

# CS 110 – COMPUTER SCIENCE I

College of Information Technology & Engineering  
Weisberg Division of Engineering and Computer Science

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**Semester and Year:**

Spring, 2007

**Classroom Location and Meeting Times:**

Marshall University, Huntington Campus - Gullickson Hall Room 211  
Monday, Wednesday, and Friday 9:00-9:50am

**Textbook:**

Horstmann, Cay, *Java Concepts, 4<sup>th</sup> Ed*, John Wiley & Sons, Inc., 2005 ISBN 0-471-69704-4

**Course Description:**

Object-oriented and algorithmic problem solving principles and techniques; programming with classes in an integrated programming environment; and program debugging.

**Pre-requisites:**

Standing as a Computer Science major or ACT Mathematics score of at least 23

**Instructors:**

*J. Joe Fuller*

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**Course Outcome Objectives:**

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

1. Demonstrate competence in basic programming with classes.
2. Explain the various operators available in the programming language, understand the notions of operator precedence and associativity, and their significance in expression evaluation.
3. Evaluate various types of expressions and distinguishes between relational, Boolean, arithmetic, and compound expressions.
4. Recognizes the distinction between syntax, logical, and runtime errors.
5. Acquired a working knowledge of an integrated programming environment and effectively uses online documentation
6. Debugs programs using a GUI debugger.
7. Demonstrates programming techniques for implementing relationships between classes.
8. Gained clear understanding of the syntax and semantics of the three fundamental control structures; demonstrates how to choose the right control structure for a given context.

## Course Activities:

### *In-class Quizzes*

There will be one quiz for each of the nine chapters we will cover in the textbook this semester. Twenty possible quiz questions regarding chapter material will be handed out a week in advance of the quiz. The student is expected to complete the chapter reading assignment and answer the quiz questions as they go to prepare for the quiz. Six of the twenty questions will appear on the in-class closed-book, closed-notes quiz. Each quiz takes about five minutes and will be given at the beginning of class.

### *Programming Assignment*

This course activity involves preparing an application that implements a specification provided by the instructors. The assignment is designed to use all of the concepts covered in the course. Students are expected to complete the assignment outside of class and submit it on or before the due date.

### *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've designed a series of in-class lab exercises that implement the concepts covered in the lectures. We 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, Participation, and Decorum*

Students are expected to attend all class sessions and participate in class activities. Students are also expected to maintain a certain level of decorum that includes turning off (or silencing) cell phones, arriving to class on time, not sleeping during class, and keeping side conversations to a minimum.

**Evaluation/Grade Computation:**

Course grades are based on weighted percentage averages. Your final grade will be 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 0.15     |                    |
| Programming Assignment                       |                  | x 0.15     |                    |
| Exam 1                                       |                  | x 0.15     |                    |
| Exam 2                                       |                  | x 0.15     |                    |
| Lab Assignments                              |                  | x 0.10     |                    |
| 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:**

| Week      | Mon                            | Wed                       | Fri                |
|-----------|--------------------------------|---------------------------|--------------------|
| 1 08-Jan  | Course Introduction            | Introduction to Computing |                    |
| 2 15-Jan  | MLK Holiday (no class)         | Introduction to Classes   |                    |
| 3 22-Jan  |                                |                           |                    |
| 4 29-Jan  | Data Types                     |                           |                    |
| 5 05-Feb  | Exam 1 Review                  | Exam 1                    | Decisions          |
| 6 12-Feb  |                                |                           |                    |
| 7 19-Feb  | Iteration                      |                           |                    |
| 8 26-Feb  | Arrays                         |                           |                    |
| 9 05-Mar  |                                |                           |                    |
| 10 12-Mar | Exam 2 Review                  | Exam 2                    | Designing Classes  |
|           | 19-Mar Spring Break (no class) |                           |                    |
| 11 26-Mar |                                |                           |                    |
| 12 02-Apr |                                | Assessment Day (no class) |                    |
| 13 09-Apr | Testing/Debugging              |                           |                    |
| 14 16-Apr |                                |                           |                    |
| 15 23-Apr |                                | Final Review              | Last Class         |
|           | 30-Apr                         |                           | Final Exam: 8-10am |

**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, class communications (e-mail), etc, are all handled via the course WebCT/Vista site. Be sure to log into WebCT/Vista regularly to check for course news.

**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.

**Bibliography:**

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

**Internet Web Sites:**

|                                 |  |
|---------------------------------|--|
| Java software and documentation | <a href="http://java.sun.com">java.sun.com</a>       |
| BlueJ Development Environment   | <a href="http://www.bluej.org">www.bluej.org</a>     |
| Eclipse Development Environment | <a href="http://www.eclipse.org">www.eclipse.org</a> |
| TextPad text editor             | <a href="http://www.textpad.com">www.textpad.com</a> |