

Syllabus for CMPS 360: Programming in Java, Spring 2009

Prerequisite: CMPS 260

Lecture: TR 11:00 AM to 12:15 PM, ACTR 106

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Class Web Pages: [Moodle and http://fidelio.cacs.louisiana.edu/360/](http://moodle.louisiana.edu/360/)

Course Description: Programming in the Java programming language.

Goals: Students are to be exposed to and become familiar with Java syntax and semantics, use of interfaces, packages, threads, I/O, collections and various Java Application Programming Interfaces (APIs), creation and use of Java programs, including GUI applications, use of Jars, socket servers and clients, Servlets, servlets/JavaServerPages/JavaServerFaces, JavaDB and database clients.

Learning Outcomes: Upon successful completion of this course, students will have the ability to

- Use a high level tool to design, create and distribute Java applications and services, object oriented project classes using UML, GUI interfaces for Java applications, GUI interfaces for Java based web services.
- Analyze documentation of standard classes (non-generic and generic) from standard and non-standard API binaries, object oriented Java code, including inheritance, polymorphism, abstract classes, interfaces and nested classes, and incorporate these binaries and code into Java projects.
- Use classes of multiple Input and Output API binaries and incorporate these binaries into Java projects.
- Use classes of multiple Socket binaries and incorporate these binaries into Java projects that act as socket clients and servers.
- Design and create object oriented Java projects, use Java code that includes inheritance, polymorphism, abstract classes, interfaces and nested classes, and incorporate this code into Java projects.
- Incorporate threads and thread management into Java projects.
- Access databases inside of Java projects.
- Use the Swing API to create interactive applications and the JavaServer Faces Framework to create interactive web services.
- Analyze XML files as used in a high level tool and to as part of a JavaServer Faces Framework web service.
- Perform as a knowledgeable and competent entry level Java programmer.

Prerequisite Knowledge and Experience by Topic: Basic object oriented programming concepts, basic data structures and associated algorithms in an object oriented programming language, C++ style syntax, and experience creating classes and objects in an object oriented programming language

Textbook: [Introduction to Java Programming, 7th Edition, Comprehensive Version](#); Y. Daniel Liang;
Pearson/Prentice Hall; 2009; ISBN-10: 0-13-601267-1; ISBN-13: 978-0-13-601267-2

Grading:	Assignments and Projects	40%	Grading Scale:	at least 90% or above	A
	Attendance	10%		at least 80% but below 90%	B
	Exams (2, 25% each)	50%		at least 70% but below 80%	C
				at least 60% but below 70%	D
				below 60%	F

Policies:**1) Computer Accounts:**

Changes or corrections to programming assignments and other class information are posted on the class Moodle account and may also be distributed via email to your UCS email account. Programming assignments and projects are submitted via the class account on Moodle. It is your responsibility to activate and maintain your university UCS account in order to receive email and access the Moodle class account. It is your responsibility to check your UCS email account regularly.

2) Attendance:

Attendance is important. Discussions, demonstrations and examples will take place in class that will not be available in other forms. Excessive absences may be considered grounds for removal from the course. A sign-in sheet will be used to take roll at each class meeting. It is the student's responsibility to sign the sheet. You are responsible for all missed work, regardless for the reason for an absence. You are responsible for getting any notes or material you may have missed. Absences for University sponsored events will be treated like any other absence.

3) Assigned Work

- a) It is your responsibility to do and keep up with the assigned reading as scheduled in the topics list at the end of this document.
- b) Assignments and projects will be exercises in the use of one or more specific techniques in Java or in subjects related to Java. Assignments and projects differ in size and difficulty. Assignments will be the smaller of the two and will focus on specific techniques. Assignments may overlap.
- c) All code is to be written by you and only you. You may seek assistance with a programming problem from the 360 instructor, grader, any Java text (electronic or printed) or static online sources. However, you must be the author of your code. You may not work in groups, nor may you seek assistance from any person (local or remote) unless specifically directed to do so in writing by the instructor. Assignments and projects must be submitted in electronic form via the class Moodle account. Late assignments and projects are not accepted. Programming assignments may be completed on any computer system in any operating system. However, programming assignments **MUST COMPILE ON THE SUN JAVA 1.6.xx SDK COMPILER AND RUN ON THE JRE VERSION AS DISTRIBUTED TO EACH MEMBER OF THE CLASS AT THE BEGINNING OF THE SEMESTER TO BE ACCEPTED.**
- d) In addition to the standard initial documentation, every program file (assignment or project) must include the following certification-of-authenticity comment:

I certify that this assignment is entirely my own work.

or:

I certify that this solution to the assignment is entirely my own work, but I received some assistance from {name or source}. Description of the type of assistance. (For example, if you consulted a book, and your solution incorporates ideas found in the book, give appropriate credit; that is, include a bibliographical reference.)

4) Grades:

Keep track of all your grades. It is your responsibility to make sure they are correct. All questions regarding any graded work **MUST** be brought to the attention of the instructor or grader within **ONE WEEK** of when the work was returned to the class.

Etceteras:

- 1) The last day to drop this class with a "W" is as set by the University for this semester.
- 2) Incomplete Grades are given in this course only under unusual / special circumstances.
- 3) The Computer Science Department Policies regarding attendance, collaboration and auditing classes are in effect.
- 4) Students are required to read the Academic Honesty section in the University Undergraduate Bulletin or the University Graduate Bulletin.
- 5) Holidays when this class will not be held are as set by the University for this semester.
- 6) Students with special needs should report to Services for Students with Disabilities. If you take your exams through that office, your appointments must be made for the same time and day as the class takes their exams. Note that it is your responsibility to make the appropriate appointment with SSD and to provide a completed appointment sheet to the instructor for each exam.

Tentative Topic List for CMPS 360

1. Introduction
2. C++ to Java, More or Less
 - (a) review of basic object orientation
 - (b) basic Java (reading: Chapters 1 – 8.6, 9, 20;)
 - i. compile and run from command line
 - ii. NetBeans IDE, distribution in Jars, javadocs
3. Really, Really, Really Object Oriented Java
 - (a) inheritance and polymorphism (reading: Chapters 10)
 - (b) exceptions and assertions (reading: Chapter 18)
 - (c) abstract classes and Interfaces (reading: Chapter 11)
 - (d) UML to Java in NetBeans
4. Generics and Collections
 - (a) generics (reading: Chapter 8.7, 8.8, 21)
 - (b) generic collections API (reading: Chapters 22, 24, 25)

***** Exam #1 *****

5. More on I/O (reading: Chapter 19)
6. Applications with GUIs
 - (a) GUIs from scratch (as time permits) (reading: Chapters 13-17, 33, 34)
 - (b) building GUI Applications using Matisse
7. Multi-threading (reading: Chapter 29)
8. Socket Clients and Servers (reading: Chapter 30)
9. Java Enterprise Edition Overview
10. Database Programming (reading: Chapter 37)
11. Servlets, JavaServer Pages (reading: Chapters 39, 40)
12. Java Server Faces Framework (reading: Chapter 41)
13. Miscellaneous Topics in Java

***** Exam #2 *****