CIS 22B SPRING, 2015 INTERMEDIATE PROGRAMMING METHODOLOGIES IN C++

INSTRUCTOR: Ma	ry Pape
OFFICE: F51i	
PHONE: (408) 864-	8877 E-MAIL: <u>PapeMary@fhda.edu</u>
OFFICE HOURS:	Monday 4:30 p.m5:20 p.m. (F51i)
	Tuesday 1:20 p.m2:10 p.m. (F51i)
	Wednesday 3:00 p.m. – 3:50 p.m.
	Thursday 10:00 a.m. – 11:00 a.m.
CLASS HOURS:	TTh 11:30 a.m. – 1:20 p.m. (AT 204)
	Online Thursday 1:20 p.m. – 2:35 p.m.
FINAL:	Friday, June 26 at 11:30 a.m1:30 p.m. (AT 204)

Prerequisites:

(Students may receive credit for either Computer Information Systems (22A and 22B) or 27, but not both.)

Prerequisite: Computer Information Systems 22A. (Formerly Computer Information Systems 71B.)Four hours lecture, one and one-half hours laboratory (66 hours total per quarter).

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:

- Read, analyze and explain intermediate level C++ programs and their efficiency.
- Design solutions for intermediate level problems using appropriate design methodology incorporating intermediate programming constructs including structures and objects.
- Create algorithms, code, document, debug, and test intermediate level C++ programs.

Course Outline: Please refer to course calendar.

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 to avoid 'F' grade on your transcript.

Required Text:

Solutions for Starting Out with C++: From Control Structures through Objects, 8th Edition by *Gaddis* ISBN-10: 0-13-376939-9 • ISBN-13: 978-0-13-376939-5

Assistance:

CodeBlocks Compiler may be downloaded for free from http://sourceforge.net/projects/codeblocks/files/Binaries/10.05/Windows/codeblocks-10.05mingw-setup.exe/download .

Course materials are available <u>https://catalyst.deanza.edu</u>.

Teaching assistants are available to help you. Schedule will be posted at <u>http://deanza.edu/cis/tutoring.html</u>. Sign-in AT203 CIS desk.

Grading:

Quizzes on homework(4)	100 points
Class participation	90 points
(Hands On & CodeLab DEAN-19126-SYBP-24)	
Programming Lab Assignments (6)	240 points
Midterms (2)	200 points
Final	170 points

Course letter grades will be assigned:

A+	Α	A-	B+	В	B-	C+	С	D	F
99+%	92-98%	90-91%	88-89%	82-87%	80-81%	78-79%	70-78%	60-69%	<60%
ſ	Where per	rcentages	are round	led to the	nearest v	whole nur	nber.		

Lab assignments will be graded on the following criteria:

1) correctness 2) structure

3) style, clarity, and documentation4) theme issues

Late assignments will be accepted for one week after the due date with a 5 point penalty. After the one-week limit the assignment will receive no credit.

E-mail messages and questions to PapeMary@fhda.edu. For security purposes unsolicited attachments will not be downloaded.

Extra credit opportunities:

- Extra credit includes five (5) points for being at the instructor's computer.
- Several labs will have bonus points added when solution is creative, documentation is extra informative, lab is submitted early, and/or code is exceptionably easy to read.

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.

CIS 22B Class Schedule – Spring 2015

Tuesday	Thursday		Read
4/7	4/9		
Review Function	One-dimensionaL arrays - Bina	8.1,	
Pointer Arithmetic	One-dimensionaL arrays - Inse	9.1 - 9.7	
Review Files	Pointers & 1-D arrays		
			0.0.0.40
4/114 Deinter Lleege	4/16	Lab 1 due	9.8-9.10
Pointer Usage Dynamic Memory Allocation	Arrays of pointers	Quiz I	
4/21	4/23	Quiz 2	10.3-10.6
C Strings	1120	(9.8-9.10 &	10.3-10.0
		C Strings)	10.7
	C++ String class	5 /	
	Ŭ		
4/28	4/30	Lab 2 due	11.1 – 11.5,
Structures: as abstract data type,	Midterm 1 (Chapters 7 – 10		11.7 – 11.8
declaration, accessing fields, arrays of			
structures	More on structures: nested st	ructures,	
	Passing to a function		
5/5	5/7		11.6.
Pointers to structures	Intro to Object Oriented Progra	mming	11 9-10
Nested structures		-	13 1 13 2
			10.1, 10.2
5/12	5/14	Lab 3 due	13.3 – 13.6
OOP Methods, UML Design	Multiple Files		
	Inline Functions		
5/19	5/21		13.7 – 13.11
Constructors and Destructors	Overloading Constructors		
5/26 Quiz 3	5/28	Lab 4 due	13.7 – 13.11
Arrays of Objects	Static Members, Friends		13.12
	this pointer		14.1, 14.2
6/2	6/5		14.5
Function and Operator Overloading	Midterm 2 (Chapters 11 & 13)		15.1 – 15.4
	Inheritance		
6/0	6/11		15.6
0/9 Bolymorphism & virtual functions	0/11 Linkod Lists	Lap 5 due	15.0 Chapter 17
Polymorphism & virtual functions			Chapter 17
	6/19		7970
0/10 QUIZ 4	0/18 Multi dimonoional arraya	Lap 6 due	1.0-1.9
I wo-ultrensional Allays			
FINAL: FRIDAY, JUNE 26 11:30 A.M. – 1:30	J P. IVI.		

