South Portland, Maine 04106
Engineering and Computer Science Department

Title: Object Oriented Design and Programming Catalog Number: CSCI 160
Credit Hours: 4 **Total Contact Hours: 60**
Lecture (or Lab): Lecture **Instructor: Anne G Applin, PhD**
Office Hours – Location: CEC102 **Contact Information:**
MTWR: 6:30 – 7:50am & MW: 11:40-12:30pm aapplin@smccme.edu
Other hours available by appointment

Course Syllabus

Course Description

This course is an in depth treatment of the concepts of object-oriented design and programming using Java. The Java language will be taught along with the concepts of object orienting programming. Design of programming solutions using UML is emphasized along with programming using designs provided by the instructor. Topics will include: classes and methods, branching and method design, loops and external files, arrays, collections, recursion and object oriented software engineering. Most of these topics are designed to enhance your problem-solving and logical reasoning abilities. Prerequisite: Successful completion of CSCI 110 Introduction to Computer Science.

Course Objectives

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

After successfully completing the course, the student will be able to:

1. Demonstrate the ability to design object-oriented solutions to computable problems using classes, objects and UML
2. Demonstrate the ability to code well designed UML problem solutions using the Java programming language.
3. Select appropriate algorithms to solve well-formed problems
4. Implement non-recursive algorithms in Java
5. Implement recursive algorithms in Java

Topical Outline of Instruction

Dates: Section 2 and Section 3

Lecture	Date	Topic	Readings	Start	Due
	1/18 and 1/19	Martin Luther King Day (help)			
1	1/20 and 1/21	Java Review	Chapters 1-8		
2	1/25 and 1/26	UML and Lab1: file input/run configurations	Chapter 9	Proj1	
3	1/27 and 1/28	Classes	11.1 – 11.7		
4	2/1 and 2/2	Inheritance, Multiple Inheritance	Chapter 13		
5	2/3 and 2/4	Interfaces – Agility Competition	13.5-13.8 & 20.5		Proj1
6	2/8 and 2/9	Dynamic binding Lab: Buggy BlackJack	11.8		
7	2/10 and 2/11	Java Collections : ArrayList	11.11-11.12 & 20.1-20.2		
	2/15 and 2/16	President's day (Help Session Tuesday)			
8	2/17 and 2/18	Abstract Type constructions: Generics	Chapter 19		
9	2/22 and 2/23	Products, sets, Multisets,	21.1-21.4		
10	2/24 and 2/25	lists; Array implementation of lists	20.4		
11	2/29 and 3/1	Linked implementations of Lists			
	3/2 and 3/3	Anne gone to a conference – no class			
12	3/7 and 3/8	Midterm Exam			
13	3/9 and 3/10	Nested class definitions	Not in text		
Spring Break					
14	3/21 and 3/22	Maps	21.5		
15	3/23 and 3/24	Recursive algorithms			
16	3/28 and 3/29				
17	3/30 and 3/31	2/5			
18	4/4 and 4/5	3/5			
19	4/6 and 4/7	4/5			
20	4/11 and 4/12	5/5			
21	4/13 and 4/14	Algorithm Comparison: Sorting and Searching 1/4	Chapter 23		
	4/18 and 4/19	Patriot's day (Help Session Tuesday)			
22	4/20 and 4/21	2/4			
23	4/25 and 4/26	3/4			
24	4/27 and 4/28	4/4			
25	5/2 and 5/3	Stacks: array and linked implementations	Not in text		
26	5/4 and 5/5	Queues: array and linked implementations	Not in text		
	5/9 and 5/10	Final Exam part 1			
	5/11 and 5/12	Final Exam part 2			

Possibly incomplete and subject to change for snow

Course Requirements

Students will create up to 5 individual programming projects, take 2 tests during scheduled class times 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.

Student Evaluation and Grading

Two in-class tests	30%
Programming Projects	50%
Final Exam (Comprehensive)	20%

Grading Scale:

93 – 100	A	77 - 79.99	C+
90 - 92.99	A-	73 - 76.99	C
87 - 89.99	B+	70 - 72.99	C-
83 - 86.99	B	0 - 69.99	F
80 - 82.99	B-		

Late Assignments: Projects lose 10% per day and will not be accepted after 7 days.

Text, Tools and / or Supplies

Introduction to Java Programming 10e by Daniel Liang. 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: Students will be dropped from the course with a grade of AF if they miss 3 consecutive meetings without contacting the instructor or a total cumulative number of classes equal to 3 weeks of class (6 class meetings). Attendance on time for each class is expected.

Cell Phones: Cell phones, text-messaging devices, and other social-networking connections may not be used in this class. If you bring such equipment to the classroom, it must be turned to vibrate before the class starts and stay that way throughout the class period. Use of such equipment is distracting to those nearby and will not be tolerated.

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.

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

Per Page Costs

Each semester students receive a $20 printing credit. The balance resets at the end of the semester and any remaining credits are removed. The cost varies depending upon page size and whether printing is done in black and white or color.

a. There is a $0.10 per page fee for standard 8.5" by 11" black and white documents.
b. The reverse sides of duplex (double-sided) documents are free.
c. There is a $.50 per page fee for standard 8.5" by 11" color documents.
d. There is a $.20 per page fee for 8.5" by 14" (legal) or 11" by 17" (tabloid) black and white documents.
e. There is a $1.00 per page fee for 8.5" by 14" (legal) or 11" by 17" (tabloid) color documents.

Duplex charges (printing on both sides of a page) work in the following fashion: One page is $0.10, two pages are $0.10, three pages are $0.20, and four pages are $0.20, etc. The flipsides are free, but another sheet of paper is $0.10. Please be aware that a document with any color at all (when printed to a color printer) will by default be printed in color. You are responsible for setting the print job to print black and white if you do not need color. For directions, please go to the IT Help tab in My SMCC.

How does it work?

The College's pay-for-print system monitors printing on all printers (including those in general access labs, library printers, the Academic Achievement Center, Noisy Lounge and technology labs). 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.

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.

Why is SMCC charging for printing?

The pay-for-print system is an effort to control escalating printing costs. Charging for printing helps offset the increasing cost of supplies and encourages students to conserve resources. 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 email to helpdesk@smccme.edu.

Be sure to log OUT of the system when you've finished your printing, to prevent unauthorized access to your 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. 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

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.

CSCI 160 – 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

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 questions and will be referred to the Disciplinary Committee for further action**.**

I have read, and understand the syllabus and collaboration policy for CSCI160.

PRINT Name (last, first, mi): _____

Signature: _____