



6.S096 | January IAP 2013 | Undergraduate

Introduction To C And C++

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Syllabus and Software

Course Meeting Times

Lectures: 2 sessions / week for 4 weeks, 1 hour / session

Labs: 2 sessions / week for 4 weeks, 1 hour / session

Course Description

This course provides a fast-paced introduction to the C and C++ programming languages. You will learn the required background knowledge, including memory management, pointers, preprocessor macros, object-oriented programming, and how to find bugs when you inevitably use any of those incorrectly. There will be daily assignments and a small-scale individual project.

Software

Standard Environment

It's most efficient for the staff if everyone uses the same environment:

- Athena command-line
- Compiling: gcc, g++
- Debugging: gdb, valgrind
- Editing: nano, pico, vim, or emacs

You can mimic that environment on your own computer:

- **Windows:** All the necessary packages (except valgrind) are available in [cygwin](#) (gcc-core, gcc-g++, gdb).
- **OS X:** [Install Xcode from the App Store](#), open it, go to Preferences > Downloads > Components and download "Command Line Tools".
- **Linux:** `sudo apt-get install build-essential` or equivalent.

IDEs

If you'd like to use a GUI instead (and there are many good reasons to do so), we'll try to help you out, but:

- Your programs still need to work in the standard environment, so you should test them there.
- One of our primary debugging tools (valgrind) may not be available in your IDE.

Nevertheless, these IDEs seem to work well:

- [Code::Blocks](#) (Windows, Linux, OS X)
- [Eclipse](#) (Windows, Linux, OS X)
- Visual Studio (Windows)
- [Xcode](#) (OS X)



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