

IS600 - Introduction to Object-oriented Programming Concepts

Fall 2008

Syllabus

Instructor: Dr. Sreedevi Sampath

Office hours: T/Th 2 to 3pm

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Phone: 410-455-8845 (preferred method of contact is by email)

Class time: Mondays 4.30 to 7p.m.

Class location: ITE 467

Required Textbook

Java: Introduction to Problem Solving and Programming, 5/E

Walter Savitch, Frank M. Carrano

ISBN-10: 0136072259, ISBN-13: 9780136072256

Additional resources

- Java Software Solutions: Foundations of Program Design. Lewis and Loftus. 6th edition. ISBN: 978-0-321-53205-3
- Links to online resources as posted on Blackboard

Description

This course introduces the student of information systems to fundamental object-oriented programming concepts. A student of this course will learn the principles of programming, and in particular object-oriented programming principles. Programming principles and constructs, such as data types, common control flow structures, basic data structures, console input/output, and file input/output will be presented. We will also learn several key object-oriented principles, such as inheritance and exception handling. We will use the Java programming language to learn and implement the basic programming and object-oriented principles described above.

Course objectives

The objective of this class is to expose the student to programming in an object-oriented programming language, Java, and to increase the depth of students' knowledge about several implementation issues. Knowing Java will be useful in the students' jobs in IT organizations as developers or managers because it will enable them to code efficiently, communicate effectively with colleagues and understand and improve software development practices in their organizations.

At the end of the course, a student completing this course should have:

- A strong understanding of basic programming principles

- The ability to apply basic programming principles to write programs
- A clear understanding of object-oriented software development
- A strong understanding of the object-oriented programming language, Java, and the ability to write programs in Java using principles of object-oriented program development

Blackboard site

A Blackboard site will be maintained for the course throughout the semester. It can be accessed through myUMBC or at <http://blackboard.umbc.edu>

The page will contain all project deliverable descriptions, lecture slides, solutions to exams, grades and all announcements pertinent to the course. **Each student is responsible for checking the web page regularly, and for being aware of any information posted there.**

Class format and attendance

Since we have a 2 and a half hour class, the class will be broken into two sessions with a mini-break in the middle. Students are strongly encouraged to ask questions and participate in class activities. While attendance is not required, you are strongly encouraged to attend all lectures. Please note that 5% of your total grade is derived from class participation. If you miss a class, you are responsible for getting the relevant notes and hand outs to help you prepare for the quizzes and exams. Please come to class on time. Tardiness will affect your class participation grade. There will be in-class discussions and material covered in lectures that will not be available on the textbook and on the Web page. You will be responsible for that material in the quizzes and the exams. You are therefore encouraged to attend all lectures.

In case of inclement weather, check the main UMBC Webpage (<http://www.umbc.edu>) to see whether UMBC is closed and classes are cancelled. In the event of such cancellation on an exam day, the exam will be rescheduled and announced to the students by Dr. Sampath. If there is a deliverable due on that day, there will be no extension for the deliverable. You should still submit the softcopy (in PDF) of your deliverable on time. If the assignment has a hard copy deliverable, the due date for the hardcopy of your deliverable will be automatically be before start of class on the day of the next class.

Grading

The University's Graduate Catalog states that grades of "A", "B", and "C" are passing and grades of "D" and "F" indicate failure. There is specifically no mention of any numerical scores associated with these letter grades. Consequently, there are no pre-defined numerical boundaries that determine final letter grades. These boundaries can only be defined at the end of the semester after all scores have been earned. At that point, boundaries for final letter grades can be defined such that they conform to the University's and Information System Department's official guidelines. **This means that it is not appropriate to assume that a given numerical score corresponds to a particular letter grade.**

It is also important to understand that final letter grades reflect academic achievement and not effort.

While I am more than happy to correct mistakes in the computation of grades and grade recording errors, in all other situations final letter grades are not negotiable.

A student's final course grade will be based on scores received on the homework assignments, exams, quizzes, project and class participation, as follows:

- **(20%) Homework assignments:** This class will have mainly programming assignments. Typically, the student will have two weeks to work on the assignment. The assignments are due at the beginning of class (4.30pm) on the day they are due. In each assignment handout, I will specify whether a soft copy or a hard copy submission is expected. If a soft copy is expected, follow the instructions in the assignment handout on how to submit the assignment. If a hard copy is expected and if you wish to drop off the homework before the class, and I am not in my office then leave the assignment in my mailbox or slide it under my door *and* send me an email informing me that you have done so. If you do not receive a confirmation email from me, there is no guarantee that I received your assignment. If you come late to class on a day the homework is due, then you will not be able to turn in your homework. Plan on dropping off the homework in advance, if you think you will be late to class on a particular day. Be aware that you may not have access to my office/mailbox on weekends/in the evenings and plan accordingly. I will not accept assignments sent by email when a hard copy is expected. **Late assignments will not be accepted, no exceptions.**
- **(15%) Quizzes:** There will be a 10 minute quiz at the beginning of every class. The quiz will focus on material taught the previous week. The format of the quiz will be short answer, multiple choice, fill in the blanks, and true or false types of questions. Each student's **lowest two quiz grades will not be counted** toward their final grade. Makeup quizzes will not be given.

