

CS 12300 – Programming I: JAVA

Fall 2010

Description: This course is an introduction to computer science and computer programming. The programming language used is Java. It covers programming techniques, as well as the basics of the Java programming language. The topics covered include identifiers, basic data types, expressions, control statements, methods, arrays, objects, classes, inheritance, polymorphism, and simple graphical user interfaces.

Instructor: Shuhui Yang, Ph.D., Math, Computer Science & Statistics Dept.
E-mail: shuhui.yang@calument.purdue.edu
Office: CLO 374
Phone: 219-989-2697

Class Times & Place: MW 12: 30am-1: 50pm

Office Hours: TBA

Textbook: Java: An Introduction to Computer Science and Programming, 5th edition, by Walter Savitch, Prentice Hall, 2009. The textbook is **required**.

Topics:

1. Basic Computer and Programming knowledge;
2. Basic Java Components;
3. Classes, Objects, and Methods;
4. Polymorphism and Inheritance;
5. Exception Handling;
6. Streams and File I/O;
7. Recursion;
8. Dynamic Data Structures.

Prerequisites: MA 151 or MA 159 or MA 163.

Course Objectives:

1. Design, implement, test, and debug programs that use each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions.
2. Discuss the representation and use of primitive data types and built-in data structures.
3. Identify and describe the properties of a variable such as its type, value, scope, and persistence.
4. Justify the philosophy of object-oriented design and the concepts of encapsulation, abstraction, inheritance, and polymorphism.

Grading policy:

1. Homework: 50% (10 assignments)
2. Midterm exam: 25%
3. Final exam: 25%.

(**Note:** Subject to change. Exams are close book and close notes.)

Programming Tools:

1. Appendix 1 of the textbook provides links to sites for downloading Java compilers and programming environments.

2. (Recommended) We will use DrJava in class for demonstration. Please go to Dr. Roger Kraft's webpage for detailed information. (<http://ems.calumet.purdue.edu/mcss/krafr1/cs123/java-install.html>)

Other information (Please take the time to read the documentation. You are responsible for the information outlined in it):

1. Academic Dishonesty “Cheating” Policies: Students are required to adhere to the policy on academic irregularities contained in the [Purdue University Calumet Student Handbook](#). Cheating will not be tolerated in this class. All homework assignments and projects are to be the individual work of each student and are not a collaborative effort. You may talk with your classmates about the course material and the ideas behind each homework assignment but you should solve the problem on your own and write your own code for the solution

- Any form of cheating on any examination in this course may result in an automatic “F” grade for this course, and the case will be forwarded to the Office of the Dean of Students for appropriate disciplinary action.
- Any form of cheating on homework may result in a zero score for the assignment.
- Cheating, or helping another student to cheat, are considered equal cases of academic dishonesty and will be dealt with as noted above.
- Giving another student access to your computer account, or negligently permitting another student to access your account constitute cheating on your part if that other student copies any files that become implicated in a cheating case.
- **Civility and the honor code:** The following is an Honor Code and an Honor Pledge to which all Purdue University Calumet students must adhere. *“I understand that academic dishonesty will not be tolerated at Purdue University Calumet. I am here to learn. Through learning, I will strive to become a better person and a more valuable contributor to society. I understand that dishonesty in the classroom, through cheating, plagiarism or other dishonest acts, defeats this purpose and disgraces the mission and quality of a Purdue University Calumet education. Therefore, I make the following pledge: ‘In accordance with the honor code, I will not engage in dishonesty in my academic activities, and I will not tolerate such dishonesty by other students.’ ”*

2. Attendance policy and missed tests: It is the students’ responsibility to attend each and every class, but if for some reason he or she cannot attend, he or she is still responsible for all material presented in class. No makeup tests will be given, except with documentation from a Doctor. Special arrangements for situations involving business travel should be made 2 weeks in advance. Attendance will be checked randomly. After the second absence, each absence without legitimate reasons will lower the student’s course grade by 1 percent.

3. Penalty for late submission of homework and project: Assignments submitted after the due date will be subject to a penalty of up to 5% of the total points per calendar day late, up to a maximum of 50%.

4. Homework submission: Unless otherwise specified, programs will be submitted in two forms

- Electronic submission of source code through Blackboard system via <https://blackboard.purdue.edu/webct/logon/8329011>
- Submission of printed copy of code and printed output from testing, together with other type of exercises.

5. Labs: The computer lab is CLO 363. It is open to students.

6. Grading of Programs: Grading of programming assignments will reflect three factors. Correctness -- Does the program run correctly? Style--Does the code adhere to class documentation standards? Design--Is the program modular? Are the data types of variables and class and structure definitions well chosen? Has the student made good use of existing classes and libraries?

7. Students having special needs: If you are a student with a **documented disability** who will require academic/classroom accommodations in this course, please register with the Coordinator of Services for Students

with Disabilities in the Student Support Services Office located in the Student Union and Library Building (SUL), Room 341, phone numbers: 219-989-2455, 219-989-2454(voice/TTY) or 219-989-2920.

8. Classroom behavior: Students are expected to comply with University regulations regarding civility, attendance, and appropriate classroom behavior. Please see the document [Student Guide: Civility in the Classroom](#) available from the Dean of Students office and the [Dean of Students web site](#). Some specific examples of disruptive behavior that may not be tolerated in this class are:

- Cellular phones and beepers
- Eating or drinking in the classroom, chewing or popping gum in the classroom
- Leaving the lecture early
- Chattering, sleeping
- Noisily packing up to go when class is not over

9. Emergency procedure guides: Please refer to [Purdue Calumet Campus Emergency Preparedness Guide](#) (also the handout in the first class) for the event of fire, severe weather, power failure, and criminal activities, et al.

Note: All the course materials and information could be found in the Blackboard system. The students are required to use it to keep being informed. Please refer to the instructor or the department if the student does not have access to the system.

(Last modified: July 6, 2010, Shuhui Yang)