

**CIS 022B - 63Z**

**Winter, 2019**

**(CRN 34753)**

**INTERMEDIATE PROGRAMMING METHODOLOGIES IN C++**

**INSTRUCTOR:** Hellen Pacheco

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**PREFERRED METHOD OF COMMUNICATION:** Canvas Inbox

**CLASS HOURS:** ONLINE

**OFFICE HOUR:** Thursdays 5:00 p.m. – 6:00 p.m on Canvas Conference

**FINAL:** Tuesday, March 26, 6:00 – 8:00 p.m in the CIS Lab (AT203)

**Prerequisite:** CIS 22A

**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.

**Attendance:**

This class is ONLINE, but that doesn't mean you can take it at your own pace. You need to complete the reading assignments, homeworks, labs and quizzes by the due date. If you don't complete any assignments in the first two weeks you will be dropped from the class. After the first two weeks, you will not be automatically dropped if you stop completing assignments. Thus, be sure to withdraw officially by March 1st, to avoid an 'F' grade on your transcript if you decide to stop taking the course.

On Thursdays I will be available for individual conferences on Canvas from 5:00pm to 6:00pm by appointment. An alternate time can be arranged if needed. Attending office hour is not

mandatory but encouraged if you need extra help. You need to send me a message on Canvas so I can send you the link to a Conference.

### **Student Learning Outcomes:**

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

### **Course Objectives:**

- A. Create programs which demonstrate knowledge of manipulating data in arrays of one or more dimensions.
- B. Create programs which demonstrate knowledge of memory management functions and pointer arithmetic to manipulate data in one-dimensional arrays.
- C. Use C-Strings and C++ String class for input/Output and manipulation of strings. Create and use other functions to manipulate strings.
- D. Create programs which use structures.
- E. Use Object-oriented programming concepts to design applications and computer programs.
- F. Define and use the basic linked list operations: Traverse, Search, Insert, Delete, design, code and test programs using linked lists.
- G. Demonstrate ability to read, analyze, and/or write code with templates.

### **Required Textbook:**

Starting Out with C++: From Control Structures through Objects, 9th Edition by *Gaddis*.

### **Compiler:**

You need access to a compiler. No specific compiler is required but I recommend CodeBlocks or Microsoft Visual C++ for PC and XCode for Mac. Eclipse Neon for C++ is an alternative for

both PC and Mac. You are fully responsible for software installation.

### **Computer Lab Hours:**

The computer lab in the ATC Building is open Monday - Thursday from 9am to 8pm and Fridays 9am to 4pm. The computers run Microsoft Visual C++ 2013, CodeBlocks and Eclipse Neon.

### **Lectures and Course Materials:**

Course materials are available on Canvas. Please note that you will not be able to login until the first day of class.

Materials, assignments and video lectures will be provided for each module on Canvas.

### **Course Outline:**

Week 1	Review of Arrays and Vectors	Textbook Ch. 7
Week 2	Abstract Data Types & Structures	Textbook Ch. 11
Week 3	Intro to Classes	Textbook Ch. 13.1 - 13.11
Week 4	Pointers, pointer arithmetic in an array, pointer parameters	Textbook Ch. 9.1 - 9.7
Week 5	Dynamic allocation	Textbook Ch. 9.8 - 9.9
Week 6	C Strings and C++ Strings Midterm	Textbook 10.1 - 10.5, 10.7
Week 7	UML	Textbook 13.15
Week 8	Inheritance	Textbook Ch. 15
Week 9	Introduction to Linked Lists	Textbook 17.1 - 17.2

Week 10	Multi-dimensional Arrays	Textbook 7.8
Week 11	More on OOP	Select topics, Review
Week 12	Final	Comprehensive

### Assessment:

Quizzes 10%

Weekly HW assignments / exercises 10%

6 Programming Assignments 30%

Midterm 20%

Final 30%

Pay close attention to the dates as there are no makeups for Quizzes, Midterm or Final. You need a computer with internet connection during the time the assessment is offered. You may use your own or one on campus. Please, refer to Computer Lab hours. Also, **please note that the final will be proctored on campus and you will need an account in the computer lab to take it.** You can create a CIS Lab account from home at [www.deanza.edu/cis](http://www.deanza.edu/cis) anytime during the quarter.

