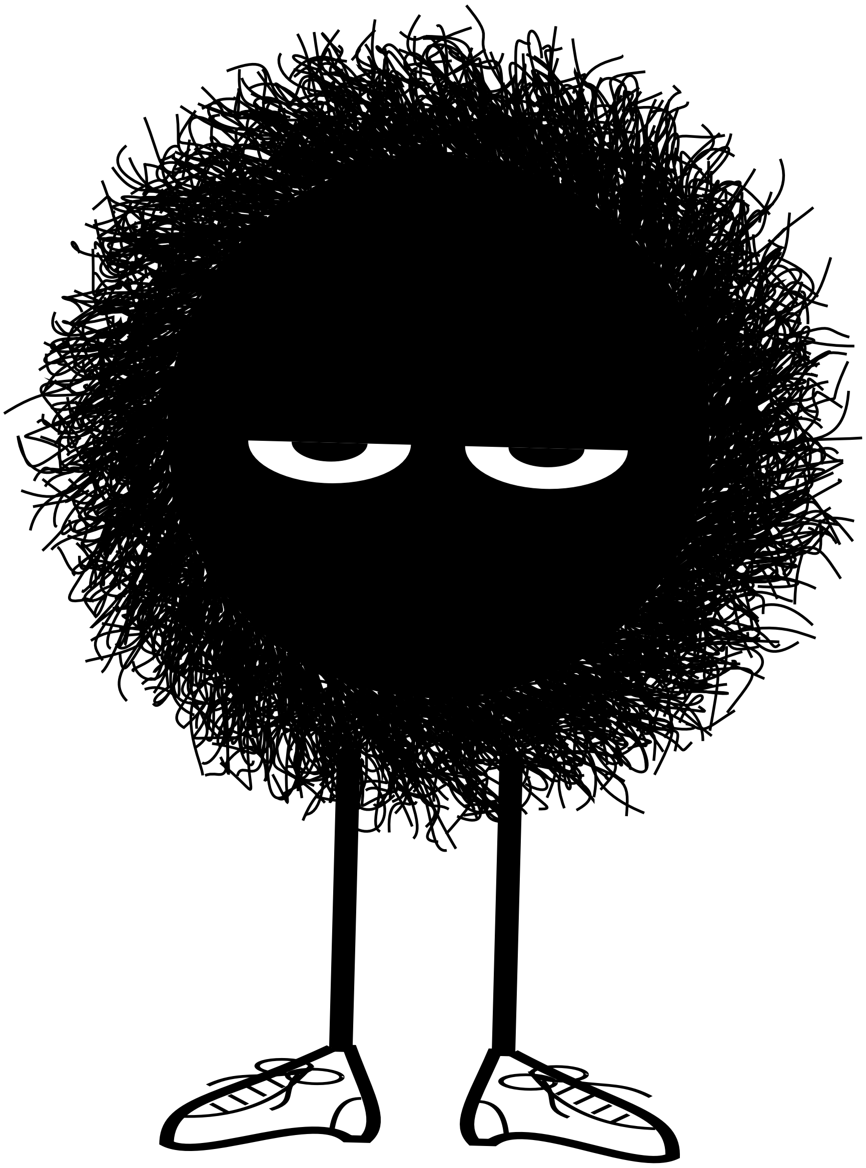
SIPB IAP 2006 Classes Guide

http://sipb.mit.edu/iap/



Your guide to SIPB's IAP 2006 class offerings

This small three-page excuse for a booklet you hold in your hands is your handy little reference to all the technical (or not-so-technical) classes you could ever hope to cram into your mind over the course of a month. Whether it's the traditional crash courses in stock languages (Java/C/C++), a little dabbling in material for classes you plan to take, safeguarding surfing privacy, or creating armor... SIPB has the class for you.

If you have any questions, comments, concerns, or fan letters, please send them our way!

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See you in the classroom,

Mike Shaw
SIPB IAP sucker

Contents

Linux/Solaris

Make Athena Work for You

Janet Ryu, sipb-iap-athena@mit.edu
Tue Jan 10, Thu Jan 12, 06-07:00pm, 1-115
No enrollment limit, no advance sign up. Participants welcome at individual sessions (series). No prereqs.

Do you dread having to use Athena? Is computer stuff "not your thing"? Since when did printing become so difficult? Come to this class and making "computing at MIT" a lot more enjoyable.

