

CS 415: Programming Languages

Fall 2005; <http://www.cs.virginia.edu/~cs415>

M/W/F 10:00-10:50
MEC 216

Instructor:

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Office: Olsson Hall, room 228D

Office hours: M 3:30-4:30, W/F 11-noon

Prerequisites: CS216 and CS333 with grades of C- or above.

It is assumed that students entering this class have the following background:

- Experience with an OOP language (such as Java or C++), from CS 101/201
- Experience with a procedural language (such as C), from CS 216
- Familiarity with an assembly language, from CS 216 or CS 333

Course Description: (from the undergraduate record): Presents the fundamental concepts of programming language design and implementation. Emphasizes language paradigms and implementation issues. Develops working programs in languages representing different language paradigms. Many programs oriented toward language implementation issues.

Objectives: Students who complete the course will:

- Develop a greater understanding of the issues involved in programming language design and implementation
- Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms
- Implement several programs in languages other than the one emphasized in the core curriculum (Java/C++)
- Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing
- Develop an understanding of the compilation process

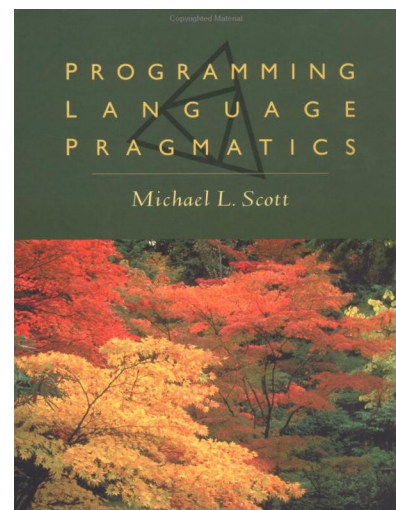
Textbook: Scott, Michael. Programming Language Pragmatics.

Morgan Kaufmann: 2000. Textbook errata online at

<http://www.cs.rochester.edu/u/scott/pragmatics/errata.html>.

Grades: Grades will be calculated by the following formula:

- 35% - Programming Assignments
- 15% - Individual project & presentation
- 20% - Midterm
- 25% - Final exam
- 05% - Class participation



The grades will follow a standard curve: once the final numerical grade has been computed according to the above formula, the average grade will get somewhere in the B range. Doing significantly better than the average will receive an A. Doing significantly worse than the average will receive an F. Class participation will be based partly on attendance (and being conscious).

Exams: There will be one midterm exam (on Wednesday, 12 October, during class) and a final exam (on Tuesday, 13 December from 9:00 a.m. to noon). Both exams are closed book.

Homeworks: There will be five homeworks given out throughout the semester, which constitute 30% of your grade. Each homework will be in a different programming language. In an effort to help the learning curve when starting a new programming language, a separate lecture will be devoted to explaining each language. There will also be a final project, in a language of your choice, which constitutes 15% of your grade.

Late Policy: Each person will be allowed ONE late day (24 hours) this term. The late policy is 30% off for first 24 hours late, 50% off for the next 24 hours. Assignments are not accepted after 48 hours from original due date. Note that using your late day extends this calendar by 24 hours, so that you *could* turn the assignment in up to 72 hours after the original due date.

Honor Policy:

- The University of Virginia Honor Policy is in effect in this class. As a student in the course you are agreeing to the following principles.
 - When there is doubt regarding the honorability of an action, you will ask before doing it.
 - When possible to do so with honor, you will help your fellow classmates learn and improve.
 - You will get help from classmates and course staff before succumbing to frustration. Frustration leads to the dark path.
- Unless otherwise noted, exams and individual assignments will be pledged that you have neither given or received unauthorized help.
- By default, the only allowed collaboration is the discussion of ideas. No code or solutions are to be distributed to other students either electronically or on paper.
- 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. An academic irregularity on any exam may result in failure of the course and be brought to the honor committee.
- If you have questions on what is allowable, ask!