice Hall*
Software:	Microsoft Visual Studio .NET. This software is freely available to all students registered for this course. Contact me for information.
Course Website:	*http://zeus.cs.pacificu.edu/shereen/cs250/cs250.html*

Course Assessment

Grade Distribution

6 to 7 Programming assignments	250 pts
3 Midterms	225 pts
1 Final	125 pts
Total	**600 pts**

Program Grading

Successful execution and coding structure	70%
Acceptable comments and formatting	20%
Documentation	10%

Percent Breakdown

		92-100%	A	90-92%	A-
88-90%	B+	82-88%	B	80-82%	B-
78-80%	C+	72-78%	C	70-72%	C-
68-70%	D+	60-68%	D		
0-60%	F				

Important Dates

Dates for Midterms

Midterm 1	Wednesday, 23 February	Week 4
Midterm 2	Friday, 18 March	Week 7
Midterm 3	Monday, 18 April	Week 11

Date of Final

Tuesday, 17 May, 3:00 PM TO 5:30 PM in Marsh LL15

Other Dates

11	February	Labor day holidayLast day to add courses. Last day to drop courses with no record
21 - 25	March	Spring Break
8	April	Last day to withdraw from courses
20	April	Senior Projects Day (no class)
11	May	Reading day

Course Policies

Class Policies

1. Attendance at every class is critical to your success in this course. I expect you to be on time and ready to go once it's 9:00 am and that you stay till the end of class. Any missed lecture is your responsibility to make up; just remember, if you fall behind, it will be very difficult to catch up.

2. Computers are not to be used during lecture time. Once I begin lecturing, the keyboards should be pushed under the desk and the monitors should be ignored. Failure to do so will result in you being excused from class.

3. Cell phones are to be turned off and put away during class. Any cell phone that rings during class will be confiscated. Leaving during the middle of class to answer a page/call is extremely rude.

Assignment and Exam Policies

1. Assignments are to be turned in at the beginning of class on the day they are due.

2. Assignments can be turned in up to 24 hours late with a penalty of 10% of the grade. If the assignment is between 24 and 48 hours late you will lose 20% of your grade. Anything later will not be accepted.

3. Make sure to test your program before you turn it in. You may turn in your program only once.

4. A program that does not successfully compile or produces no output loses 70% of the assignment grade.

5. No early or late exams/finals will be given under any circumstance. Do not make early Spring Break or end of term arrangements.

6. No incompletes will be given.

7. The cheating policy is defined in Pacific Stuff & the Pacific Catalog as well as the Academic Policy that each of you signed. Be sure you read this policy carefully. Every piece of code written for CS150 is to be an original design and an original implementation. The Web, textbooks and any other references are simply references for you. This means that copying code from any source is prohibited. Further, source code is not to exchange hands in any form or by any medium except when sending your solutions to the instructor. It is OK to share high level ideas during your design phase, help someone fix a bug occasionally, and share information dealing with the computer system (compiling, using editors, etc.) that does not involve code writing.

8. All code in any form generated from this course becomes the intellectual property of Pacific University. You may not share this code with anyone at any time (including after this course is over) without obtaining written permission from Pacific University.

9. Computer failure, software failure, and lack of computer access are not accepted as excuses for late programs; therefore, start work on the programs as soon as they are assigned, don't put them off until the last minute. Make sure to keep backup copies of your assignment. Corrupting or accidentally deleting your programs is also not an acceptable excuse for late programs.

10. The instructor reserves the right to raise or lower a student's grade based on class participation and attendance.