CS 1400 Spring 2009 Syllabus
Fundamentals of Programming (Problem Solving with Java)

Instructor: Delroy A. Brinkerhoff
Office Hours: 10:00 - 11:00 MTW, 11:00 - Noon Th, 5:00 - 5:30 MW @ Davis (314)
Office Location: TE 111A
Phone: 626-7345
Web Page: http://icarus.cs.weber.edu/~dab/ (please see “CS 1400” under the “Classes” section)
E-Mail: Provided in class

Time and Room: 8:00 - 8:50, TE 108 (TTh) and TE 109/Unix Lab (MW)

Authors: Stuart Reges and Marty Stepp

Prerequisites: CS 1030: Foundations of Computer Science and Computer Literacy

Grading: Programs & Assignments 45% (see “Labs” on the web for dates and details)
Exams 45% (3 @ 15% – on Chi Tester; closed book/notes)
Quizzes 10% (in class)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>73.3% ≤ total &lt; 76.7%</td>
</tr>
<tr>
<td>A-</td>
<td>70.0% ≤ total &lt; 73.3%</td>
</tr>
<tr>
<td>B+</td>
<td>66.7% ≤ total &lt; 70%</td>
</tr>
<tr>
<td>B</td>
<td>63.3% ≤ total &lt; 66.7%</td>
</tr>
<tr>
<td>B-</td>
<td>60.0% ≤ total &lt; 63.3%</td>
</tr>
<tr>
<td>C+</td>
<td>total &lt; 60%</td>
</tr>
<tr>
<td>C</td>
<td>total &lt; 63.3%</td>
</tr>
<tr>
<td>D</td>
<td>total &lt; 60%</td>
</tr>
<tr>
<td>D-</td>
<td>total &lt; 63.3%</td>
</tr>
<tr>
<td>E</td>
<td>total &lt; 60%</td>
</tr>
</tbody>
</table>

Exams: Students are responsible for knowing the exam dates and the testing center hours and policies
Midterm #1: Feb 5 - 12
Midterm #2: Mar 3 - 10
Midterm #3 (Final): Apr 22 - 29

Late Policy: Late assignments are penalized a minimum of 20%
Assignments are not accepted after the cutoff date
Exceptions to this policy are made only in extreme (usually medical) situations

Tentative Schedule: Reading assignments are listed on the class calendar posted on the class web page.
Programs: Current schedules for assignments may be found at the web address above. Note that this portion of the web page is under constant revision. For your convenience, a section entitled “Page Updates” appears near the top of the CS 1400 web page and lists all significant changes and the date on which the change was made. Please review this section frequently.

Allocated Time: You should anticipate spending two to three hours of study per week for each credit hour of a university course. Programming courses typically require time in the upper range

Honesty & Fair Use: Each student is expected to maintain high standards of honesty and ethical behavior. Each assignment must represent the student’s own, best effort. You are encouraged to study together and to work together on the labs. This means that it is okay to discuss algorithms, syntax, and Java in general with others. You may also get ideas and code fragments from books or from the Internet. However, you may not copy whole methods, classes, files, or programs from someone else, from a book or from the Internet; nor may you exchange or share code in any electronic format - including code from previous semesters. If this is or any other dishonesty is demonstrated, you will fail the course and may face University disciplinary action. If you have any questions about what is acceptable and what is not acceptable, you may ask the instructor.

Classroom Activities: Attendance and punctuality are mandatory. Sleeping, reading the paper, playing games or viewing unrelated web sites are distracting and are cause for failing the course.
Students with Disabilities: Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in room 181 of the Student Services Center. SSD can also arrange to provide course materials (including this syllabus) in alternative formats if necessary.

Disclaimer: This syllabus is subject to change at any time. Alterations made in class supercede this document.

Course Description: The course focuses on the fundamental concepts of computer programming. This includes basic problem solving, debugging techniques, program design, and contemporary coding styles. Programming problems are implemented in the Java programming language and specific emphasis is placed on compilation and library use; data types, including arrays, and Java collections; flow-of-control statements; object-oriented programming, including inheritance, method overriding, and polymorphism; recursion; and input/output.

Instructor’s Goal: I want to help you learn how to solve problems and how to code the solution in Java. This entails several sub-goals. I want to help you understand: (a) how the object-model works; (b) how to solve problems before you attempt to code the solution in any language; (c) how to debug a program; and (d) how to build appropriate mental models of computer/language systems that will help you understand the tasks on which computer scientists work.

Objectives and Outcomes: At the conclusion of the course you will:

1. Understand and be able to solve simple problems whose solutions are often cast as computer programs
2. Understand and be able to use in a program the basic elements of the Java language
   a. variables and scope
   b. class/symbolic constants
   c. expressions
   d. statements
   e. flow-of-control statements (sequential, branching, looping)
   f. methods (definitions and calls) and recursion
   g. arrays
   h. i/o and formatting
3. Understand and be able to use in a program the Object-Oriented model and its relationship to and implementation in the Java programming language; specifically, you will understand the components and concepts:
   a. classes, objects, and instantiation
   b. attributes and methods, and their relationship to encapsulation and abstraction
4. Understand the physical organization of the Java language system and the relationship of this organization with the Java Development Kit (JDK), used to create Java programs:
   a. .java and .class files
   b. the Java Virtual Machine (JVM)
   c. how multi-class programs are assembled into programs
5. Understand interfaces and be able to use them in a program
6. Understand and be able to use Java’s consol input and output classes
7. Understand and be able to use Java’s basic collection classes