

**SOUTHERN MAINE COMMUNITY COLLEGE**  
**South Portland, Maine 04106**  
**Course Syllabus**  
**Fall 2017**

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**Course Title: Principles of Computer Science**

**Catalog Number: CSCI 110**

**Credit Hours: 4**

**Total Contact Hours: 60**

**Instructor: Valerie Green**

**Email : vgreen@smccme.edu**

**Phone: 207-558-2453 (voicemail and text)**

**Office Hours: See "Welcome/Start Here" page in Blackboard**

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### **Course Description**

This course will teach you how to design and write computer algorithms to solve a variety of problems using the Java programming language. Algorithms will be implemented as programs in Java. Topics include primitive data types and operations in Java, three types of control statements, methods, arrays and introduction of object-oriented concepts such as classes and encapsulation. Most of these topics are designed to provide students with tools that are useful when encountering computers in today's workplace. Furthermore, they are designed to enhance problem-solving and logical reasoning abilities.

**Prerequisite:** Successful completion of MATH 050 or higher or placement into a math course at or above MATH 145

### **Course Objectives:**

Students completing this course will be able to solve computable problems using the Java programming language.

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.
- Describe number systems and representation of data in the computer.
- Demonstrate the ability to correctly sequence operations to solve computable problems.
- Demonstrate the ability to correctly use loops and decision structures.
- Demonstrate an ability to use arrays to solve appropriate problems.
- Design and code solutions to computable problems using an appropriate computer language.
- Troubleshoot programs of their own and those provided by the instructor for debugging purposes.
- Implement non-recursive algorithms in Java

### **Learning Outcomes**

This course seeks to develop the following core abilities:

#### **Global Awareness / Diversity**

- Identify resources and strategies needed to problem solve and/or achieve goals inclusive of diverse perspectives and experiences.
- Demonstrate the ability to work collaboratively with people from diverse backgrounds in pursuit of a common objective or goal utilizing interpersonal skills that are essential to team building,

conflict resolution and cross-cultural communication.

### **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

### **Google Voice Contact:**

When texting or leaving me voice mail, please identify yourself first. I will see your number but no name so I need to know who I'm talking to.

### **Attendance Policy:**

Attendance on time for each class is expected. Students missing 3 consecutive meetings without communicating with the instructor will be dropped from the course. Students missing a total of 6 class meetings (the equivalent of 3 weeks of the course) and having a failing grade will be dropped from the course. If you are dropped, you should withdraw from the course before the last day to withdraw to prevent the 'AF' from becoming an 'F'.

### **Cell Phones:**

Cell phones may not be used in this class. If you bring such equipment to the classroom, it must be turned to vibrate and put away before the class starts and stay that way throughout the class period.

### **Computer Use During Class:**

You will not need to bring your own computers to class. If you prefer to work on your own computer, you are responsible for setting it up.

### **Late Assignments:**

Labs are started in class, but should be finished on your own time. See the lab handouts for a detailed explanation of how many points are deducted for late work. Projects lose 5% per day and will not be

accepted after 7 days late.

### **Exam Policies:**

You will be allowed to create and use a one page assistance sheet during exams including the final. The single 8.5 X 11 inch piece of paper can have anything on front and back that you wish to have handy during exams. You may not give your assistance sheet to anyone else. Each student who wishes to use one must create her own. Please hand in your sheet with your exam.

### **Course Requirements**

Students will create 11 individual programming projects, take 2 tests during scheduled class times and complete a comprehensive final examination in two parts given during the last week of class. Projects will involve computation, manipulation of data as well as searching and sorting arrays. Students should expect to spend 8-10 hours per week outside of class working on projects, homework and course preparation.

There are laboratory assignments that allow students to experiment with every programming construct covered in the lecture portion of the course. Labs are "initialed" either by the instructor or the tutors. Completed labs are due within 7 days of the day they are handed out.

The labs prepare the student for the projects. A full understanding of the projects prepares the student for exams.

### **Student Evaluation and Grading**

2 in-class tests	30%
11 projects	20%
Attendance*	15%
Labs, quizzes, and homework	10%
Final Exam (comprehensive)	25%

\* for online students, handin of the lab by Sunday of the end of the week means that you have attended that week.

### **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

### **Text, Tools and / or Supplies**

Title: *Think Java*

Author: Downey, Mayfield

Publisher: Green Tea Press (a division of O'Reilly Publishing)

Available for free in PDF at <http://greenteapress.com/thinkjava6/thinkjava.pdf>

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.

### **End-of-Course Evaluation**

Students complete evaluations for each course attended at SMCC. Evaluations are submitted online and can be accessed through the student portal. Students can access the course evaluations beginning one week before the end of classes. The deadline for submission of evaluations occurs Monday at 5 p.m. following the last day of the class. You will receive an e-mail to your student e-mail account when course evaluations are available.

