CS 6110

Advanced Programming Languages
Programming languages!
Programming languages!

- Theory
- Machine Learning
- Formal Verification
- Domain-Specific Languages
- Programming Languages
- Architecture
- Compilers
- Semantics
- Program Analysis
- Types
- Networks
- Security
Programming languages in 6110

Formal foundations:

— Semantics: operational, denotational, axiomatic
— Reasoning and proofs about programs

Practice & implementation:

— Compilers, optimization, run-time systems
— Static analysis
— Automated verification
Prerequisites

Math stuff:

— Basic set theory
— Writing rigorous, formal proofs
— Induction

Comfort with functional programming
Logistics

Schedule, lecture notes, lots of details:

http://www.cs.cornell.edu/courses/cs6110/2017sp/

Office hours:

— me: Monday & Wednesday, 11am–noon, Gates 411A
— Chin Isradisaikul: Tuesday & Thursday, 3–4pm, Gates G11

(starting next week)
Homework

Five two-week-long assignments
Mostly theoretical, some programming
You can (and should!) work with a partner

Exams

Prelim: take-home exam, just before spring break
Final: plain old exam
Grading

Problem sets: 30%
Prelim: 30%
Final: 40%

For homework, you have three 24-hour slip days and one dropped score.
Piazza

Please watch Piazza! Important stuff will be posted there.

Ask (and answer) lots and lots of questions.
In class

Respect is paramount

Interrupt early and often with questions