

# CS 494: Object Oriented Design

Spring 2006

<http://www.cs.virginia.edu/~cs494>

**M/W/F 12:00-12:50**  
**MEC 339**

## Instructor:

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Office hours are posted on the website

Other course personnel (teaching assistants, etc.) and their office hours will be posted on the course website.

**Course objectives:** Students who complete the course will:

- Create a requirements model using UML class notations and use-cases based on statements of user requirements, and to analyze requirements models given to them for correctness and quality.
- Create the OO design of a system from the requirements model in terms of a high-level architecture description, and low-level models of structural organization and dynamic behavior using UML class, object, and sequence diagrams.
- Comprehend enough Java to see how to create software that implements the OO designs modeled using UML.
- Comprehend the nature of design patterns by understanding a small number of examples from different pattern categories, and to be able to apply these patterns in creating an OO design.
- Given OO design heuristics, patterns or published guidance, evaluate a design for applicability, reasonableness, and relation to other design criteria.

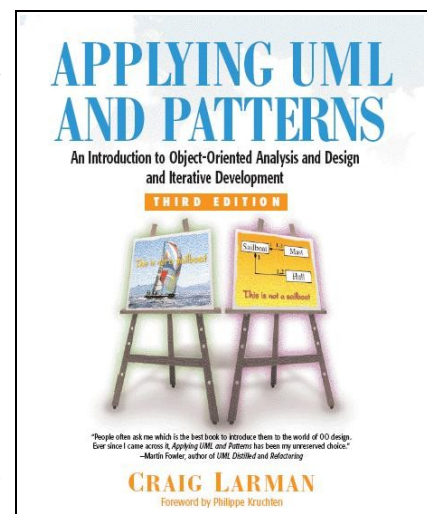
**Textbook:** Applying UML and Patterns, 3<sup>rd</sup> edition, by Craig Larman, Prentice Hall, ISBN 0131489062. The book is required, and is also on reserve at the Engineering library. Also, your favorite programming language reference book (or online reference) is highly recommended.

**Grades:** Grades will be calculated by the following formula:

- 25%: Homeworks
- 15%: Presentations
- 30%: Midterms
- 30%: Project

Note that I reserve the right to modify this grade scheme slightly as the semester progresses. Any modifications (other than described below under 'exams') will be e-mailed to the course e-mail list so that everybody is duly notified.

**Exams:** There will be 2 midterms, in class, on Monday, 20 March, and Friday, 21 April. Tests are closed-book. The tests will cover the assigned readings as well as the material reviewed in class – some of this material will be the same, some will be different. I reserve the right to institute unannounced pop-quizzes (and make appropriate modifications to the syllabus) if I feel people are not doing their reading, or if attendance drops off. There is no final exam, but instead a course project (see below).



**Homeworks:** There will be a few (4-6) smaller homeworks throughout the semester. All will be submitted through an online submission system. Any diagramming homeworks or assignments will be done in Microsoft Visio – we will provide a licensed copy of this software for all students registered for this course.

**Project:** There will be a larger project, of which details will be discussed a week or two into the semester. This is in place of homeworks for the last month or two. You will be required to provide a demonstration of your project to the course personnel at the end of the semester (this is instead of a final exam). It is expected that some of the homeworks will help to contribute to the project.

**Presentations:** On a few lecture dates (which will be announced well ahead of time), there will be presentations to be made by the students. Everybody will be randomly split into a dozen (or so) groups, and each group will have to make at least one presentation throughout the semester. Only 3 (or so) groups will be able to present on any given day (as lecture is only 50 minutes long), and there will be no advance notice as to who is presenting on each day. Thus, each group will have to prepare for each of the presentation days. This preparation is a means to have you learn and review the material, not needless busy-work. Note that it is not necessary for the entire group to actually give the presentation, but the entire group must help prepare for the presentation. Lastly, groups can be called more than once (and this will occur!), so once you give your first presentation, you must still prepare for future presentations.

**Miscellaneous:** There will be no class on Friday, 3 March (the Friday before spring break).

**Honor Policy:** The University of Virginia Honor Policy is in effect in this class. As a student in the course you agree to follow the following principles.

- Unless otherwise specified, the only allowed collaboration for the homeworks and labs is the discussion of ideas; no collaboration is allowed on the exams and lab quizzes. No code or solutions are to be distributed to other students either electronically (i.e. e-mail) or on paper.
- Unless otherwise noted, exams and individual assignments will be pledged that you have neither given or received unauthorized help.
- When there is doubt regarding the honorability of an action, you will ask before doing it.
- You are not allowed to describe problems on an exam to a student who has not taken it yet. You are not allowed to show exam papers to another student or view another student's exam papers while working on an exam.
- You are not allowed to debug your fellow student's homework assignments – you may help debug your fellow student's labs. This will be discussed in more detail once we start getting into writing (and debugging) Java programs.

Any honor violation will be referred to the honor committee, **and will result in an immediate failure for the course**, regardless of the outcome of the honor trial or your other grades. No exceptions!