Quizzes will be given out promptly at 4.30pm every class. As a special courtesy to students who may not be able to make it to class on time because they have to walk quite a distance across campus between classes, students will be allowed to take the quiz if they show up to **class by 4.40pm**. In such cases, the student will be asked to take the quiz outside the class and rejoin the class upon completing the quiz. After 4.40pm, quizzes will not be handed out.

- **(20%) Project:** The course will have one project. The project puts together several of the concepts you learn throughout the semester. More details on the project will be given later in the semester (see schedule for deliverable due dates, the project handout will contain further details).
- **(2 * 20%) Exams:** There will be *two* exams in this course. Please check the schedule for the dates. In general, make up exams will not be given. If you know that you will have to miss an exam in advance, talk to me about it. If I am given sufficient notice, and I agree that your absence cannot be avoided, then I can arrange a makeup exam. If you miss an exam due to an unforeseen emergency, then we can arrange a makeup exam if I agree that your absence was due to a bona fide emergency and you can document that emergency to my satisfaction. In all cases, you should be warned that makeup exams are generally more difficult and more prone to errors and misunderstandings than the original exam, simply

because I do not have the time to devote to writing a makeup exam as carefully as I do other exams.

- **(5%) Class participation:** This portion of the grade is a subjective assessment of a student's class attendance, contribution to class discussions and exercises, the student's attendance, punctuality, willingness to seek help from classmates and from me, and *ability to conduct himself/herself appropriately*.

Getting Help - Questions and Concerns

Email is the BEST way to get in touch with me. I will try to answer your email as soon as possible. When I send out emails to the class on the class list, make sure you are receiving them. **You are encouraged to use your UMBC e-mail account for all e-mail correspondence.**

Academic Honesty

Cheating will not be tolerated in this course. By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to a grade of 0 on the relevant assignment, failure of the entire course, suspension, or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, or the UMBC Policies section of the UMBC Directory. Every student should read and fully understand the information given at <http://www.umbc.edu/integrity>

In particular, for this course:

- Cheating will not be tolerated on the exams, assignments or project. Cheating includes gaining specific information about the exam before taking it (e.g. in the case of a make-up exam).
- Plagiarism (misrepresenting as your own work any part of the work performed by another person, including Internet sources) applies to the team project in that the team must actually work with a real (not fabricated) customer organization and must not fabricate any information that should come from that organization. Also, no part of any project completed for any other course or any other semester may be used as part of the project deliverables for this course this semester.
- Academic dishonesty also includes interfering with another student's work or aiding another student to commit academic dishonesty.

Cell Phones, Beepers, and Other Devices

All cell phones and beepers must be turned off during class ("vibrate" mode is acceptable). If you must make a call, please leave the classroom. If you disrupt the class you will be asked to leave the classroom.

Tentative Schedule (subject to change)

Below is a tentative schedule of lecture topics, exams, and homework due dates. Unless otherwise mentioned, all the readings are from the Savitch book. I reserve the right to adjust this schedule for any reason, but I will make every effort to advise you of any changes well in advance. The schedule will be updated on the web page, so please look at it frequently there to make sure you are aware of any changes.

Week	Day	Topic	Reading	Quizzes	Homework/Project
Wk 1	9/1	Labor Day (holiday)			
Wk 2	9/8	Introduction to Java programming	Chapter 1		HW1 out
Wk 2	9/10	Last day to drop without 'W'			
Wk 3	9/15	Basic Computation	Chapter 2	Quiz 1	
Wk 4	9/22	Flow of control: Branching	Chapter 3	Quiz 2	HW1 in, HW2 out, Project out
Wk 5	9/29	Flow of control: Loops	Chapter 4	Quiz 3	
Wk 6	10/6	Exam 1			
		Defining Classes and Methods	Chapter 5	No Quiz	HW2 in, HW3 out
Wk 7	10/13	Defining Classes and Methods	Chapter 5	Quiz 4	
Wk 8	10/20	Defining Classes and Methods	Chapter 5	Quiz 5	HW3 in, HW4 out, Project Design in
Wk 9	10/27	More about Objects and Methods	Chapter 6	Quiz 6	
Wk 10	11/3	More about Objects and Methods, Using Arrays	Chapter 6, 7	Quiz 7	HW4 in, HW5 out
Wk 10	11/5	Last day to drop class with 'W'			
Wk 11	11/10	Exam 2			
		Using Arrays	Chapter 7	No Quiz	
Wk 12	11/17	Exception handling	Chapter 9	Quiz 8	HW5 in, HW6 out
Wk 13	11/24	Streams and File I/O	Chapter 10	Quiz 9	
Wk 14	12/1	Programming with Inheritance	Chapter 8	Quiz 10	HW6 in
Wk 15	12/8	Project Demos		No Quiz	Project Code in