

Semester and Year:

Spring, 2009

Classroom Sections, Locations, and Meeting Times:

Section: 201 CRN: 2101 Days: MWF Time: 1:00 – 1:50 Loc: GH211

Textbook:

Horstmann, Cay, *Java Concepts, 5th Ed*, John Wiley & Sons, Inc., 2008 ISBN 978-0-470-10555-9

Course Description:

Object-oriented analysis and design, advanced programming with classes, arrays, strings, sorting, searching, I/O, GUI development, system life cycle, and software development methodologies.

Pre-requisites:

Computer Science Major, or Pre-Computer Science major, or math ACT 23 and CS110 and concurrent PR: (MTH 127 and MTH 122) or (MTH 130 and MTH 122) or MTH 132 or MTH 229 or MTH 229H

Instructors:

J. Joe Fuller

Office Location: Gullickson Hall Room 205B

Office Hours: MWF 11:00 to 12:00, M 2:00 – 4:00, T 8:30 – 11:00, and W 2:00 – 3:00 (or by appointment)

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Jonathan F. Thompson

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Course Outcome Objectives:

At the completion of this course the student will be able to:

1. Use inheritance and polymorphism for code reuse
2. Write a graphical user interface using Java API calls and in a visual programming environment such as NetBeans or Eclipse
3. Handle potential runtime errors using exception handling compound expressions
4. Use the standard files in Java: text files, binary files, and object streams
5. Use recursion for problem solving
6. Understand and use standard sorting algorithms
7. Write and use standard searching techniques
8. Write and use a linked list

Course Activities:*In-class Quizzes*

There will be one quiz for each chapter that we cover in the textbook this semester. Approximately twenty sample quiz questions regarding chapter material will be handed out at least a week in advance of the quiz. The student is expected to complete the chapter reading assignment and answer the sample questions as they go. The in-class closed-book, closed-notes quiz will consist of six questions similar to the sample questions.

Programming Assignments

This course activity involves preparing applications that implement a specification provided by the instructors. The assignments will often be done outside of class since they will require more thought and effort than those in CS 110.

Interim Examinations

There will be two interim exams during this semester. Only authorized absences, with prior approval by the instructors, will be accepted for make-up examinations. The first part of the exams will be closed-book and closed-notes. The second part of the exam will be a programming problem that is open-book and open-notes. You're encouraged to use any of your collected works when crafting a solution to the programming problem.

Lab Assignments

Learning to program requires hands-on work at the computer, not just listening to lectures. Hence, we will continue the CS 110 policy of having hands-on assignments as often as possible. We will often start these labs during class so that the instructors are available to answer questions, clarify the requirements, or to help get you started. If you do not complete a lab during class hours, then you are expected to complete the assignment outside of class. The computer science lab in Gullickson Hall Room 206A is available during the day Monday through Friday from 9:00 to 4:00. The lab is also open between 4:00 and 9:00pm, Monday through Thursday. Tutors are available during this time if you need assistance or run into problems.

Final Exam

There will be the usual comprehensive two-hour final exam. The format will be the same as the Interim Examinations, that is, part of the exam will be closed book and closed notes and the second part will be a programming assignment that is open-book and open-notes.

Class Attendance and Participation

Students are expected to attend all class sessions and participate in class activities.

Decorum

Students are expected to maintain a certain level of decorum, including:

1. Turning off cell phones and pagers
2. Closing laptops during lectures and class discussions
3. Arriving to class on time
4. Not sleeping during class
5. Not eating during class
6. Keeping side conversations to a minimum
7. Not leaving class until it is dismissed by the instructors

Evaluation/Grade Computation:

Course grades are based on weighted percentage averages. Your final grade is derived by multiplying each individual Student Activity score by the weighted percentage and summing all of the weighted percentage averages.

Student Activity	Individual Score	Weighted %	Weighted % Average
In-class quizzes		x 0.10	
Programming Assignments		x 0.15	
Exam 1		x 0.15	
Exam 2		x 0.15	
Lab Assignments		x 0.15	
Final Exam		x 0.20	
Class Attendance, Participation, and Decorum		x 0.10	
Grand Total =			

Evaluation Scale				
90% & Above = A	80% - 89% = B	70% - 79% = C	60% - 69% = D	59% & Below = F

Schedule of Topics:

1	12-Jan	Course Introduction	Interfaces and Polymorphism	
2	19-Jan	MLK Birthday (no class)		
3	26-Jan		Inheritance	
4	02-Feb			
5	09-Feb	Exam 1 Review	Exam 1	Input/Output and Exception Handling
6	16-Feb			
7	23-Feb	Recursion		
8	02-Mar	Searching and Sorting		
9	09-Mar			
10	16-Mar	Exam 2 Review	Exam 2	
	23-Mar	Spring Break (no class)		
11	30-Mar	Intro to Data Structures		
12	06-Apr	Graphical User Interfaces		
13	13-Apr	Files and Streams		
14	20-Apr	Multithreading		
15	27-Apr			Exam Review
	04-May	Exam Week		

Exam Attendance

Students are required to take exams at the scheduled class period. Students may take an exam at a different time under one of the following conditions:

- They present a University Excused Absence
- They present a valid medical excuse
- Other extraordinary circumstance as determined by the instructor

Academic Conduct:

Learning about programming is a hands-on activity, not something that you can pick up by just reading a book or listening to a lecture. It is important that you do the work yourself to gain this experience. To that end, you may discuss programming concepts and techniques with others, consult the web or other textbooks, or study code that is available from various sources but the work you submit must be your own. Here are some examples of appropriate and inappropriate conduct:

- You need to insert an IF statement in your program and you can't remember whether or not parentheses are required. You ask a friend who says, yes, they are required. This is acceptable.
- You're running late on an assignment and in order to hand a program in on time, you copy ten lines of code from a classmate. This conduct is NOT ACCEPTABLE by either student. You must neither directly copy code from someone else nor offer your code to another student or allow it to be copied.
- After struggling for some time, you do a search on the internet and find a snippet of code that you adapt to your problem and insert into your program. You comment your code to acknowledge the source. This is acceptable.
- After struggling for some time, you do a search on the internet and find a program that does exactly what you need. You submit it as your own work. This conduct is NOT ACCEPTABLE.

It is your responsibility to satisfy the spirit of this conduct. If you have any questions, please ask one of the instructors for clarification. Depending on the severity of the offense, the instructors may:

- Take no action
- Penalize the student on the assignment in question
- Assign the student a failing grade in the course

Communication:

Assignments, lecture notes, gradebook, etc, are all posted on MUOnline. Be sure to log in periodically to check for course news. In addition, each student has a folder in the \\CITECS\CS120 file share for program code submissions.

Adaptive Methods for Disabilities:

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the instructors as soon as possible to better ensure that such accommodations are implemented in a timely fashion. A reasonable period of time must be given to the instructors when making your initial request for any accommodation. Students seeking special accommodations due to disability need to follow the university policy outlined at <http://www.marshall.edu/disabled>.

Bibliography:

Flanagan, David, *Java in a Nutshell*, 5th Ed. O'Reilly & Associates, Inc, Sebastopol, CA 95472

Web Resources:

Java software and documentation	java.sun.com
TextPad text editor	www.textpad.com
BlueJ Development Environment	www.bluej.org
NetBeans Development Environment	www.netbeans.org
Eclipse Development Environment	www.eclipse.org