This class has two sessions which cover different material. The first class will cover topics that will make using Athena much easier, such as basic unix commands and avoiding common mishaps. The second session will cover ways to make switching between personal computer and athena much easier, including different ways to transfer files, print files, and access files.

Athena Tips and Tricks, Theory and Practice (Beginner/Intermediate)

Chaim Kutnicki, sipb-iap-tips@mit.edu
Wed Jan 11, 06-08:00pm, 1-150
No enrollment limit, no advance sign up. Single session event.

Come and learn about the inner workings of Athena and how you can make Athena work for you. We'll discuss basic concepts such as Kerberos, Hesiod and MIT's mail system and what you can do to customize your computing experience to fit your needs. If time permits, we will demonstrate converting a Windows PC to a dual-boot Windows/Linux-Athena system.

Gentoo Linux

Introduction to Gentoo Linux

Rajiv Manglani, sipb-iap-gentoo@mit.edu
Tue Jan 17, 08-10:00pm, 2-105
No enrollment limit, no advance sign up. Single session event. Prereq: Linux or UNIX experience.

Gentoo Linux is a versatile and fast distribution for x86, PowerPC, Sparc, Alpha, AMD64, IA64, and MIPS systems that is geared towards Linux power users. Unlike other distros, Gentoo Linux has an advanced package management system called Portage. Portage is a true ports system in the tradition of BSD ports, but is Python-based and sports a number of advanced features including dependencies, fine-grained package management, "fake" (OpenBSD-style) installs, path sandboxing, safe unmerging, system profiles, virtual packages, config file management, and more. A completed Gentoo Linux installation is customized and optimized for your specific needs. We will have an overview presentation and a demo of a running Gentoo system.

Advanced Gentoo Linux

Rajiv Manglani, sipb-iap-gentoo@mit.edu
Thur Jan 19, 08-10:00pm, 2-105
No enrollment limit, no advance sign up. Single session event. Prereq: Some Gentoo experience.

This session will cover advanced usage of Gentoo Linux, a versatile and fast distribution for x86, PowerPC, Sparc, Alpha, AMD64, IA64, and MIPS systems that is geared towards Linux power users.

Details of Portage, the Gentoo package management system, will be presented. We will discuss creation of ebuild scripts, usage of various system tools such as qpkg and etcat. We will also have a detailed look into the init scripts system, and the various settings in make.conf. Current Gentoo users are encouraged to attend with their questions and anecdotes.

Solaris Internals: A Quick Overview

Bill Sommerfeld, sipb-iap-solaris@mit.edu
Wed Jan 11, 08-10:00pm, 1-150
No enrollment limit, no advance sign up. Single session event. Prereq: Interest in OS internals; some prior exposure to unix.

A lightning fast tour through the Solaris operating system, touching on system architecture, boot, memory management, filesystems, networking, observability, and its transition towards an open development model.

Other

A Preview of 6.033: Unix, DNS, and Cryptography

Jennifer Tu, Tim Abbott, Kevin Chen, sipb-iap-6033@mit.edu
Mon Jan 9, Mon Jan 23, 30, 06-07:00pm, 1-115
No enrollment limit, no advance sign up. Participants welcome at individual sessions (series).

Are you taking 6.033 this spring? Or next spring? Or just want to learn something new? We'll talk about three topics covered in 6.033 – Unix, DNS, and cryptography. As a quick disclaimer, this IAP series only offers a small sampling of what you'll experience in 6.033. Hopefully, it will help you understand the practical aspects and basics of how things work, so you can concentrate on the concepts and reasonings when you take the course.

Creating a Firefox Extension

Jeff Walden, sipb-iap-firefox@mit.edu
Thu Jan 19, Tue Jan 24, Thu Jan 26, Tue Jan 31, Thu Feb 2, 07-09:00pm, 1-190
No enrollment limit, no advance sign up. Participants requested to attend all sessions (non-series). Prereq: Proficiency with CSS/JavaScript/XML and some programming exp.

This class will teach you how to create a moderately complex Firefox extension which demonstrates most of the technologies used to create many extensions as well as Firefox itself. You will learn how to: write an extension's UI, write a simple XPCOM component using JavaScript, use JavaScript to drive UI interactions, create a custom widget using XBL, and how to package an extension's code to make an installable extension.

Wikis, Blogs, and Photo Galleries Made Easy: How to Use `scripts.mit.edu` to Create a Supercharged Website

Jeff Arnold, Joe Presbrey, sipb-scripts@mit.edu
Fri Jan 20, 06-07:00pm, 32-124
No enrollment limit, no advance sign up. Single session event.

