Prerequisites

- **Courses:**
  - **CSE 219/260:** Programming
  - **CSE 220:** Computer Organization
  - **CSE 303:** Automata Theory (preferred)

- **Programming Experience:**
  - **C++:** Structures, pointers, malloc, STL, etc.
  - **UNIX:** Debuggers (e.g., gdb), make, etc.
  
  You can also pick these up as you go...
Organization

- Concepts and Basic Ideas in the lectures
- Concrete Implementation in a large programming project:
  
  *Build your own compiler in 5 (easy?) steps.*

  25% of final grade

- Other units of evaluation:
  - Two Mid-Term Exams (50% of final grade)
  - Final Exam (25% of final grade)

Textbook

Aho, Lam, Sethi, Ullman

*Compilers: Principles, Techniques, and Tools*

(2nd ed., Addison Wesley)
Effort Level

The effort required by this course is **High**

but so are the rewards:

- Hands on experience in large-scale programming (> 3000 lines of C code).
- Use of high-level tools.
- Exposure to inner workings of Object Oriented Programming.
- In-depth knowledge of how programs written in high-level languages are translated and executed.

Course Objectives

To learn the process of translating a modern high-level language to executable code.

- Learn the fundamental techniques from lectures, text book and exercises from the book.
- Apply these techniques in practice to construct a fully working compiler for a non-trivial Java-like called Decaf.

In the end, you should be able to compile small Java-like programs with your compiler, and see it actually work!
The Rules of the Game

Project work:
- 2-member team projects.
- Projects due on stated due date. No Extensions.
- Best 5 scores (out of possible 6) will be taken for programming projects.
- Limit discussion of projects to problems, not solutions.
- Cheating, illegal collaboration and plagiarism will be treated with maximum seriousness.

Course Support

Course web pages are hosted by the Blackboard system. Using Blackboard, you can access:

- **Course Material:** handouts, homeworks, notes, etc.
- **Course Announcements:** check these regularly.

All homework assignments will be submitted via the Blackboard system.
Course Discussion Board

- Use this to discuss any course-related material: lectures, homework problems, exams, etc.
- If you have any questions on the material, first check to see if any one else had the same question as you have, and whether the question has been answered already; otherwise post the question on the board.
- We’ll try to answer all questions on the board asap: within 24 hrs for normal days, and much quicker near exam/homework deadlines.

Questions

How to contact course staff (i.e., me!):
- Post your question on the discussion board.
- Meet me during my office hours (or fix an appointment).
- Send me email. (Post on discussion board unless the question is personal.)