Santa Monica College
Course Syllabus[1]
CS52 C++ Programming (3 units)
Spring 2019 (Section 1720)
Instructor: Satish Singhal Ph. D.

Class Type:

Online. Please go to go to smc.edu/OnlineEd to know all requirements for this class

Summary of Key Logistical Facts

1. **Please note the following important dates!**
   - **Last Day to Withdraw to Receive a Refund: MAR 12, 2019**
   - **Last Day to Withdraw to Avoid a "W": MAR 20, 2019**
   - **Last Day to Withdraw to Guarantee a "W": MAY 12, 2019**
   - **Last Day to Request for Pass/No Pass Grade: MAR 28, 2019**

   Instructor has zero control on above dates.
2. **This class is an online class. There is NO SPRING BREAK in this class!**
3. There is no makeup for the missed quiz. **I will not extend the timeline to accommodate missed quiz and midterms.**
4. Your grading components will be assignments, quiz, tests, and final examination. Once I assign a grade to you in a grading component, **you have just one week to appeal to me to reconsider the grade you received**. After one week that grade will not be changed, no matter what. Thus review the grade you got in a grading component, as soon as possible.

Success Factors for online and other classes

Followings describe traits and profiles of students who do well in C++ and other programming classes. Your success will depend upon you having those traits and developing them further.

1. *Student is a self-starter and is excellent in self-study, using the written media, such as books and PowerPoint slides.*
2. *Student begins the assignment on the day it is assigned. And then student is regularly engaged in the assignment work until it is completed, before the submission date.*
3. *Student makes a best effort to do an assignment before seeking help. After seeking help, the students implements immediately as to what was learned in the help session.*
4. *Student is constantly thinking and analyzing as how to apply the knowledge learned in the class to their life outside the classroom.*
5. *Student takes extra initiative to write additional programs from the textbook, even though there may not be proportional extra credit for doing so. [However, student's performance in regular assignments and examinations will improve because of this extra work].*
6. *Student submits everything on time so he/she is never falling behind. Going underwater in college courses is easy, when deadlines are not met.*

[1] This is the penultimate copy of course syllabus which shall become final copy if no editable items are found.

7. *Student does not blame computer for anything. Computer is a machine. It is beyond blame.*
8. *Most important success factor is that do not leave path of logic. Computer programming is 100% logical activity. As soon as you leave logic and get bogged down in anything else, you have strayed away from computer programming right at that instant.*

COURSE DESCRIPTION/OBJECTIVES/STUDENT LEARNING OUTCOMES (SLO):

a. Course Description

This course is a continuation of C language programming using C++. C++ offers an object-oriented programming paradigm which extends the C language by allowing operator and function overloading, information hiding, inheritance and virtual functions.

b. Student Learning Outcomes

SLO #1: *Design and create applications using the C++ programming language.*
SLO #2: *Apply various programming concepts including control flow, looping, conditional statements and elementary data structures including arrays, records and files to create software components.*

PROFESSOR INFORMATION

Name	Dr. Satish Singhal Ph. D.
Title	Professor
Office Location	ONLINE
Office Hours	THURSDAY 3 TO 4 PM
Campus Phone Number	(310)660-3593 x7219
Campus E-mail Address	Singhal_satish@smc.edu

REQUIRED READING AND SOURCES OF INFORMATION

1. Textbook: "Problem Solving with C++, Student Value Edition", 10th ed.,
Walter Savitch, ISBN-13: 978-0134543680, 2017, Pearson (Do not use hyphen in ISBN when searching for book at Amazon).
2. Reference materials and C++ tutorial at website www.cplusplus.com
3. Any other web-based materials.
4. C++ and programming books in SMC or any other library that you are using.

You are required to read/view all sources mentioned under title "Required reading sources information", for various topics. You may not need to study all of them, with the same intensity. Of course once you have understood the topic in the class, reading it from additional sources will not take too long.

Recommended Supplies

Either use a USB flash drive or cloud-based system (e.g. Google Drive, Dropbox, One Drive) to class examples, your programming assignments, and notes on.

Work That You will be doing To Learn and Get Letter Grade

While we are all learners of this subject, one of my contracts with College is that unless you are auditing the course, I give you a letter grade that could be one of followings: A, B, C, D, and F. This letter grade goes on your college transcript and becomes a permanent source of information about your knowledge (of this subject), if future employers wish to see it. I encourage you to build a portfolio of your work in this class that you can take with you either in an internship or some other job interview to prove your competence in this subject. Here is what your work portfolio will include that you will submit to me for grading.

1. Labs – They may include electronic analysis, pseudo code, flow charts, and computer programming source codes in programming language we choose in this class (C++).

2. Quizzes. [Purpose is to know if you are keeping up with understanding of materials presented in the textbook].
3. Midterms. [Purpose is to know: Can you develop software with tools given so far].
4. Final Examination. [Purpose is to know: Can you develop software using tools taught in this class and integrate knowledge gained in whole semester].
5. Class participation. (Participate in discussion forums).

The rough distribution of points for various categories is as follows:

Item	Maximum Points Assigned	Percentage breakdown
Labs (Computer Programs done by you. There are 10)	300	30
Weekly Quizzes (12 quizzes)	250	25
Tests Mid Term 1: 100 points Mid Term 2: 150 points Final Examination: 200 points Total: 450 Midterm and final exam may include objective type questions, programming project, or a combination of both. What would be tested is your ability to integrate the course material up to that point and ability to come up with the programming solutions in a short period of time.	450	45
Total	1000	100

GRADING SCALE

Grade Scale:	Comments
90 – 100% = A	Any grade dispute on any assignment in lab, quiz, and test, must be resolved by you approaching me within one week after you receive grade in that assignment. After one week that grade in the particular assignment is cast in stone and is not changeable. There is no makeup for any missed tests EVER.
80 – 89% = B	
70 – 79% = C	
60 – 69% = D	
0 – 59% = F	
TOTAL	

There are NO make-up examinations. Please complete all examinations, quizzes as scheduled. Please DO NOT ask me for make-up examinations after missing it. I just cannot do it.

