CS 151: Principles of Computer Science I (4) MWF 10:30-11:30am, Lab M 6:30-8:30pm G35 Westminster College, Fall 2012

Instructor:

Dr. David Shaffer Room 159 Hoyt Science (724)946-7292 e-mail: cdshaffer@acm.org Home page: http://www.cs.westminster.edu/~shaffer A-IM: CDavidShaffer

Location: In Hoyt Science Building: G35

Prerequisite: Any prior programming course (recommended)

Text: JavaTM: An Introduction to Problem Solving & Programming, 6th edition, Walter Savitch; Kenrick Mock, Prentice Hall 2009.

Objectives: The student will

- apply decompositional approaches to problem solving (top down design, for example).
- master the fundamentals of Object Oriented Programming (OOP) including
 - classes, objects, and methods
 - encapsulation
 - inheritance and polymorphism
- identify objects and their responsibilities in a solution to a problem.
- apply various software design patterns.
- actualize OOP techniques in the Java language and apply Java to developing software solutions to simple problems.
- write software tests and to encourage the practice of Test Driven Development.
- master technical aspects of the Java language including
 - control structures
 - data types and arrays
 - standard collections API
 - interfaces
 - exception handling
 - inner classes
 - file input/output

Your responsibilities:

- Read ahead and understand text material.
- Complete/master the text, homeworks, labs and projects.
- Seek help **immediately** if you are struggling.
- Learn the material.
- Perform substantial work outside of class.

Important points/tips:

- Don't give up after reading something once, I don't.
- Work a problem while reading the material the second or third time.
- Understand the question and your solution before you start typing! Don't be too reluctant to start playing with possible solutions but don't jump into it without thinking.
- If you don't understand some technical aspect of Java, play with it in a test class for a while. Don't be afraid to write throw-away code.

Grading:

Letter grades are assigned based on the percentage of the available points that you receive. The grading scale is fixed. **I do not curve.** The grading scale is as follows:

Letter	Percentage	Letter	Percentage
А	[92,100]	A-	[90,92)
B+	[88,90)	В	[82,88)
B-	[80,82)	C+	[78,80)
С	[72,78)	C-	[70,72)
D	[60,70)	F	[0,60)

Below is an **approximate** breakdown of the point distribution of the material. Since I grade on a point scale, the actual breakdown depends on how many homework assignments, projects and quizzes are given.

Projects, homeworks, quizzes, labs	36%
Exams (3)	48%
Final exam	16%

- Attendance: You are expected to attend all classes. Attendance will not constitute part of your grade, except in labs, but failure to attend can result in no credit for missed assignments, tests, quizzes etc. Additionally, failure to attend will probably result in poorer performance on exams. I do not provide class notes to students who miss class, excused or unexcused. You must **contact me in advance** if you are going to miss a class or you will get a zero on any work due or completed during that class.
- Labs: This course includes a laboratory section. Attendance of this lab section is **required** without exception. All students must be registered for the laboratory section and must attend that section and complete each lab. You will receive one grade for CS151 which will include both your class and lab performance.

There will be approximately 12 labs and most labs are worth 10 points. Labs must be completed individually, with some help from your lab instructor or with a **very small amount of help from classmates**. The goals of the labs vary from teaching a particular Java language aspect to looking for creative solutions to problems. Grading criteria will depend on the nature of the lab. Generally, if your solution is complete and correct you are guaranteed 7 (out of 10) points with the additional points being awarded for the quality of your solution.

You must come prepared for each lab. Generally instructors will not respond to vague statements such as "I have no idea how to do this", "I'm lost" or "How do I write a loop". Listen during class, read the material, bring your book and come to lab prepared to start or with a list of specific questions for the instructor.

Homework:

Homeworks are given in order to help clarify text material. Select problems from the homeworks are graded on a 5 point scale. (If you happen to omit the portion of the homework that I grade, you will receive a zero for the homework.)

In-class exams:

There will be three in-class exams during the semester worth approximately 100 points each and a comprehensive final exam at the end of the semester worth approximately 150 points.

Quizzes:

Quizzes may be given at any time throughout the semester. They will be worth 10 to 15 points each. Make sure you follow lectures and complete homework and reading assignments to help you prepare for quizzes.

Projects:

There will be approximately 5 projects during the semester worth 15 to 45 points each. These are graded based on completeness and quality of work. It is your responsibility to thoroughly test your solutions to the problems.

"Open" projects: These are designed for learning purposes only and you may cooperate with others to any extent that you desire. I highly recommend that you complete as much of these projects on your own as you can since you will need to master this material for quizzes, exams etc.

"Individual" projects: Absolutely no cooperation is permitted on individual projects. Keep your work to yourself and don't copy or seek help from others. You are not permitted to use any person's help or code, except help which I provide to you specifically, in completing your projects. You are not permitted to discuss your solutions to these projects with anyone else. These rules extend beyond students in our class. That is, you are not permitted to seek help from friends, tutors etc.

"Group" projects: Absolutely no cooperation is permitted outside of your pre-assigned group. Keep your group's work to yourself and don't copy or seek help from anyone outside of your group. You are not permitted to discuss your solutions to these projects with anyone who is not in your group. If any individual member of a group breaks these rules the entire group may be held responsible. These rules extend beyond students in our class. That is, you are not permitted to seek help from friends, tutors etc.

Should you ever find yourself questioning whether you, another group member, or another class member have been completely honest (in accordance with the above policies) in the completion of a project please come talk to me **right away.**

Academic policies:

The department of Mathematics and Computer Science has a set of guidelines regarding academic honesty which can be found at: http://www.westminster.edu/staff/bonomojp/cheating.html

Unless otherwise specified all exams and projects must be entirely individual work. "Verbal" cooperation on lab projects is encouraged but the exchange of programs or program fragments either electronically or by visual inspection is not allowed. Keep your work to yourself and don't copy from others.

Cheating on exams, quizzes or projects will result in a grade of 0 (zero) for that item. All academic policies offenses will be referred to the college dean.

Special note: Special attention should be paid to the policies on projects discussed above. That is, if you violate the policies regarding projects, I will report the incident to the Dean of the college and you will receive no credit for that project. In many cases it is very easy to identify cases of cooperation so **DON'T DO IT**.

Disabilities and special needs: I will make any necessary, reasonable accommodations for students with disabilities. If you have a disability which requires accommodations, it is your responsibility to indicate to me that you have a disability and to discuss with me what special needs you might have regarding this class. In addition to notifying me, if you have a disability which requires class accommodations, you must make it known to Westminster College's student affairs office so that they can send me the proper paperwork.

Westminster College actively strives for the full inclusion of all our students. Students with disabilities who require access solutions for environmental or curricular barriers should contact Corey Shaw, Director of Disability Support Services, located in 209 Thompson-Clark Hall. phone: 724-946-7192 e-mail: shawcj@westminster.edu.