SOUTHERN
MAINE
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South Portland, Maine 04106

Computer and Information Sciences

Title: Principles of Computer Science   Instructor: Valerie Green

Catalog Number: CSCI 110   Email: vgreen@smccme.edu

Credit Hours: 4   Phone: 207-200-9799 (voice or text)

Total Contact Hours: 60   Schedule a meeting: http://vgreen.youcanbook.me

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Course Syllabus
Fall 2020

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 to 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

Topical Outline of Instruction

1. Introduction to Java
2. Variables / Assignments
3. Branches
4. Loops
5. Arrays
6. User-Defined Methods
7. Objects and Classes
8. Input / Output

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 studentcan 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 create 5 individual programming projects, take 2 tests, and complete a comprehensive final examination. 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 review chapter content, due each week. These are completed online in the class zyBook.

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%
5 projects	20%
Attendance*	10%
Discussions	5%
Labs**	10%
Final Exam (comprehensive)	25%

* for asynchronous online students, handin of your participation in your weekly study group by Sunday night each week constitutes your attendance grade for the week.

** your weekly lab grade is determined based on the percentage of assigned zyLabs you successfully complete each week, plus 10%, with a maximum value of 100%. For example, if you complete 90% of the assigned labs for the week, you will have a weekly lab grade of 100. If you complete 80% of the assigned labs for the week, your weekly lab grade will be 90, and so on.

Text, Tools and / or Supplies

Online textbook at zybooks.com. See Brightspace for the code you will need to access the zyBook. You will need to create an account on zybooks.com.

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.

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'.

For asynchronous online sections with no weekly class meeting, students are required to show that they have met with their study group, or another classmate, in Discord. See Brightspace for details.

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 Statement

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.

The Learning Commons:

The library, tutoring and writing centers, and reference/research assistance (typically located on the second floor of South Portland's Campus Center and in the Midcoast's LL Bean Learning Commons and Health Science Center) will be fully available online during the fall 2020 semester.
Here you can find free academic support through individually scheduled and drop in, online tutoring. You can also find information literacy/research librarians, and professional academic strategy/planning mentoring online. While the physical space of the Learning Commons will not be available at this time, we can also work with you to set up zoom classrooms for small group study. Services are offered by appointment or as drop-in assistance.
To access services:
•   Visit My Learning in My Maine Guide or
•   Select the "tutoring needed" button if it appears inside your Brightspace course.
Whether On Site or Online, students have consistently reported that the Learning Commons is a friendly, risk-free, and helpful place to seek academic support. It has also been shown that those who make use of the Learning Commons do better in a course than those who do not. We strongly encourage you to take advantage of this valuable and enjoyable resource.

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.

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