

New Course Announcement

CSE 494M / J: Software Development in Java

Quarter: Au 2007 (and again in Sp 2008)

Time: MWF 9:30–10:18

Credits: U 3

Call No.s: 21622-0(M), 21620-9(J)

Official (Shorter) Description

Introduction to professional software development in Java; tools for coding, testing, version control, documentation; language-specific best practices stemming from principles of component-based design.

Unofficial (Longer) Description

This is a first course in Java (but not a first course in programming). That is, no prior experience with Java is necessary, but familiarity with the fundamentals of programming in an imperative language is assumed (e.g., selection, iteration, recursion, parameter passing, and data structures).

Course content is divided into three roughly equal focus areas: language mechanics, tool support, and best practices. For language mechanics, the basic constructs of Java 5 are presented along with the most commonly-used packages. For tool support, students use a variety of technologies typically associated with professional software development in Java. Finally, several industry-standard best practices and programming patterns are covered. The motivation and justification for these practices is discussed in terms of the manifestation in Java of sound component-based approaches as seen in RESOLVE.

Prerequisites

CSE 321. No prior Java experience is expected.

Content Summary

1. Introduction to Java 5: classes, objects, interfaces, inheritance, exceptions, iterators, generics.
2. Standard libraries: collections, logging, IO, networking, Swing.
3. Tools for software development: Eclipse, JUnit, CVS, and Javadoc.
4. Best practices: Separation of abstract state and concrete representation, coding to the interface, test-driven development, behavioral subtyping, factories and single-point of control over change, defensive copying, immutable objects.

Notes

1. CSE/CIS majors should sign up for the "M" section (others must use the "J" section instead).
2. 494M/J satisfies the 459 core requirement. In addition, the remaining 2 hours from 494M/J can be counted as technical elective hours for any option. While 494M/J excludes the use of 459.23 (Java) as another technical elective, any other 459 course can still be used (and all 3 credit hours from 494M/J can then be counted as technical electives).
3. For more information, contact Prof. Paul Sivilotti (<http://www.cse.ohio-state.edu/~paolo>).