### **ADA (Americans with Disabilities Act):**

Southern Maine Community College is an equal opportunity/affirmative action institution and employer. For more information, please call (207) 741-5798. If you have a disabling condition and wish to request accommodations in order to have reasonable access to the programs and services offered by SMCC, you must register with the Disability Services Coordinator, Sandra Lynham, who can be reached at 741-5923. Further information about services for students with disabilities and the accommodation process is available upon request at this number. Course policies about online testing are modified to suit each individual's accommodations.

### **SMCC Pay-for-Print Policy**

Each semester students receive a \$20 printing credit. The balance resets at the end of the semester and any remaining credits are removed. The College's pay-for-print system monitors printing on all printers (including those in general access labs, library printers, Tutoring Services, Campus Center Lounge and technology labs). Be sure to log OUT of the system when you've finished your printing, to prevent unauthorized access to your account. Students can check the number of pages they have printed by using the Printing Balance tool available on SMCC computers (located in the lower right corner of the screen, near the clock). Departments with work study students who need to print documents for the department should contact the Help Desk at 741-5696 to have a special account set up. To find ways to reduce your printing charges, please go to the IT Help tab on My SMCC. If you have questions about the pay-for-printing policy or your printing charges, please contact the Help Desk at 741-5696 or send an e-mail to [helpdesk@smccme.edu](mailto:helpdesk@smccme.edu).

### **Printing Refunds**

Print jobs are eligible for a refund in the event of mechanical or electronic error on the part of the printer, print server, or software used to submit the job. Jobs are not eligible for a refund in cases where the job was not set up correctly, was submitted multiple times, or the student is not satisfied with the result. To request a refund, please bring the offending print to the IT Department in the basement of the Ross Technology Center. Refunds will be granted in the form of a credit to the student's account.

### **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 (usually 75 percent of course meeting times; please check with the Registration Office). To withdraw from a course, a student must complete and submit the appropriate course withdrawal form, available at the Registration Office. This process must be completed either in person or by using SMCC e-mail accounts.

## **Plagiarism Statement**

If an instructor suspects that a student has knowingly committed a violation defined in the Maine Community College System Policy on Student Grade Appeals and Academic Misconduct, the instructor has the authority to review the alleged misconduct and determine the grade that the student should receive for the assignment and the course. The instructor may assign a failing grade for the assignment or course and may require the student to complete additional work for the course. The instructor may consult with the department chair and/or the College's chief academic officer prior to making such decisions. If a student seeks to challenge an instructor's determination, the student should submit a grade appeal. Grade appeal forms are available in the Advising Office on the South Portland Campus or in the administrative offices in the Learning Commons on the Midcoast Campus. An instructor may also refer the matter to the College's disciplinary officer for review under the procedures of the MCCS Student Code of Conduct

## **Non-Collaboration Agreement**

By remaining registered for this class, you agree to abide by the following agreement:

### **CSCI 110 – Collaboration Policy**

#### **CLASSWORK / HOMEWORK / LABS**

You may collaborate on CLASS WORK ASSIGNMENTS in and out of class. However, your final answers MUST be YOUR OWN. This means that you MAY work together to solve the problems, but the final answers must be done INDEPENDENTLY. (You may NOT copy another person's work!)

#### **TESTS and QUIZZES**

No discussion of any kind with anyone but the instructor is allowed. Use of unauthorized written material, cell phones, or other messaging tools is not allowed.

#### **PROJECTS**

Discussion of techniques in a natural language (such as English) is allowed. Discussion of an assignment in a computer or algorithmic language (such as Java) is NOT allowed. Strictly avoid sharing or exchanging literal statements of computer code or program files. Computer language questions are to be limited to the language and should not concern the assignment. WHEN IN DOUBT, SEE THE INSTRUCTOR! Stealing, giving or receiving passwords, code, designs, drawings, diagrams and/or text from ANY other person (whether from on-campus or off-campus) is NOT allowed. Every line of code that you turn in must be your own!

Any of the following also constitutes cheating:

1. Having a copy of a program that is not your own.
2. Accessing or viewing anyone else's work.
3. Giving anyone else access to your work.
4. Any attempt to collaborate on projects.
5. Any attempt to deceive the instructor.

Student responsibilities include:

1. Secure disposal of code and report of missing printouts.
2. Avoidance of other students who act unethically.
3. Keeping your program solutions to yourself.

#### **The Penalty**

Violations of the collaboration policy will result in a zero on the assignment in question and will be referred to the Disciplinary Committee for further action.