

## Course Summary 2003

### 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. programming language history, paradigms, concepts and issues (5 lectures);
2. the functional programming language, ML (8 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 tutorial classes. These will be held every fortnight starting in the second week of semester.

- Tuesday 12:00 noon Rm 109 Blg 19
- Thursday 1:00 pm Rm G13 Blg 19
- Friday 12:00 noon Rm G13 Blg 19

The course will be taught by Prof Kim Marriott (Rm 119 Blg 26). Consultation 3:00pm–5:00pm on Fridays.

### Textbooks

There are three main textbooks for this subject:

- J.D. Ullman. *Elements of ML Programming* (2nd Ed.). Prentice Hall, 1998.
- D. Watt. *Programming Language Concepts and Paradigms*. Prentice Hall, 1990.
- A. Aho, R. Sethi and J. Ullman. *Compilers: Principles, Techniques and Tools*. Addison-Wesley, 1986.

Some material is also taken from

- M. Felleisen and D. Friedman. *The Little MLer*. MIT Press, 1997
- L.C. Paulson. *ML for the Working Programmer* (2nd Ed.). Cambridge University Press, 1996.

- T.W.Pratt and M.V. Zelkowitz. *Programming Languages: Design and Implementation* (4th Ed). Prentice Hall, 2001.
- J.C. Mitchell. *Concepts in Programming Languages*. Cambridge University Press, 2003.
- R. Sethi. *Programming Languages: Concepts and Constructs*. Addison-Wesley, 1989.
- R. Wilhelm and D. Maurer. *Compiler Design*. Addison-Wesley, 1995.

The lecture material will be loosely based on these books and will be available on the Web from the CSE3322 Courseware Page.

## Assessment

There will be three assignments based on the course material.

- Assignment 1 (5%) - Due 12 noon Friday 16 August.
- Assignment 2 (10%) - Due 12 noon Friday 12 September.
- Assignment 3 (15%) - Due 12 noon Friday 17 October.

Students are referred to

[http://www.csse.monash.edu.au/subjects/assign\\_submit.html](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.