

CIS 22A

Summer 2017

## BEGINNING PROGRAMMING METHODOLOGIES IN C++

**INSTRUCTOR:** Mary Pape

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**FINAL:** Online Friday, August 9 Opens at 12:01 AM and must submit before 11:59 pm

### Prerequisites:

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 114 or equivalent. CIS 22A was formerly Computer Information Systems 71A. (Students may receive credit for either Computer Information Systems (22A and 22B) or 27, but not both.)

### Course Description:

An introduction to computer programming. Its primary objective is to teach problem solving using the C++ programming language. Emphasis will be placed on structured procedural programming with an introduction to object-oriented programming. Designed primarily for computer science and related transfer majors.

**Student Learning Outcome (1):** *Design solutions for introductory level problems using appropriate design methodology incorporating elementary programming constructs.*

**Student Learning Outcome (2):** *Create algorithms, code, document, debug, and test introductory level C++ programs.*

**Student Learning Outcome (3):** *Read, analyze and explain introductory level C++ programs.*

**Course Outline:** Please refer to course calendar.

### Attendance:

In order **not** to be dropped as a “no-show” you must complete the introductory survey by **Wednesday, July 3**. You are expected to participate in all cccConfer sessions or view the webinar/video after it is posted. You are expected to login into Canvas at least once per day. You must take quizzes, midterm and final on the days they are scheduled.

You will **not** be automatically dropped once you have completed the introductory assignment. 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, 9th Edition by Gaddis ISBN-13: 978-0134498379 ISBN-10: 0134498372 **This is the same text as used in CIS 22B** N.B. Earlier editions will suffice **but page numbers will be off.**

### Assistance:

- **Integrated Development Environments (IDEs) - alias compilers**
  - [Dev C++](#) *Easiest to get started with for PC user.*
  - [Microsoft® Visual Studio®](#)
  - Mac users use [Xcode](#)
- Course materials are available on <https://deanza.instructure.com/login> .

- Videos are available online on how to install your compiler and the steps necessary to write your first program. Note: DevC++ is beta and so we cannot install DevC++ on De Anza College machines, but it is the one I use since it is fast and easy to install, executes fast, and intuitive to use.
- E-mail messages and questions to [PapeMary@fhda.edu](mailto:PapeMary@fhda.edu) (preferably not through Canvas). For security purposes, unsolicited attachments will not be downloaded. Emails received Monday through Friday will be answered within 24 hours. Phone conferences will also be offered as needed but student needs to provide phone number and accept blocked caller ID.
- CIS has its own teaching assistants (alias peer tutoring) program. Sign up in ATC 203 – CIS Lab. <http://www.deanza.edu/cis/tutoring.html>
- One-on-one tutoring <http://www.deanza.edu/cis/tutoring.html>
- Email me for a 1-on-1 chat session.

### Grading:

Hands On Online Activities	40 points
Online Tutorial Work (CodeLab Assignments)	45 points
Quizzes	40 points
Programming Lab Assignments (8)	300 points
Midterm	100 points
Final	200 points

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 the following criteria:

- 1) correctness
- 2) structure
- 3) style, clarity, and documentation
- 4) theme issues

**Late Lab 0 – 6 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. Lab 7 and the “Hands On” Online Activities will not be accepted late. Quizzes, midterms, final must be taken on calendared dates.**

All assignments/tests submitted through Canvas LMS only. Assignments submitted on time will receive feedback within one week. Assignments submitted early receive feedback in less time, usually within 24 hours.

E-mail messages and questions to [PapeMary@fhda.edu](mailto:PapeMary@fhda.edu). For security reasons unsolicited attachments will not be downloaded.

### 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 or where the code was copied from.**

**Disability Accommodations:**

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. a) Midterm exam be booked at least five (5) business days in advance of the instructor approved exam date/time. b) Final 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 with the class.

DSS Location: RSS Building, Suite 141 <http://www.deanza.edu/DSS/> Phone: 408-864-8753 Email: [DSS@deanza.edu](mailto:DSS@deanza.edu)

**Motto:**

“You learn to play tennis by playing tennis. You learn to program by writing programs.”

