CIS 022B - 06Y   **Spring, 2015**
(CRN 43677)

INTERMEDIATE PROGRAMMING METHODOLOGIES IN C++

INSTRUCTOR: Hellen Pacheco
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CLASS HOURS: MW 9:30 a.m. – 11:20 a.m. (AT 311)
                             W 11:30 a.m. – 12:45 a.m. (online)
OFFICE HOUR: Th 9:30 a.m. – 10:30 a.m (computer lab)
FINAL: Friday, June 26 at 9:15-11:15 a.m.

Course Description:

A systematic approach to the design, construction and management of computer programs, emphasizing design, programming style, documentation, testing and debugging techniques. Strings, multidimensional arrays, structures, and classes. Pointers: their use in arrays, parameters and dynamic allocation. Introduction to linked lists.

Student Learning Outcomes:

1. Read, analyze and explain intermediate level C++ programs.
2. Design solutions for intermediate level problems using appropriate design methodology incorporating intermediate programming constructs.
3. Create algorithms, code, document, debug, and test intermediate level C++ programs.

Attendance:

You are expected to attend all class sessions. Lectures will be the main source of information for both labs and exams. You will **not** be automatically dropped if you do not come to class. Thus, be sure to withdraw officially by May 29th to avoid an 'F' grade on your transcript.

Required Text:

Starting Out with C++: From Control Structures through Objects, 8th Edition by *Gaddis* (may use 7th edition)

Compiler:

No specific compiler is required. We have CodeBlocks and Microsoft Visual C++ in the computer lab. You may download Codeblocks for free from http://www.codeblocks.org/

Course materials are available through https://catalyst.deanza.edu.

Course Outline:

Week 1	Review of One-dim. Arrays, Binary Search, Insertion Sort	Textbook Ch. 7.1 - 7.8, 8
Week 2	Pointers, pointer arithmetic in an array, pointer parameters	Textbook Ch. 9.1 - 9.4, 9.7
Week 3	Dynamic allocation, arrays of pointers	Textbook Ch. 9.8, 9.10
Week 4	C Strings C++ Strings	Textbook Ch. 10.1 - 10.5 Textbook Ch. 10.7
Week 5	Abstract Data Types & Structures Test 1	Textbook Ch. 11.1 - 11.5
Week 6	Intro. to Object-Oriented Prog. Classes	Textbook Ch. 13.1 - 13.11
Week 7	Arrays of structs, arrays of objects, Friend functions, Operator overloading	Textbook Ch. 11.5, 13.12, 14.2, 14.5
Week 8	Inheritance	Textbook Ch. 15
Week 9	Intro. to Linked Lists Test 2	Textbook 11.9, 17.2
Week 10	Two Dimensional Arrays, Multi-dimensional Arrays	Textbook Ch. 7.8, 7.9
Week 11	Object-oriented Design, UML	Textbook Ch. 13.16
Week 12	FINAL EXAM Jun 26, 9:15-11:15	Comprehensive

Need help? CIS has its own tutorial program. Sign up in the Computer Lab.

Assessment:

Participation / Classwork Assignments	20%
Labs (6)	30%
Tests (**May 13 and Jun 3**)	25%
Final	25%

Course letter grades will be assigned:

A+	A	A-	B+	B	B-	C+	C	D	F
99+%	92-98%	90-91%	88-89%	82-87%	80-81%	78-79%	70-78%	60-69%	<60%

Where percentages are rounded to the nearest whole number.

Lab assignments will be graded on correctness, structure, style, clarity and documentation.

All Labs must be submitted through Catalyst and will be accepted for up to one week after the due date with a 5 point penalty. After the one-week limit the assignment will receive no credit.

Tests will be on Catalyst but <u>must</u> be taken in class. They are scheduled ahead of time and there are <u>no make-ups</u>. Since I will drop the lowest score, if you miss a test, that will be the one to be dropped.

Academic Honesty:
All programming assignments are expected to be your own original code. Never give a soft copy or a hard copy of any lab assignment to another classmate. Any duplicate assignments submitted will receive zero points without regard to who originated and who copied.

Important Dates

Sunday, April 19 *:: Last day to [drop](#) a class with no record of grade. Drop date is enforced.*
Friday, May 29*:: Last day to [drop](#) with a "W." Withdraw date is enforced.*

Holidays

Monday, May 23-25 :: Memorial Day Weekend (no classes)

Motto:
"You learn to play tennis by playing tennis. You learn to program by writing programs."