Quick Facts

Essentials

Course Code:	CS 131
Course Title:	Programming Languages
Website:	http://www.cs.hmc.edu/cs131/
or	http://www.cs.hmc.edu/courses/2004/spring/cs131/
Wiki:	http://www.cs.hmc.edu/cs131/wiki/
Help Email:	cs131help@cs.hmc.edu
Professor:	Melissa O'Neill ‹oneill@cs.hmc.edu›, Olin 1243, x79661
Prerequisites:	CS 81, CS 60, CS 70
Credit Hours:	3
Class Times:	Mon/Wed 11:00–12:15 am PA 1285 (Section 1)
	Mon/Wed 1:15–2:30 pm PA 1285 (Section 2)
Lab Times:	Thu 7:00–7:50 pm BK B105 (Lab A)
	Thu 8:00–8:50 pm BK B105 (Lab B)

Overview

This course provides you with a systematic framework for thinking about programming languages. You already had an introduction to the programming languages area in CS 60, where you used four languages representing at least four different approaches: Java for object-oriented programming, Rex for functional programming, Prolog for logic programming, and ISCAL for low-level (assembly) programming. This course, however, has a different emphasis.

CS 131 is organized around ideas that recur in many different languages (with less emphasis on particular choices of syntax). Understanding these ideas will help you better understand the languages you know, and help you quickly master new languages—even languages that haven't even been invented yet. The concepts you learn will also help you to devise new languages (which happens more often than you may think). You will learn both formal topics that arise when specifying the behavior of programming languages, practical issues that arise in implementing them.

The assignments in the class give you practical experience in implementing key programming-language concepts, as well as doing significant work in Standard ML, a language that has some valuable differences from the languages you may be used to.

Electronic Access

Much of the communication for this course will be handled electronically through the class website and mailing list(s). You are responsible for being familiar with announcements posted to the class mailing list(s) and with the contents of the class website.

Website

The class website is available at

http://www.cs.hmc.edu/cs131/

This website is also reachable from the CS department's home page (via the Course Schedule link). As well as providing useful general information (such as how to find me when you have questions), homework assignments will be posted on the class website.

Wiki

The class wiki is available at

http://www.cs.hmc.edu/cs131/wiki/

To reduce the risk of this site being archived by web spiders, there are *no links* to this website from the main course site. You can, of course, bookmark the site yourself.

This site allows *you* to post material about CS 131, including course notes.

Mailing Lists

The class mailing list is cs-131-l@hmc.edu. If you were registered in the course on the first day of classes, you should already be on the list. If you registered late, you may need to join the appropriate list by sending mail from your preferred account to listkeeper@hmc.edu, with a message body containing subscribe cs-131-l.

Most class-related questions should be sent to the help alias, cs131help@cs.hmc.edu.

Computer Accounts

All homework assignments will be submitted on turing, the department's Sun Enterprise 3000. You must have an account on turing to complete the work for this class. If you do not already have an account, you should fill out an account-request form (available from the CS system administrator in Beckman B101).

If you have an account that is no longer active, see the system administrator to reactivate your account.

You can only reach turing from machines in the Beckman terminal room or by using `ssh`—you will need an `ssh` client on your personal computer. See http://www.cs.hmc.edu/tech_docs/qref/ssh.html for more information on obtaining, installing, configuring, and using `ssh` clients.

Email Accounts

While you can receive mailing-list mail at any address you choose, homework grades and other material meant specifically for you will be sent to your turing email address. It is your responsibility to check your email on turing regularly or to have a ~/.forward file that forwards your turing email to an account that you do check regularly.

Group Programming in Labs

Lab assignments should be undertaken in groups of two. As much as possible, we would prefer to have the same two people work together throughout the semester.

Collaboration and the Honor Code

All students—even those from other colleges—are expected to understand and comply with Harvey Mudd College's Honor Code. If you haven't already done so, you must read, sign, and abide by the computer-science department's interpretation of the Honor Code to participate in this course.

You are encouraged to discuss general features of assignments and the ideas involved with other students, including general approaches to the problems, bugs in the specification, how long you've spent working on a problem, and so forth. You may also help each other with issues related to completing the assignments—how to use Unix, SML syntax, and the like.

If your work is influenced by materials you have read, or discussions with other students, you should document that influence. When coding, you should describe those contributions in your comments.

You must not exchange literal copies of material, whether that material consists of code, program output, or English-language text (e.g., documentation). You also may not copy material from published or online sources, with or without cosmetic changes (such as altering variable names) without explicit permission. If you do have permission to use externally written material, you must attribute it properly and clearly indicate which material is yours and which material is not yours.

If you aren't sure whether something you've done or plan to do is allowed, you should explicitly document what you did and—if at all possible—consult with the course staff, ideally *before* you take the questionable action. Similarly, document any extensive or particularly important help you obtain, even if that help seems legitimate. If the questionable material or extensive help is explicitly marked as such, you might

lose points but still avoid violating the Honor Code.

These principles apply to all methods and media of discussion or exchange (voice, writing, email, etc.).

Attendance

You are expected to attend every class. I will not be taking attendance, but many classes will have group exercises that will affect your final grade (both directly, because I grade for class participation, and indirectly, because questions on the exams are often similar to the group exercise questions). If you miss a class, you must find out what happened and get notes from a fellow student.

Due Dates

Unless announced, there are no automatic extensions to homework (or other) deadlines. Late submissions will not be accepted. If you are unable to turn in an assignment by its due date, you may be able to get an extension if

1. There are extenuating circumstances (that were unforeseeable)
2. You tell me that you're having problems (either directly or via someone else, such as the Dean of Students) as soon as you know—*before* the assignment's due date
3. You negotiate appropriate arrangements with me to make up the work

I won't allow you to get very far behind in your work unless you are in a situation that could entitle you to an incomplete at the end of the term (e.g., a major medical problem).

Also, please note that even if you have met the requirements listed here, I may only give partial credit for late work.

Illness

If you get sick during the term, notify me immediately, even if you think that being sick will not affect your ability to complete your assignments. You should also notify me any time that you're sick enough to miss *any* classes (not just CS 131) or find that your performance is below par for any reason.

Getting Help

If you need help with a problem, send email to the `cs131help@cs.hmc.edu` mailing list, which is read by me and the graders, maximizing your chances of getting a quick answer to a question.

If you have sensitive issues—such as personal issues or Honor Code violations—that you need help with, contact me directly.

Textbooks

There is no required text for this class. All of the required material is presented in lectures, and given out in the form of assignments and handouts.

Optional Texts

There is one optional textbook for this course:

- Jeffrey D. Ullman, *Elements of ML Programming*, ML97 edition, Prentice Hall, 2001. ISBN 0-13-790387-1.

  On reserve in Sprague Library, QA76.73.M6 U45 1998.