## July

Topic	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Parts of a Compute; Programming Languages; *First Program (1.1 -> 1.7, 2.1->2.2, 3.1) *Binary Number System; *Design Tools; Fundamentals of 'C++' (2.3 -> 2.16)	1	2	3 Lab 0 Survey*	4	5	6 Lab 1(A & B)	7 CodeLab
Expressions & their evaluation (3.2 -> 3.6); More about I/O (3.7-3.8) Math "Built-In" Functions (3.9) Functions with no parameters (6.1->6.3) Selection (4.1 -> 4.9)	8	9 Quiz 1	10 Lab 2	11	12 Quiz 2	13	14 CodeLab
Selection (4.10 -> 4.14) Functions with parameters (6.4) Introduction to loops (while loops) (5.1 -> 5.4) Looping(5.7, 5.8)	15 Lab 3	16	17	18	19 Midterm 1 (Ch 1 - 3)	20	21 CodeLab
<i>do while</i> & <i>for loops</i> (5.5 -> 5.6, 5.9) Nested loops (5.10) Loops with Files (5.11) Inter-Function Communication (6.5-> 6.13)	22	23 Lab 4	24	25	26 Lab 5 Quiz 3	27	28 CodeLab

## August

Overloading Functions (6.14) One-dimensional arrays (7.1 -> 7.2) One-dimensional arrays (7.3 -> 7.7)	(29)	(30)	(31)	1	2 Lab 6 Quiz 4	3	4 CodeLab
Linear Search (8.1) Selection Sort (8-5 p. 374)	5	6	7 CodeLab	8	9 Final	10	11

**Important Dates**

**Sunday, July 7:** Last day to add.

**Monday, July 8:** Last day to drop with no grade of record

**Tuesday, July 30:** Last day to drop with a 'W'.

**Holidays –**

**Thursday, July 4:** Independence Day  
(college closed)

\*Survey is the instrument used to verify enrollment. Students who enroll in the class after June 30 will be given until 11:59 pm on July 8 to complete.

**All assignments must be turned in by 11:30 A.M. on Saturday, August 10– No Exceptions**

## I. Code Lab

### A. REGISTRATION INSTRUCTIONS FOR STUDENTS

1. Go to [www.tcgo1.com](http://www.tcgo1.com) OR [www.tcgo2.com](http://www.tcgo2.com)
2. Click "**Register for CodeLab**"
3. On Canvas will be the Access Code. It is free. Do NOT purchase "My Programming Lab"

### B. LOGIN INSTRUCTIONS FOR STUDENTS

1. Go to [www.tcgo1.com](http://www.tcgo1.com) OR [www.tcgo2.com](http://www.tcgo2.com)
2. Click "**Login to CodeLab**"

The username is the email address given during registration.  
The password is the password selected during registration.

### C. CODE LAB ASSIGNMENTS

Ref	Chapter	# of Exercises	Minimum to be completed	Due Date
CL 1	Chapter 2: Intro to C++	126	15	July 7 (midnight=11:59)
CL 2	Chapter 3: Structure of a C++ Program	53	15	July 14 (midnight)
CL 4	Chapter 4: Making Decisions	77	15	July 21 (midnight)
CL 3	Chapter 5: Looping	66	15	July 28 (midnight)
CL 5	Chapter 5: Functions	61	15	August 4 (midnight)
CL 6	Chapter 7: Arrays	68	15	August 7 (midnight)

*Credit will be given for on-time work only.*

## II. Text problems

Answer the following in preparation for quizzes and exams. They will not be collective but exact or similar problems will appear on quizzes and exams.

#1	Quiz 1 Midterm Final	Chapter 1: p. 24: 1, 3, 7, 9-29, 31, 33-35 Binary Worksheet Chapter 2: p. 77: 4, 8, 9-21, 27 (page 75 for 8 <sup>th</sup> ed.)
#2	Quiz 2 Midterm Final	Chapter 3: p. 138: 4, 5, 26, 34, 36 (page 136 for 8 <sup>th</sup> ed.)
#3	Quiz 3 Final	Chapter 4: p. 217: 31-41 (page 215 for 8 <sup>th</sup> ed.)
#4	Quiz 4 Final	Chapter 5: p. 293: 36, 37, 39, 40, 41, 42, 43, 44 (page 289 for 8 <sup>th</sup> ed.)
	Final	Chapter 6: p. 369: 2, 33, 34, 37 (page 363 for 8 <sup>th</sup> ed.)
#6	Final	Chapter 7: p. 449: 2, 4, 41, 42, 43 (page 443 for 8 <sup>th</sup> ed) Chapter 8: p. 498: 2, 3 (page 490 for 8 <sup>th</sup> ed)

N. B. The final is comprehensive

## III. Tentative Programming Problems

Lab 0	Student Information
Lab 1	1A-D: Type in code; MPG p. 82; Sphere surface area & volume; converting number of coins to value
Lab 2	P. 144 #14
Lab 3	TV/VCR Problem
Lab 4	De Anza Bookstore
Lab 5	Monthly House Costs
Lab 6	Retirement of Bonded Debt
Lab 7	Grades with one-dim arrays