
CMSC 336: Type Systems for Programming Languages
Course Information

Acar & Ahmed

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1 Instructors

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2 Where and When?

Classes will meet on Tuesdays and Thursdays from 1:30 to 2:50pm in Ryerson 277.

3 Course Website

Course website: <http://ttic.uchicago.edu/~pl/classes/CMSC336-Winter08/>
Check the website regularly for homework assignments and announcements.

4 Course Description

The course covers the theoretical foundations 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.

5 Prerequisites

We will assume knowledge of basic mathematical concepts such as sets, and inductive proofs. If you are not readily familiar with these, then we recommend studying the first few chapters of Pierce's book. We 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 we expect that you will find it rewarding.

6 Teaching Assistant

Matthew Hammer (hammer@tti-c.org) is the teaching assistant for the course. He will hold office hours and weekly recitations, and grade homework assignments.

7 Text Book and Course Software

The text books are:

1. Benjamin C. Pierce. Types and Programming Languages.
2. Robert Harper. Practical Foundations for Programming Languages.
(<http://www.cs.cmu.edu/~rwh/plbook/book.pdf>)

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.

8 Homework, Exercises, Exams

There will be a number of homework assignments (about one a week) and a number of exercises. If you do your homework and exercises regularly, we expect that the exams will be reasonably stress free.

Homework assignments will be due at the specified day at 10pm. All written homework assignments need to typeset (using LaTeX) and submitted via blackboard. For programming portions, you should submit your tar ball via blackboard.

At the end of some classes, we will assign an exercise. These need to be solved and handed in at the beginning of the next class.

You are required to achieve a minimum grade of B on each homework assignment. If your assignment does not meet this standard, then you have to re-submit within one week a revised solution that corrects any errors or omissions to achieve a grade of B.

9 Collaboration and Cheating

You are required to do your own homework. You can, however, discuss the problems and ideas for solutions with other students in the class. You must credit

the people that you talk to by clearly including their names in the homework that you turn in.

You are not allowed to share code. In particular, you cannot do the programming assignments in groups. Similarly, you cannot share or copy final solutions to non-programming problems.

The rule of thumb is that you must be able to reproduce all the work that you turn in.

No collaboration is allowed in exams.

10 Grading

Homework and exercises will make up 60% of your final grade. The midterm and the final will each make up 20% of your final grade.