A new service now makes it possible to easily create an MIT website with one or more personal wikis, blogs, and/or photo galleries. We will introduce the service, demostrate it, and answer any questions.

scripts.mit.edu and sql.mit.edu: User Forum and Q&A Session

Jeff Arnold, Joe Presbrey, sipb-scripts@mit.edu
Fri Jan 27, 06-07:00pm, 32-124
No enrollment limit, no advance sign up. Single session event.
All scripts.mit.edu and sql.mit.edu users are invited to come to this forum hosted by the creators of the service. Check out how others use the service and ask any questions you might have.

Information Security Lecture Series

Sherri Davidoff, sipb-iap-lectures@mit.edu
Thu Jan 19, Thu Jan 26, Thu Feb 2, 07:30-09:30pm, 4-237

Leading Change: Charting the Course for the Department of the Navy's IM/IT Transformation

David Wennergren, CIO of the Department of the Navy
Thu Jan 19, 7:30-9:00PM, 4-237

The Department of the Navy is in the midst of a dramatic transformation to leverage the power of the "information age." Mr. David Wennergren, the Chief Information Officer for the Department of the Navy will discuss the significant accomplishments of the Navy - Marine Corps team in achieving network-centric operations and knowledge dominance. He will also discuss the importance of successfully addressing change management as a part of this digital revolution, offering insights on challenges and lessons learned in dealing with cultural change and aligning the work of large, decentralized organizations.

Law Enforcement and Corporate IT - Convergence and Conflict

Detective Lieutenant John J. McLean, NEMLEC Computer Crime Unit (serving 46 departments), Medford Police Department
Thu Jan 26, 07:30-09:00pm, 4-237

Law enforcement must be technically and tactically prepared to respond to criminal activity in a legally sound and efficient manner. Corporations must protect their assets with solid business continuity plans and proper protocols and notifications. These goals can be in direct conflict. This lecture will introduce and examine the interplay between the so-called L.E. model (identifying the culprits and seizing evidence), and the corporate response of business protection and continuity. Emphasis on practical security measures and reasonable enforcement approaches that are based on the principle of "community policing."

Anonymous Communications for Crypto Geeks, the U.S. Department of Defense, and You

Nick Mathewson and Roger Dingledine, developers of Tor
Thu Feb 2, 07:30-09:30pm, 4-237

Anonymity for the masses is approaching. We're developing Tor (tor.eff.org), a tool for strong anonymity and privacy on the Internet. Funded by the DoD and the EFF, Tor is a distributed overlay network of privacy servers around the world.
First half: Introduction to the theory and designs that make anonymity networks work, and a discussion of the technical choices from the earliest designs of the 1980s to today. Second half: Experiences deploying anonymity, including backing, adoption, law enforcement issues, abuse, anti-abuse measures, usability, co-existing with other systems, censorious governments, and creating incentives for people to help privacy. We'll also discuss threats to anonymous networks from legal, social, and technical avenues.

Inessential Matlab

Chris Porter, sipb-iap-matlab@mit.edu
Wed Jan 25, 05:30-07:30pm, 4-231
No enrollment limit, no advance sign up. Single session event.

Introductory class on Matlab.

Athena and Your Laptop

Adam Seering, sipb-iap-laptop@mit.edu
Tue Jan 17, Thu Jan 19, Tue Jan 24, Thu Jan 26, 01:00-02:30pm, 37-212
No enrollment limit, no advance sign-up required. Recommended: Have a computer on campus, laptop or desktop.

Tired of having to walk all the way to an Athena cluster to use Athena-specific services? Well, you don't have to! Learn to use your own personal computer (either a laptop or a desktop) to take full advantage of MITNet. Topics covered include using an e-mail program (Thunderbird, Eudora, Apple Mail) instead of WebMail, printing to Athena printers, accessing your Athena home directory and other AFS lockers, and running software such as Matlab and Maple. Both Mac and Windows PC setups will be discussed; if there is interest, Linux setups will be discussed too. Time permitting, we'll cover any requested topics as well. If you have a laptop, bring it!

CosmosWorks Seminar

Alex Slocum, Jr., sipb-iap-cosmosworks@mit.edu
Thu Jan 12, 06-09:00pm, 4-231
No enrollment limit, no advance sign up. Single session event.

