Computer Engineering 171
Design and Implementation of Programming Languages

Winter 2013
Mondays, Wednesdays, and Fridays
10:30 am – 11:35 am

Instructor

Instructor:	Darren Atkinson
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Office hours:	Tuesdays 1:15–2:15 pm and Wednesdays 9:30–10:30 am
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Textbook

Ravi Sethi, *Programming Languages: Concepts and Constructs*, Addison Wesley, 2nd edition, 1996.

Grading

Homework:	20% (2/1, 2/15, 3/1, 3/15)
Midterm exams:	40% (1/30 and 2/27)
Final exam:	40% (3/18)

Overview

1. Common language concepts: expressions, grammars, syntax trees

2–3. Imperative languages: Pascal, C

4–5. Object-oriented languages: C++, Smalltalk, Java

6–7. Functional languages: ML, Scheme, Lisp

8–9. Logical languages: Prolog

10. Concurrency: Ada, Java

Learning Outcomes

Students will . . .

1. Write programs in several programming languages across different programming language paradigms (e.g., procedural, functional, logical, object-oriented).
2. Specify, infer, and use types in the type system of a programming language.
3. Compare and contrast control structures and mechanisms such as iteration and recursion across different programming languages.
4. Compare and contrast different parameter passing and evaluation strategies.
5. Explain and use different name-value binding (i.e., scoping) implementations.

Policies

Disability Accommodation Policy

To request academic accommodations for a disability, students must be registered with Disabilities Resources located in Benson, room 216. If you would like to register with Disabilities Resources, please visit their office in Benson 216 or call (408) 554-4109. You will need to register and provide professional documentation of a disability prior to receiving academic accommodations.

Academic Integrity Policy

The University is committed to academic excellence and integrity. Students are expected to do their own work and to cite any sources they use. A student who is guilty of a dishonest act in an examination, paper, or other work required for a course, or who assists others in such an act, may, at the discretion of the instructor, receive a grade of F for the course.

In addition, a student found guilty of a dishonest act may be subject to sanctions up to and including dismissal from the University as a result of the student judicial process as described in the *Community Handbook*.

A student who violates copyright laws, including those covering the copying of software programs, or who knowingly alters official academic records from this or any other institution is subject to similar disciplinary action.