

SOUTHERN MAINE COMMUNITY COLLEGE
South Portland, Maine 04106

Course Syllabus
Spring 2017

Course Title: Programming in C++
Instructor: Kshanti Greene
Catalog Number: CSCI 275
Credit Hours: 3
Total Contact Hours: 45

Course Description

This course is an introduction to the C++ programming language and an intermediate level review of programming and problem solving. The course is intended to provide a smooth transition into a job requiring C++ skills, and covers current applications for C++. The course covers the concepts of data types, loops, decision structures, use of external files, arrays, vectors, and object oriented programming, memory management and pointers, and use of IDEs and external libraries. The course also covers an application specific topic selected by the professor. Weekly programming assignments are assigned and a mid term and final exam.

Prerequisite: Successful completion of Math 125 or higher Math and CIS 110 or equivalent.

Course Objectives:

Students completing this course will be able to use C++ to solve computable problems. Upon successful completion of this course, the student will be able to:

- Create variables to hold values during program execution.
- Demonstrate the ability to create functions to perform specialized tasks needed to solve problems.
- Understand the use of C++ specific function syntax such as call by reference and call by value.
- Describe number systems and representation of data in the computer.
- Demonstrate the ability to correctly use loops and decision structures.
- Select appropriate algorithms to solve well formed problems.
- Demonstrate the ability to design object-oriented solutions to computable problems using classes.
- Demonstrate the ability to create a multi-file project using C++
- Demonstrate understanding of memory management in C++ and the use of references vs. pointers.
- Demonstrate the ability to create a full-featured application in C++.
- Troubleshoot programs of their own and those provided by the instructor for debugging purposes.

Text & Supporting Materials:

Required:

Programming Principles and Practice Using C++, Second Edition, by Bjarne Stroustrup. This will be available in the bookstore.

You should have a notebook for taking notes and a writing instrument. It is strongly recommended that the student have a USB drive to store backup copies of all programming assignments. Students should be prepared to work outside of class 8-10 hours per week on assignments and projects.

Learning Outcomes

This course seeks to develop the following core abilities:

Critical Thinking

- A student can interpret information logically by selecting and organizing relevant facts and opinions and identifying the relationships among them.
- A student can analyze an issue or problem by separating it into its component parts and investigating the relationship of the parts to the whole.
- A student can synthesize information by combining ideas from multiple sources to come to an independent conclusion.
- A student can evaluate information by making informed judgments as to whether the information is accurate, reliable or useful.
- A student can apply theory to practice.

Communications

- Demonstrate a command of the English language
- Identify and extract relevant data from written and oral presentations

Quantitative Methods

- Recognize problems that can be solved with quantitative methods
- Identify the quantitative components of a problem
- Select and appropriate mathematical method to solve a problem
- Demonstrate accurate computational and/or algebraic skills to solve a problem
- Estimate the reasonableness of answers to problems

Course Requirements

Students will individually complete 14 take-home assignments, most of which require programming, and take 2 exams during scheduled class times. All due dates are hard dates. You will lose 10 points per week for late assignments.

Assignments	70%
Midterm Exam	15%
Final exam	15%

Grading Scale

93 - 100	A
90 - 92.99	A-
87 - 89.99	B+
83 - 86.99	B

80 - 82.99	B-
77 - 79.99	C+
73 - 76.99	C
70 - 72.99	C-
67 - 69.99	D+
63 - 66.99	D
0 - 62.99	F

End-of-Course Evaluation

In order to gain access to final course grades, students must complete evaluations for each course attended at SMCC. Evaluations are submitted online and can be accessed through the student portal site. Students can access the course evaluation report beginning two weeks before the end of classes. The deadline for submission of evaluations occurs 24 hours after the last day of classes each semester. Instructors will announce when the online course evaluation is available.

Academic Dishonesty

Plagiarism and cheating are serious offenses and may be punished by failure on exam, paper or project; failure in course; and or expulsion from the University. Plagiarism will be reported as a violation of the Student Code of Conduct. For more information refer to the "Academic Dishonesty" policy in the University Undergraduate Catalog.

Attendance & Missed/Late Work Policy

You are required, as stated in the college handbook, to attend all classes. Success in the course is unlikely if too many classes are missed. A portion of your grade is determined by your attendance and active participation. Points will be deducted for excessive (> 3) absences. Email the instructor to alert them of a planned absence.

Late assignments may be accepted at the discretion of the instructor. If accepted, a scoring penalty may be incurred.

ADA Syllabus Statement

Southern Maine Community College does not discriminate in its education and employment programs on the basis of age, race, color, gender, sexual orientation, national origin, disability, or religion. The College complies with Title VI of the Civil Rights Act of 1964, Title IX Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) of 1990.

Inquiries regarding Title VI and Title IX may be made to the Affirmative Action Officer. Telephone (207) 741-5798

If you have a disabling condition and wish to request accommodations in order to have reasonable access to programs and services offered by SMCC, you must register with the ADA Services Coordinator: Telephone (207) 741-5629, TTY (207) 741-5667

SMCC Pay-for-Print Policy

Students can print 150 pages per semester free of charge. If you print over 150 pages, you will be charged 10 cents per page to your student billing account for tuition and fees. Leftover pages from each semester will not be rolled over to the following semester. The College's pay-for-print system monitors printing on all public printers (i.e. those in general access labs, library printers, the Academic Achievement Center, Noisy Lounge and technology labs). Each time you log-in to the system, the print station displays the remaining print quota. Once the printing quota has been exceeded, users will be charged \$ 0.10 per page or \$.05 per side if the printer prints on both sides on their student accounts on a monthly basis. Color printouts will be charged at 11 page units. This means each color printout will count as 11 pages toward the quota and will cost \$1.10.

Add-Drop Policy

Students who drop a course during the one-week "add/drop" period in the fall and spring semesters and the first three days of summer sessions receive a 100% refund of the tuition and associated fees for that course. Please note any course that meets for less than the traditional semester length, i.e., 15 weeks, has a pro-rated add/drop period. There is no refund for non-attendance.

Withdrawal Policy

A student may withdraw from a course only during the semester in which s/he is registered for that course. The withdrawal period is the second through twelfth week of the fall and spring semesters and the second through ninth week of twelve-week summer courses. This period is pro-rated for shorter-length courses. To withdraw from a course, a student must complete and submit the appropriate course withdrawal form, available at the Enrollment Service Center (no phone calls, please). The designation "W" will appear on the transcript after a student has officially withdrawn. A course withdrawal is an uncompleted course and may adversely affect financial aid eligibility. Failure to attend or ceasing to attend class does not constitute withdrawal from the course. There is no refund associated with a withdrawal.

Plagiarism Statement

Adherence to ethical academic standards is obligatory. Cheating is a serious offense, whether it consists of taking credit for work done by another person or doing work for which another person will receive credit. Taking and using the ideas or writings of another person without clearly and fully crediting the source is plagiarism and violates the academic code as well as the Student Code of Conduct. If it is suspected that a student in any course in which s/he is enrolled has knowingly committed such a violation, the faculty member should refer the matter to the College's Disciplinary Officer and appropriate action will be taken under the Student Code of Conduct. Sanctions may include suspension from the course and a failing grade in the course. Students have the right to appeal these actions to the Disciplinary Committee under the terms outlined in the Student Code of Conduct.