

Course Summary 2002

Introduction

Programming languages are the main tool of the programmer. Since the 1950s there has been a Babel like explosion in the number of programming languages, with dozens in common use. CSE3322 will provide an overview of the programming language landscape. In particular, it will discuss the four major language paradigms: procedural, object-oriented, logic and functional, examining the last paradigm in detail. It will also discuss implementation of programming languages and compiler-generation tools which facilitate this process.

Lectures will cover:

1. the functional programming language, ML (9 lectures);
2. programming language paradigms, concepts and issues (4 lectures);
3. implementation of programming languages (11 lectures).

In addition there will be two revision lectures.

The lectures will be held in S-7 on Tuesday at 4:00pm and on Friday at 2:00pm in S-3.

There will be non-compulsory practice classes. The time and location will be advised in the first week of lectures.

The course will be taught by Prof Kim Marriott (Rm 119 Blg 26) and Dr Bernd Meyer (Rm 115 Blg 26). Consultation 2:00pm–4:00pm on Tuesdays in their offices.

Textbooks

There are several recommended books for this subject:

- J.D. Ullman. *Elements of ML Programming*. Prentice Hall, 1998.
- D. Watt. *Programming Language Concepts and Paradigms*. Prentice Hall, 1990.
- R. Sethi. *Programming Languages: Concepts and Constructs*. Addison-Wesley, 1989.
- A. Aho, R. Sethi and J. Ullman. *Compilers: Principles, Techniques and Tools*. Addison-Wesley, 1986.
- R. Wilhelm and D. Maurer. *Compiler Design*. Addison-Wesley, 1995.
- A.W. Appel. *Modern Compiler Implementation in ML*. Cambridge University Press, 1997.

The lecture material will be loosely based on these books and will be available on the Web.

Assessment

There will be four assignments based on the course material.

- Assignment 1 (5%) - Thursday 8 August
- Assignment 2 (10%) - Thursday 5 September
- Assignment 3 (10%) - Thursday 26 September
- Assignment 4 (5%) - Thursday 24 October

Students are referred to

http://www.csse.monash.edu.au/subjects/assign_submit.html

for information about assignment submission and plagiarism.

An examination of length three-hours consisting of multiple choice questions and short answer questions will contribute the remaining 70% to the final grade.