From Installation of Cosmos Works from the MIT Server, to CosmosWorks studies for individual parts as well as assemblies of parts, come get your CosmosWorks questions answered. Basic CosmosMotion and Cosmos FloWorks will also be covered if enough interest is shown. (Note: Laptops WILL NOT be provided).

calendar

calendar

SolidWorks Seminar

Alex Slocum, Jr., sipb-iap-solidworks@mit.edu
Wed Jan 11, 06-09:00pm, 4-231
No enrollment limit, no advance sign up. Single session event.

From Installation of SolidWorks from the MIT Server, to advanced assemblies, come get your SolidWorks questions answered (Note: Laptops WILL NOT be provided).

Other other

How to Make Chainmail

Cyrus Eyster, sipb-iap-chainmail@mit.edu
Mon Jan 23, 09-10:00pm, 1-132
No enrollment limit, no advance sign up. Single session event.

Learn to make chainmail! This flexible armor made from metal rings was used on battlefields across the world for over a thousand years. This class will teach participants the basic weave used in Europe in the Middle Ages. Tools and materials will be provided.

Good Experience Live 2005 Conference Sessions

Rajiv Manglani, sipb-iap-gel@mit.edu
Mon Jan 30, 07-08:30pm, 1-150
No enrollment limit, no advance sign up. Single session event. Prereq: interest in user experience.

Gel (”Good Experience Live”) is a conference and community exploring good experience in all its forms – in business, art, society, technology, and life. Join us as we watch sessions from the 2005 conference DVD: Barry Schwartz, author of ”The Paradox of Choice”; Bob Mankoff, The New Yorker cartoon editor; Jimmy Wales, Wikipedia founder; Charlie Todd, urban prankster; Theo Jansen, strandbeest; and The Flying Karamazov Brothers!
If you plan on attending please RSVP to sipb-iap-gel@mit.edu.

Programming

The Crash Course Series: C, C++, Java

Crash Course in Java

Ricky Ramirez, sipb-iap-java@mit.edu
Mon Jan 23 thru Thu Jan 26, 04-06:00pm, 2-105
No enrollment limit, no advance sign up. Participants requested to attend all sessions (non-series).

This class is an introduction to the Java programming language. The first half will cover basics of the language, including Java development environments on Athena and language syntax. The second half will examine the Java run-time library, including standard container classes, file I/O, and graphical user interfaces using Swing.

Crash Course in C

Michael Shaw, sipb-iap-c@mit.edu
Tue-Thu, Jan 17, 19, 24, 26, 31-1, 06-08:00pm, 1-150
No enrollment limit, no advance sign up. Participants requested to attend all sessions (non-series). Prereq: Minimal programming experience.

Interested in C, but not enough time for 1.00 or 10.001? This course will cover the fundamentals of programming in C, including basic control structures, functions, pointers and arrays, and an introduction to the C standard library.

Crash Course in C++

Nelson Elhagae, sipb-iap-seeplusplus@mit.edu
Tue, Thu, Jan 10, 12, 17, 19, 24, 26, 03-05:00pm, 37-212
No enrollment limit, no advance sign up. Participants requested to attend all sessions (non-series). Prereq: Familiarity with programming, including object-orientation.

This class will cover a crash course in C++ for coders who are already basically proficient with code and object-oriented programming. We will cover C++ syntax and concepts, including objects and namespace, and get into a quick intro to the standard template library. No prior experience with C is assumed.

Caffeinated Crash Course in C++

Mike Rolish, sipb-iap-caffeinatedplusplus@mit.edu
Mon Jan 23, 01-04:00pm, 1-190
No enrollment limit, no advance sign up. Single session event. Prereq: Some programming experience.

A three-hour introduction to the C++ programming language. Basic syntax, data types, and control flow. Object basics. Dynamic memory management. Polymorphism and templates. Standard library. Useful tools.

Caffeinated Crash Course in C

Steve Summit, sipb-iap-cccc@mit.edu
Wed Jan 25, 4-7pm and optional 8-10pm, 1-150

C's influence is deeply pervasive in today's software systems, and in the many currently-popular programming languages derived from C. In fact, C plays a role somewhat similar to the one once played by assembly language: even if you don't do any actual day-to-day C programming, knowing something about C can be a huge help in better understanding the other systems and languages you are working with.

