
CMCS 312: Programming Languages

Lecture 0: Course Information

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1 Where and When?

Classes will begin on Tuesdays and Thursdays at 3pm. We will meet at Ryerson 251.

2 Course Website

The course website will be your main source of information. So check regularly about homeworks, and announcements. The website is at <http://ttic.uchicago.edu/~umut/classes/321/>.

3 Course Description

The course studies the theory and practice of programming languages. On the theory side, we will learn about what makes a programming language safe and sound by using mathematical models of execution and types. On the practical side, we will implement projects in the Standard ML language.

You should consider taking this course if you are interested in (or want to learn about) programming languages, and/or high-level languages such as Standard ML.

4 Prerequisites

I will assume knowledge of basic mathematical concepts such as sets, and inductive proofs. If you are not readily familiar with these, then I recommend studying the first few chapters of the textbook. I will not assume any prior knowledge of the Standard ML language but you will be expected to learn the language on a step by step basis as the projects develop. Learning Standard ML will not be easy, but I expect that you will find it rewarding. You can come away by developing a completely new way of thinking about problems after learning Standard ML.

5 Teaching Assistant

George Kuan gkuan@cs.uchicago.edu is the teaching assistant for the course. He will hold office hours and weekly recitations, and grade homeworks.

6 Text Book and Course Software

The text book for the course is Benjamin Pierce's Types and Programming Languages.

For projects, we will use the Standard ML language and the SML/NJ implementation. For further information on SML, see Bob Harper's Programming in Standard ML book, and the documentation for the SML'97 Basis Library (these are both available on the class web site).

You should install SML/NJ on your computer. You can either have the system administrator install it for you, or install it yourself. For installation instructions see the SML/NJ website. Make sure that you install a relatively recent version (110.4x or later). Since the Compilation Manager (CM) underwent a recent redesign, you may experience incompatibilities with the earlier versions.

7 Homeworks, Quizzes, and Exams

The class will emphasize learning by doing. There will be a number of graded homeworks (about one a week), and a number of exercises. If you do your homeworks and exercises regularly, I expect that the exams will be reasonably stress free.

Homeworks will be due at the beginning of the class on the specified date. If the homework is a programming project then you should e-mail your code to your TA as a tar archive. If it is a problem set, then bring in your written solutions to the class.

At the end of some classes, I will assign and exercise. An exercise is to be solved and handed out at the beginning of the next class. On that class I will randomly ask one of you to solve one of the problems on the board.

8 Collaboration and Cheating

You are required to do and turn in your own homeworks. You can, however, talk with your colleagues as much as you want, as long as you credit your collaborators by clearly writing down the names of the people that you talked to. Although talking is fine, no exchange of solutions or code is allowed. As a rule, you must be able to reproduce all the work that you turn in.

No collaboration is allowed in exams.

9 Grading

Homeworks and exercises will make up 50% of your final grade. The midterm and the final will each make up 25% of your final grade.