Late Policy

Very simple late policy: NO LATE ASSIGNMENTS ARE ACCEPTED!! Late assignments sent by e-mail will not be accepted and will be deleted.

Being Dropped from The Class

A student is dropped from the class when they have not submitted 3 labs. You may not even be given a courtesy warning.
Major gradable components in the course are: tests, and labs and quizzes. A student failing 4 major course gradable components will also be dropped from the class. Thus, it is required that you make continual progress towards successful completion of the course.

Grade Dispute Policy

All grade disputes must be communicated to me within one week after I hand back the grade on a particular component (Lab, quiz, and midterm). After one week the grade in that component is FINAL.

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- **Semester Final Examination submissions 30 May**
- **Semester ends 31 May**

COURSE POLICIES

ATTENDANCE POLICY

1. **NO-SHOWS ARE DROPPED**
2. **INACTIVE STUDENTS ARE DROPPED**
3. **PLEASE SEE DROP POLICIES ON PREVIOUS PAGE**

STUDENT CONDUCT

It is an online class. Please be extra courteous. Since person cannot see you face to face, they may only have your words to go by and not your body language. Policies to post in discussion forum are all given in various discussion forums.

AMERICANS WITH DISABILITIES ACT (ADA)

According to the Americans with Disabilities Act, each student with a disability is responsible for notifying the College of his or her disability and to request accommodations. If any member of the class feels that he/she has a qualified disability and needs academic accommodations, they should notify the Santa Monica special resource center for Student with Disabilities. Faculty has an obligation to respond when they receive official notice to provide academic accommodations but are under no obligation to provide retroactive accommodations. Please see relevant pages from the SMC catalog that is hosted online at the link below:
http://smc.edu/CollegeCatalog/Documents/2018-2019/18-19.SMCcatalog.pdf

STUDENT SUPPORT SERVICES

Please see pages in Santa Monica College catalog for all support services.
The course syllabus is not a replacement for the Santa Monica College Catalog. You are expected to read the relevant portion of the catalog for other academic rules and regulations. Electronic copy of the catalog is available at the following link:
http://smc.edu/CollegeCatalog/Documents/2018-2019/18-19.SMCcatalog.pdf

LEARNING SCHEDULE

1. **A tentative schedule of topics list for each week is given below**
2. **Note the word "tentative". Instructor has a right to make changes to the schedule below.**

Week # (ending date of week)	Topics Covered and (Savitch chapter #)	Testing Assessment in this week (See all deadline dates on Canvas)	Lab assessment being done this week (See all due dates on Canvas)
1(ends 3/10)	Topic 1: Introduction to computers and C++ Programming (#1) Topic 2: C++ Basics (#2) Topic 3: Multiway Branching and Looping (#3)	Quiz 1	Lab 1
2 (ends 3/17)	Topic 4: Basic Introduction to Pre-defined and User Defined functions (#4) Topic 5: C++ Functions Related Topics (#5)	Quiz 2	Lab 2

3(ends 3/24)	Topic 6: Input /Output to Files and Other Data Stream Topics, Formatting of Floating-Point Data in C++ (#6) Topic 7: Using Large Blocks of Memory (Arrays), and Passing them to Functions (#7)	Quiz 3	Lab 3
4 (ends 3/31)	Topic 8: Strings and Self-expanding arrays (Vectors) (#8) Topic 9: Pointers and Dynamic Arrays (#9)	Quiz 4 Midterm 1(Includes all materials up and including week 3)	Lab4
5 (ends 4/7)	Topic 10: C++ Classes and Object-Oriented Programming (OOP) (#10)	Quiz 5	Lab 5
6 (ends 4/14)	Topic 11: Operator Overloading, Class Friends, Arrays and Classes, Dynamic Arrays of classes (#11)	Quiz 6	Lab 6
7 (ends 4/21)	Topic 12: Separation of Header and Implementation Files and Namespaces (#12) Topic 13: Pointers and Linked Lists (#13)	Quiz 7	Lab 7
8 (ends 4/28)	Topic 14: Recursion (#14)	Quiz 8 Midterm 2 (includes all materials from week 1 to 7)	NO LAB DUE THIS WEEK!
9 (ends 5/5)	Topic 15: Inheritance (#15)	Quiz 9	Lab 8
10 (ends 5/12)	Topic 16: Exception Handling (#16)	Quiz 10	Lab 9
11 (ends 5/19)	Topic 17: Templates and Generic Algorithms (#17)	Quiz 11	Lab 10
12 (ends 5/26)	Topic 18: C++ Standard Template Library (#18)	Quiz 12	NO LAB DUE THIS WEEK!
13 (ends 5/31)	Semester review, Final Examination	Final Examination (includes all materials learned in weeks 1 to 12)	

Why Computer Scientists are so busy

This is not the main topic of the class. However, it is important to know that computer scientists today are the busiest people among various professions. It has been estimated that computer science professors at MIT work about 80 hours per week. Video games designers in Silicon Valley work about 80 hours per week. Why do they need to work so much? Well computer science is a field in which knowledge is growing at an incredible pace. Therefore, they need to spend lot of extra hours to absorb and integrate that knowledge.