Computer Engineering 171
Design and Implementation of Programming Languages

Fall 2018
Mondays, Wednesdays, and Fridays
1:00 pm – 2:05 pm

Instructor

Instructor:	Darren Atkinson
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Grading

Exams: 90% (10/5, 10/19, 11/2, 11/16)
Presentation: 10% (11/26, 11/28, 11/30, or 12/5 (if necessary))

Overview

1. Common language concepts: expressions, grammars, syntax trees (2 lectures)
2. Imperative languages: Pascal, C (5 lectures)
3. Object-oriented languages: C++, Java, Smalltalk, JavaScript (5 lectures)
4. Functional languages: ML, Lisp, JavaScript, Scala (5 lectures)
5. Logical languages: Prolog (5 lectures)

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

Missed Exams

If you miss an exam, you must provide me with justification by no later than the next class period. At my discretion, a missed exam may be dropped and its weight given to the other exams. You are allowed a maximum of one missed exam. Any other missed exam will result in a zero.

In-Class Recordings

The *Student Conduct Code* ***prohibits students from making a video recording, audio recording***, or streaming audio/video of private, non-public conversations and/or meetings, inclusive of the classroom setting, without the knowledge and consent of all recorded parties, except in cases of approved disability accommodations.

Disability Accommodation Policy

If you have a documented disability for which accommodations may be required in this class, please contact Disabilities Resources, Benson 216, as soon as possible to discuss your needs and register for accommodations with the University. If you have already arranged accommodations through Disabilities Resources, please ***discuss them with me within the first two weeks of class***.

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.