This class will attempt to cover the entire C programming language in 3 hours, in the grand tradition of SIPB's IAP caffeinated crash courses. Prior programming experience, preferably in a C-like language (C++, Java, Perl, etc.) is very definitely assumed. The focus will be on understanding why the language is as it is, and on the implications for existing programs written in C or for work in newer programming languages derived from C.

There will be a special bonus 2-hour section following the first half, for those whose brains have not yet leaked out of their ears. The instructor is an MIT alumnus and maintainer of the C FAQ list on the 'net.

Programming in PostScript

Bayard Wenzel, sipb-iap-postscript@mit.edu
Mon Jan 23, Wed Jan 25, Mon Jan 30, Wed Feb 1, 11am-12:00pm, 26-204
No enrollment limit, no advance sign up. Participants requested to attend all sessions (non-series). Prereq: Familiarity with programming languages.

PostScript is the standard page description language, and the language which PDF, the standard document interchange format, is based upon. This class provides an introduction to PostScript, how to write both PostScript programs and programs that write PostScript, and an overview of the structure and construction of PDF files.

Shell Scripts

Jacob Morzinski, sipb-iap-shell@mit.edu
Mon Jan 23, 02-03:30pm, 2-132
No enrollment limit, no advance sign up. Single session event. Prereq: Some experience with Unix and basic tools (ls, echo, cat).

Shell scripts are the common method of automating command-prompt tasks on Unix systems. This class will introduce the shell (the command-prompt), explain how the shell reacts to your typing, and present the fundamentals of shell programming.

XML and XSLT in Web Development

William Reilly, sipb-iap-xml@mit.edu
Cosponsor: Libraries
Tue Jan 17, Wed Jan 18, Tue Jan 24, 05:30-07:30pm, 4-231
No enrollment limit, no advance sign up. Participants requested to attend all sessions (non-series). Prereq: Familiarity with XML, some exposure to XSLT transformations.

Introduction to the use of fundamental XML technologies in website development, in particular XSLT (and XPath). Attention also to XML Schemas and DTDs. Demonstration and investigation of the web-based XML publishing framework Cocoon. Examples of use of specific markup languages (applications of XML) relevant to website development (XHTML, SVG, DocBook, RSS).

Web 2.0 development using Ruby on Rails

Matt DeBergalis, sipb-iap-ruby@mit.edu
Wed Feb 1, Thu Feb 2, 07-09:00pm, 4-370
No enrollment limit, no advance sign up. Participants requested to attend all sessions (non-series). Prereq: Minimal comfort with HTML and scripting.

Hosted web services have garnered considerable attention in the past year as an attractive alternative to traditional desktop software. We'll walk through how Ruby on Rails – a new web application framework – lets one quickly build and deploy a modern "Web 2.0" application that takes advantage of AJAX, REST, SOAP, and much much more, using code powering ActBlue.com as a working example. No Ruby or previous web development experience necessary.

Intro Programming with "Processing"

J.D. Zamfirescu, sipb-iap-processing@mit.edu
Tue Jan 24, Thu Jan 26, 08-10:00pm, 1-115
Enrollment limit 40, no advance sign up. Repeating event. Participants welcome at any session.

Bored with "Hello World?" Learn how to program with a graphics- oriented language: Processing. See the Processing website (www.processing.org) for examples of the type of code (and designs!) we'll be producing. Please feel free to bring a laptop!

Network Programming with Python

J.D. Zamfirescu, sipb-iap-network@mit.edu
Tue Jan 24, Thu Jan 26, 04-06:00pm, 1-115
Enrollment limit 20, no advance sign up. Repeating event. Participants welcome at any session. Prereq: Basic knowledge of Python...see tutorial at www.python.org

Learn about sockets and network programming using the Python language! Over the course of two hours, we'll talk about Internet addressing, ports, and the server/client architecture; we'll finish off the class by writing a brief web server. Please feel free to bring a laptop!

Programming Perl

Alex Rolfe, sipb-iap-perl@mit.edu
Tue Jan 17, Thu Jan 19, Tue Jan 24, Thu Jan 26, 08-10:00pm, 1-150
No enrollment limit, no advance sign up. Participants requested to attend all sessions (non-series). Prereq: some programming experience.

Introduction to programming in Perl: syntax, flow control, I/O, regular expressions, data structures, objects, and some CGI programming.

The Functional Programming Language Haskell

David Glasser, sipb-iap-haskell@mit.edu
Mon Jan 23 thru Thu Jan 26, 02-03:00pm, 2-105
No enrollment limit, no advance sign up. Participants requested to attend all sessions (non-series). Prereq: 6.001 or other programming experience recommended.

