



Boston University

College of Arts and Sciences

Computer Science Department

CS 108: Application Programming, Spring Semester 2006
<http://www.cs.bu.edu/courses/cs108/>

Class Meetings:

Tue and Thu
12:30 pm – 2:00 pm
@ CAS 226

Aaron Stevens, Instructor

Email: azs@bu.edu.

Always include "CS111" in the subject.

Office: PSY 228B

Office hours:

Tue 3:00-4:00, Wed 4:00-6:00, Thu 11:00-12:00

Lab Meetings:

Section A2: Tue 3:30pm-5:00 pm

Section A3: Tue 5:00pm-6:30 pm

@ CS teaching lab (EMA 304)

Alexandra Stefan, Teaching Fellow

Email: alexst@cs.bu.edu.

Always include "CS108" in the subject

Office: MCS 178

Tutoring hours (@ the undergrad CS lab):

Mon 7:30-8:30pm, Fri 11-12

Course Description

This course will introduce students to the software development lifecycle. A major portion of the course will be dedicated to learning the basics of object-oriented programming in Java, as well as practical libraries and interfaces for developing useful business applications. In addition, it will introduce the software design processes and tools for developing software applications. The course will culminate with a software development team project, which will simulate the process used by a team of software development consultants.

Our emphasis in teaching programming in this course centers on the following:

1. Using objects as building blocks for program development.
2. Developing elegant and efficient code from an abstract specification;
3. Literate programming (writing a program that can be read by a human as well as a machine);
4. Programming methodology, which involves
 - o Planning out the design of a program using object-oriented design and appropriate features of Java
 - o Methodical and efficient development of the implementation using step-wise refinement and incremental testing and debugging (using appropriate debugging tools)
 - o Being able to convince yourself of the correctness of the implementation by logical reasoning.

What You Need to Know About Computer Programming¹

I believe anyone can succeed at learning Java. This is a first course in computer programming, and there are no formal pre-requisites. The only expectation of students' computer skills before taking this class is to be comfortable with using email, web browsing, and copying and pasting text. In addition, familiarity with high school-level algebra (e.g. MA 118) is assumed.

In addition, you will need time, and this is more important than you can imagine. Many people believe that computer programming is extremely difficult, and that the code is written in some arcane syntax understandable only by experts. Although some parts of the process are indeed complex, most of the source code required for homework assignments can be easily understood.

So, what makes programming so hard? It's not the difficulty: It's the time required to achieve any decent results. The homework assignments will take time, so make sure you have plenty of it.

¹ Adapted from text in "Core Techniques and Algorithms in Game Programming," Daniel Sanchez-Crespo Dalmau.

Books and Software

- Required: Anderson, Julie, and Herve J. Franceschi: *Java 5 Illuminated*, 2005.**
Course Pack for CS108, Prentice Hall Custom Publishing, 2005.**
- Recommended: Horstmann and Cornell: *Core Java 2, Volume I – Fundamentals (7th Edition)*, 2004**
Eckel, Bruce: *Thinking in Java*, 4th Edition. Prentice Hall, 2005.
Available free on the web at www.mindview.net.
- JDK We will be learning the Java programming language, using the Java Development Kit (JDK) version 1.5.0, available from java.sun.com.
Visit the class webpage for downloading instructions.
- Eclipse IDE We will be using the Eclipse Integrated Development Environment (IDE) to write, compile, test and debug Java code. Eclipse is available from www.eclipse.org.
Visit the class webpage for downloading instructions.

** Available at the bookstore, and on reserve at the Science and Engineering Library.

Additional Reference Sources

The Java API Specification is the MOST IMPORTANT REFERENCE that you will use while programming. It is available at <http://java.sun.com/j2se/1.5.0/docs/api/index.html>.

Grading

The following percentages are tentative and may be changed at my discretion at any time:

Attendance, participation, 2-minute quizzes*, and required labs	10%
Homework Assignments (about 10)	30% **
Team Project and Presentation	15%
Scheduled Quizzes (6)	20% **
Final Exam (written)	15%
Final Exam (lab component)	10%

* **2-minute quizzes** are occasional, unannounced, single-question quizzes that will be given sporadically throughout the semester. Points will be awarded for attendance and answering the question correctly. For labs, points will be awarded for attendance as well as submitting your work done during the lab.

** At my discretion, the lowest one homework score, and the lowest one quiz score, will be dropped. **The last homework is required**, and will not be dropped under any circumstances.

Withdrawing from the Course

If you feel that you want to drop or withdraw from the class, please come talk to me about it as early as possible; I want to help you succeed, but you need to ask for help.

The last day to drop a class (without a “W” grade) is **Friday, February 17, 2006**.

The last date to withdraw and receive a “W” grade is **Friday, March 17, 2006**.

Policies and Miscellaneous

Attendance and discussion/asking questions are expected and will be reflected in your grade.

If you must be absent, please email me in advance to let me know why you won't be in class, and to let me know what you will do to keep up with the assignments. CS108 is not a correspondence course. Inadequate attendance is sufficient grounds for a grade of F.

Assignments are due on the date stated on the homework assignment (to be posted on web).

- Assignments received within 0-24 hours of the deadline will be accepted with a 25% penalty.
- Assignments received within 24-48 hours of the deadline will be accepted with a 50% penalty.
- Assignments received more than 48 hours past the deadline will not be graded.

Plan your work accordingly, and work on all assignments as soon as they are given so you can ask questions in class and get assistance in the labs and tutoring hours.

There will be no make-up quizzes or exams.

If you have to miss a quiz for a medical reason or other extreme circumstances, you must inform me in advance; it will count as your "lowest one quiz score to be dropped." If you miss more than 1 quiz, you will receive a 0 for each missed quiz.

Plagiarism, Collaboration, and Collusion

All CS108 homework assignments are independent work.

It is the student's responsibility to know and understand the provisions of the CAS Academic Conduct Code, copies of which are available in room CAS 105.

In addition to the definition of plagiarism in the CAS Academic Conduct Code, **with respect to CS108, plagiarism is specifically defined to include (but is not limited to) the following:**

- collaboration on the code you write
- copying any part of someone else's program, even if you have modified the code
- sharing or giving your code or even a subset of your code to another student to review
- reviewing another student's solution (including from past semesters)

What is acceptable cooperation?

Cooperation is recommended in understanding programming concepts and system features. You are encouraged to discuss the problem statements and expected output, and to seek and receive help with the Java programming language and Eclipse IDE or other debugging tools.

However, each student must write his or her own code and other deliverables independently.

It is my policy to use automatic plagiarism detection software, and suspicious similarities will be uncovered. I am required by Boston University and the College of Arts and Sciences to refer cases of academic misconduct to the Dean's Office. The University takes acts of cheating and plagiarism very seriously; first time violators are routinely suspended for a semester.