CMCS 312: Programming Languages
Umut A. Acar  Lecture 0: Course Information  October 4, 2005

1 Where and When?

Classes will begin on Tuesdays and Thursdays at 1:30. We will meet at the TTI Conference room (room 264).

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.

5 Text Book and Course Software

The text book for the course is Benjamin Pierce’s Types and Programming Languages (errata.)

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.

6 Homeworrons, Quizzes, and Exams

The class will emphasize learning by doing. There will be a number of homeworks (about one a week), and a number of quizzes. You will also participate in the grading of homeworks. If you do your homeworks and quizzes regularly, I expect that the exams will be relatively stress free. The goal of this course is to create a low-key but ambitious learning environment, where you are the active players.

Each one of you will be the czar for (at least) one homework. You will prepare the solutions for the homework and grade the homework. After grading, you will hold an office hour where you discuss with your colleagues the solutions and your grading policy. If this works well, and you like it well, then we will make it possible for you to czar more homeworks.

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 the instructor as a tar archive. If it is a problem set, then bring in your write up to the class.

At the end of some classes, I will assign a quiz. A quiz 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.

7 Collaboration and Cheating

You are required to do and turn in your own homeworks. You can, however, talk with your colleagues. The only requirement is that you credit your collaborators. Each question of your homework must clearly state who you have talked to or collaborated with in solving that question.

No collaboration is allowed in exams. I will not deal with cheating attempts myself, but simply report them to higher ups (chief academic officer, graduate program chair, the dean etc.).

8 Grading:

Homeworks will make up 50%, your czar assignment will make up 10%, and the midterm and the final will make up 40% of your final grade.