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CLASS HOURS: TTh 11:30 a.m. – 1:20 p.m. (AT 204) Online Thursday 1:20 p.m. – 2:35 p.m. FINAL: Friday, June 26 at 11:30 a.m.-1:30 p.m. (AT 204)

What is this online time about? Whether during this exact time or a time of your choice, students are expected to be online reviewing materials, completing tutorial assignments, completing online participation activities, and preparing for the next topic of the course prior to the weekly lecture and lab meetings.

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 Design solutions for intermediate level problems using appropriate design
- Design solutions for intermediate level problems using appropriate design methodology incorporating intermediate programming constructs including structures and objects.
- Create algorithms, code, document, debug, and test intermediate level C++ programs.





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"I'm Late! I'm Late!"

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2) Teaching assistants are available to help you. Schedule will be posted at <u>http://deanza.edu/cis/tutoring.html</u> . Sign-in AT203 CIS desk.	

3) CodeLab DEAN-19126-SYBP-24

4) CodeBlocks Compiler may be downloaded for free from <u>http://sourceforge.net/projects/codeblocks/</u> <u>files/Binaries/10.05/Windows/codeblocks-</u> <u>10.05mingw-setup.exe/download</u>.

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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.

Т	he Hamb	urger Rub	ric	Excellent Very good Good Average
1 Student needs reteaching and extra support to understand what is required to meet the standard.	2 Student has added some "meat" to his/her understanding of the concept and/or performance. With some revision, this work can meet standard.	3 Student has demonstrated proficiency. He/she understands the concept and has met performance requirements. This work meets the	4 Student demonstrates understanding and performance beyond proficiency and has exceeded the standard.	
Getting	Work In Progress	Standard Work	Deluxe Work	
		Grading: Quizzes on Class partice (Hands On Programmin Midterms (2) Final	homework(4) ipation & CodeLab DE ng Lab Assignm 2)) 100 points 90 points DEAN-19126-SYBP-24) nments (6) 240 points 200 points 170 points
		Course lette A+ A 99+% 92-5 Whe Lab assignn 1) correctne 2) structure	r grades will be A-B+ 989 90-919 88-3 pre percentages a nents will be grass	be assigned: 3+ B B- C+ C D F (3-89) 82-879 80-819 78-799 70-789 60-699 <609 es are rounded to the nearest whole number. graded on the following criteria: 3) style, clarity, and documentation 4) theme issues
Evtra	credit opport	unitiee		

- Extra credit includes five (5) points for being at the instructor's computer.
- Several labs will have bonus points added when solution is creative, documentation is extra informative, lab is submitted early, and/or code is exceptionably easy to read.

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4/114 Pointer Usage Dynamic Memory Allocation	4/16 Arrays of pointers	Lab 1 due Quiz 1	9.8-9.10
4/21 C Strings	4/23 C++ String class	Quiz 2 (9.8- 9.10 & C Strings)	10.3-10.6 10.7
4/28 Structures: as abstract data type, declaration, accessing fields, arrays of structures	4/30 Midterm 1 (Chapters 7 – 10 More on structures: nested str Passing to a function	Lab 2 due ructures,	11.1 – 11.5, 11.7 – 11.8
5/5 Pointers to structures Nested structures	5/7 Intro to Object Oriented Program	11.6, 11.9-10 13.1, 13.2	
5/12 OOP Methods, UML Design	5/14 Multiple Files Inline Functions	Lab 3 due	13.3 – 13.6
5/19 Constructors and Destructors	5/21 Overloading Constructors		13.7 – 13.11
5/26 Quiz 3 Arrays of Objects	5/28 Static Members, Friends this pointer	Lab 4 due	13.7 – 13.11 13.12 14.1, 14.2
6/2 Function and Operator Overloading	6/5 Midterm 2 (Chapters 11 & 13) Inheritance		14.5 15.1 – 15.4
6/9 Polymorphism & virtual functions	6/11 Linked Lists	Lab 5 due	15.6 Chapter 17
6/16 Quiz 4 Two-dimensional Arrays	6/18 Multi-dimensional arrays	Lab 6 due	7.8-7.9
FINAL: FRIDAY, JUNE 26 11:30 A.M. – 1:30) P.M.		