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%	70-77%	60-69%	<60%

Where percentages are rounded to the nearest whole number.

For Pass/No Pass, A, B or C will default to pass (P); D or F will default to no pass (NP)

Lab assignments will be graded on correctness, structure, style, clarity and documentation. You must follow the documentation guidelines provided on Canvas.

All Labs must be submitted on Canvas by the due date, which will be on a Friday. There is a 2-day grace period to submit late assignments with no penalty. After Sunday, there will be a 5-point penalty but you can still submit your assignment until the following Friday for partial credit. After the 5-day limit the assignment will receive no credit, no exceptions. No assignments will be accepted after the final.

### **Academic Honesty:**

All programming assignments are expected to be your own original code. **If you submit work of others you will receive zero points.** You are responsible for preventing others from copying your assignments. Make sure to not lend soft or hard copies of your code to anyone. Copies will receive zero points regardless of who copied or who originated the source.

Tests and quizzes are also supposed to contain your own original work. Plagiarized answers to free response questions will receive no credit.

### **Communication:**

If you have a question about the material covered in this course or about an assignment: use the **Discussion Forum** on Canvas. Create a new discussion with your question.

If you have a private question: use **Canvas Inbox** to send me a message.

You can expect to receive a response to your posts and messages within 24 hours Monday-Friday. Although I do my best to respond to students' posts as soon as possible, it may take a little longer on weekends.

I use Canvas Announcements to post reminders and share course related information. Please, make sure to configure Canvas to send you notifications on Announcements and Discussions.

### **Tips to succeed in this course:**

This class is strictly online and as with any online class you need to be an active and independent learner. Here are some tips to help you succeed:

- Take the Review Quiz to assess your knowledge of 22A. This will tell if you are prepared for 22B work.
- Read Chapter sections assigned each week.
- Play the video lectures.
- Be active in the discussion forum by posting questions and answers.
- Do your own original work. You only learn to program by writing programs.
- Be on top of your assignments. Twelve weeks go by really fast!

## ***Important Dates***

**Sunday, Jan. 20** :: Last day to [drop](#) a class with no record of grade. Drop date is enforced.

**Friday, Mar. 1** :: Last day to [drop](#) with a "W." Withdraw date is enforced.

## ***Holidays***

**Jan. 21** :: Martin Luther King Jr. Holiday (college closed)

**Feb 15 - 18** :: President's Holiday (campus closed)

## De Anza College DSPS

De Anza College views disability as an important aspect of diversity, and is committed to providing equitable access to learning opportunities for all students. Disability Support Services (DSS) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations

- If you have, or think you have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, please contact DSS to arrange a confidential discussion regarding equitable access and reasonable accommodations.
- If you are registered with DSS and have accommodations set by a DSS counselor, please be sure that your instructor has received your accommodation letter from **Clockwork** early in the quarter to review how the accommodations will be applied in the course.
- Students who need accommodated test proctoring must meet appointment booking deadlines at the Testing Center.
- **Exams** must be booked at least **five (5) business days in advance** of the instructor approved exam date/time.
- **Finals exams** must be scheduled **seven (7) business days/weekdays** in advance of the instructor approved exam date/time.
- Failure to meet appointment booking deadlines will result in the forfeit of testing accommodations and you will be required to take your exam in class.
- Contact the DSS if you cannot find or utilize your MyPortal Clockwork Portal.
- DSS strives to provide accommodations in a reasonable and timely manner, some accommodations may take additional time to arrange. We encourage you to work with DSS and your faculty as early in the quarter as possible so that we may ensure that your learning experience is accessible and successful.

DSS Location: RSS Building, Suite 141

Phone: 408-864-8753

On the web: <http://www.deanza.edu/DSS/>

Email: [DSS@deanza.edu](mailto:DSS@deanza.edu)

## **De Anza College Mental Health**

Life at college can get very complicated. You may sometimes feel overwhelmed, lost, experience stress, anxiety or depression, or struggle with relationship difficulties.

Many of these issues can be effectively addressed with a little help.

Psychological Services helps students cope with difficult emotions and life

stressors. Psychological Services is staffed by experienced, professional psychologists and counselors, who are attuned to the needs of college students. The services are FREE and completely confidential. Find out more at <http://deanza.edu/psychologicalservices/> or by calling 408-864-8868.