This is an introduction to the programming language Haskell. Haskell is a functional programming language (like Scheme), with types (like ML), and lazy evaluation (unlike almost any other language). We will get introduced to the language, create a library for image manipulation, and touch on advanced topics such as monadic programming.

Python Programming

Giles Hall, sipb-iap-progpython@mit.edu
Tue Jan 10, Thu Jan 12, Tue Jan 17, 07-10:00pm, 1-190
No enrollment limit, no advance sign up. Participants welcome at individual sessions (series).

Tuesday January 10: Introduction to Python Programming: Python is easy to learn, the basics of the scripting language are taught in the first class.
Thursday January 12: Object Oriented Python Programming: Built to be an object-oriented language from the ground up, the second class shows off the ease and power of python objects.
Tuesday January 17: Advanced Python Techniques: Learn to speed-up your code by extending the python interpreter using its C API.

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Monday	Tuesday	Wednesday	Thursday	Friday
9 6.033 Sampler 6-7pm, 1-115	10 CCC++ 3-5pm, 37-212 Make Athena Work for you 6-7pm, 1-115 Python 7-10pm, 1-190	11 Athena Tips and Tricks 6-8pm, 1-150 SolidWorks 6-9pm, 4-231 Solaris Internals 8-10pm, 1-150	12 CCC++ 3-5pm, 37-212 Make Athena Work for you 6-7pm, 1-115 CosmosWorks 6-9pm, 4-231 Python 7-10pm, 1-190	13
16	17 Laptop Athena 1-2:30pm, 37-212 CCC++ 3-5pm, 37-212 CCC 6-8pm, 1-150 Python 7-10pm, 1-190 XML/XSLT in webdev 5:30-7:30pm, 4-231 Gentoo (Intro) 8-10pm, 2-105 Perl 8-10pm, 1-150	18 XML/XSLT in webdev 5:30-7:30pm, 4-231	19 Laptop Athena 1-2:30pm, 37-212 CCC++ 3-5pm, 37-212 CCC 6-8pm, 1-150 Firefox Extensions 7-9pm, 1-190 Lecture Series - Navy 7:30-9pm, 4-237 Gentoo (Advanced) 8-10pm, 2-105 Perl 8-10pm, 1-150	20 Wikis and Blogs 6-7pm, 32-124
23 6.033 Sampler 6-7pm, 1-115 Haskell 2-3pm, 2-105 Postscript 11am-12pm, 26-204 CCCC++ 1-4pm, 1-190 Shell Scripts 2-3pm, 2-132 Chainmail 9-10pm, 1-132 CCJava 4-6pm, 2-105	24 Laptop Athena 1-2:30pm, 37-212 Haskell 2-3pm, 2-105 Python netprog 4-6pm, 1-115 CCC++ 3-5pm, 37-212 CCC 6-8pm, 1-150 Firefox Extensions 7-9pm, 1-190 XML/XSLT in webdev 5:30-7:30pm, 4-231 CCJava 4-6pm, 2-105 Proc. programming 8-10pm, 1-115 Perl 8-10pm, 1-150	25 Haskell 2-3pm, 2-105 Postscript 11am-12pm, 26-204 CCCC 4-7pm, 1-150 Matlab 5:30-7:30pm, 4-231 CCJava 4-6pm, 2-105	26 Laptop Athena 1-2:30pm, 37-212 Haskell 2-3pm, 2-105 Python netprog 4-6pm, 1-115 CCC++ 3-5pm, 37-212 CCC 6-8pm, 1-150 Firefox Extensions 7-9pm, 1-190 Lecture Series - Medford Police 7:30-9pm, 4-237 CCJava 4-6pm, 2-105 Proc. programming 8-10pm, 1-115 Perl 8-10pm, 1-150	27 `scripts` user forum 6-7pm, 32-124
30 Postscript 11am-12pm, 26-204 6.033 Sampler 6-7pm, 1-115 Good XP Live 7-8:30pm, 1-150	31 CCC 6-8pm, 1-150 Firefox Extensions 7-9pm, 1-190	1 Postscript 11am-12pm, 26-204 Ruby on Rails 7-9pm, 4-370	2 CCC 6-8pm, 1-150 Firefox Extensions 7-9pm, 1-190 Lecture Series - `tor` 7:30-9pm, 4-237 Ruby on Rails 7-9pm, 4-370	3