University of Washington
Computer Science & Engineering 331: Software Design/Implementation
Course Syllabus, Spring 2011

Instructor

Marty Stepp (stepp@cs). Office: CSE 636. Phone**:** (206) 685-2181. See course web site for office hours.

Course Overview

This course explores concepts and techniques for the design and construction of reliable and maintainable software systems in modern high-level languages. The prerequisite for this course is CSE 143, and we assume that you come to the course with significant experience in either Java, C++, or a similar object-oriented language. Core topics include:

- program specification and documentation via comments, Javadoc, and related techniques
- program structure and design; object-oriented design and design patterns
- object-oriented features of Java such as inheritance, interfaces, polymorphism, and generics
- types, super/subtypes, classes, abstract data types (ADTs), subtyping
- deeper Java coverage, e.g. exceptions, reflection, threading, enumerations, collections, packages, annotations
- unit testing, debugging, and other approaches for program correctness
- learning and using a large application programmer interface (API)
- using various software tools such as development environments (IDEs), testing frameworks, and version control
- event-driven programming using graphical user interfaces
- working in groups, including a significant group programming project at the end of the course

Lecture and Section Times

Lecture: MWF   10:30 AM - 11:20 AM, Thomson (THO) 125
Section: Th   8:30 AM -   9:20 AM and 9:30 AM - 10:20 AM, Electrical Engineering (EEB) 054

Discussion Sections

You will be expected to participate in a weekly discussion section, held each Thursday morning (see course web site for details). In section we will answer questions, discuss sample problems in more detail than we can in lecture, go over common errors in homework solutions, and learn useful software tools related to assignments and projects.

Though attendance in section and lecture are strongly encouraged, no part of your grade comes from attendance, in-class participation, or in-class assigned work. In other words, attendance at all lectures and sections is optional, and you will never receive a direct deduction or penalty to your grade from choosing not to attend a particular lecture or section (except for exam days).

Course Web Site and Email

- http://www.cs.washington.edu/331/

You are expected to check the course web site and your @cs.washington email daily for important announcements.

Textbook

- Horstmann, C. *Core Java, Volume I: Fundamentals, 8th Edition*. ISBN 9780132354769. Required.

Though no homework problems will be assigned directly from the textbook, it is an excellent Java reference and we encourage you to purchase it. You can also use it during the open-book exams in this course.

Grading

35%	weekly homework assignments	
25%	multi-week group project	
15%	midterm	(**Monday, May 9, 2011**, *in class*)
25%	final exam	(**Monday, June 6, 2011, 8:30 - 10:20 AM, THO 125**)

This maps to the 4.0 scale roughly as follows. You will get at least the grade below for the percentage shown.
        90%: at least 3.5,   80%: at least 2.5,   70%: at least 1.5,   60%: at least 0.7.

Historically the median (middle) grade for this course is around 3.2 - 3.3 though we do not promise this exact range.
We will post scores periodically so that you can see where you stand with respect to your classmates.

Computer Access and Software

The CSE building's basement lab machines have been set up with the necessary software for this course, such as the Java Development Kit (JDK) and the Eclipse editor. The course web site contains links to download this software free of charge if you want to work at home. If you work from home, it is your responsibility to ensure that your program will run on the school's machines, since that is the environment in which your code will be tested and graded.

Exams

Our exams are open-book for the *Core Java* textbook but closed to other resources. You may not bring written materials, such as textbooks, printed handouts, homework assignments, or programs. No electronic devices may be used.

Make-up exams will not be given except in case of a serious emergency. If you must miss an exam, even if you are sick or injured, you must contact the instructor *before* the exam (or arrange for someone to do so). You must show evidence that you are physically unable to take the exam, such as a clear and specific doctor's note mentioning the date, exam, and reason. No make-ups will be granted for personal reasons such as travel, personal hardship, leisure, or to ease exam week schedules. No student will be permitted to take an exam early for any reason.

Homework

Homework consists of weekly programming assignments done individually and submitted electronically from the course web site. Programs will be graded on "external correctness" (behavior) and "internal correctness" (style and design). Disputes about homework grading must be made within **2 weeks** of receiving the grade.

Lateness

Each student receives **2 "late days"** for use on homework assignments. A late day allows you to submit a program up to 24 hours late without penalty. For example, you could use a late day to submit a program due at Tuesday 9pm on Wednesday by 9pm with no penalty. Once a student has used all late days, each successive day that an assignment is late will result in a loss of **10% credit** on that assignment. Regardless of how many late days you have, **you may not submit a program more than 2 days after it is due** or after the last day of class. Students will not be given extensions unless they have extenuating circumstances as decided by the instructor. Late days may not be used on the group project. In the case of other late group assignments, each member will be penalized individually by deducting their points or late days.

Academic Integrity and Collaboration

Some assignments will be completed in small groups, in which case you are permitted to collaborate in detail with your group partner(s). Other assignments must be completed individually; in such cases, all code you submit must be your own work. You may discuss general ideas with someone else about how to approach an assignment, but never specific details about the code to write. Any help you receive from or provide to classmates should be limited and should never involve details of how to code a solution. You must abide by the following rules:

- You may not work as a partner with another student on an individual assignment, nor may one group work in partnership with another group on a group assignment.
- You may not show another student/group your solution to an assignment, nor look at their solution.
- You may not have another person or group "walk you through" an assignment, describe in detail how to solve it, or sit with you as you write it. You also may not provide such help to another student/group. This includes current or former students, tutors, friends, TAs, paid consultants, people on the Internet, or anyone else.
- You may not post your homework solution code online to ask others for help. This includes public message boards, forums, file sharing sites and services, or any other online system.

Under our policy, a student who gives inappropriate help is equally guilty with one who receives it. Instead of providing such help to someone who does not understand an assignment, point them to other class resources such as lecture examples, the textbook, the IPL, or emailing a TA or instructor. You must not share your solution and ideas with others. You must also ensure that your work is not copied by others, such as making sure to log out of shared computers, not leaving printouts of your code in public places, and not emailing your code to other students or posting it on the web.

We enforce this policy vigorously by running similarity detection software a few times per quarter over all submitted student programs, including programs from past quarters. Students who violate the policy are offered reduced scores and sometimes sent to a University committee. This can lead to marks on permanent academic records. Please contact the instructor if you are unsure whether a particular behavior falls within our policy.