Intermediate System Administration

Spring 2010 Tentative Syllabus

Course Information

CCN: 26414 (Freshman/Sophomore), 26624 (Junior/Senior)

Facilitator: Michael Gasidlo (mgasidlo+decal@ocf.berkeley.edu)

Lab TA: Jordan Salter (jordan+decal@ocf.berkeley.edu)

Office Hours: TBA, see website

Location and Time: 271 Soda Hall, Monday 6-8 PM

Website: http://www.ocf.berkeley.edu/decal/intermediate

Course Description: The course will cover the setup and administration of a production-quality web server. Topics include the Internet infrastructure, use of a Unix environment, database use and administration, security in a multi-user environment, and emerging web technologies.

Course Goals: After completing this course, students will be able to setup and secure their own web server from a minimal installation of a GNU/Linux installation. Students will also be able to coordinate and administer a multi-user web application environment.

Grading: This course will be graded on a Passed/Not Passed basis. For the purposes of this course, a Pass will be considered at least 60% correct. The final grade will be determined as follows: 50% project and 50% laboratories.

To obtain a "Pass" grade in this course, students **must complete** a final project and submit laboratory reports for *all* assigned laboratories. Up to **3** laboratories may be dropped; the final project may not be dropped. **Failure to complete the final project will result in an automatic NP!**

Laboratories will be assigned during each course meeting and must be completed prior to the next course meeting.

Attendance is mandatory. More than 4 unexcused absences will result in a N/P grade being assigned. If you have extenuating circumstances (illness, midterms, etc), e-mail me as soon as you know you will be absent.

Laboratory: Laboratories are weekly exercises done in a computer lab that are designed to help students familiarize themselves with all the material covered up to that week's lecture. This hands-on approach is one of the most useful aspects of this class as it allows students to apply concepts and ideas learned from lectures and books as opposed to merely `book-learning.' A lab write-up (answers to specific questions) is to be turned in for each corresponding lab.

Lab space in Soda Hall has been reserved from 7-8 PM for students to do that week's laboratory. During this time, the facilitators and lab TA will be available to help students work through the labs. Students should be able to complete the lab within this time. If students need additional time, or if they prefer to work at another time, students may connect to the Soda machines from home, or they may use the labs at other times, provided that the lab is not already reserved. All students should have 24/7 cardkey access to Soda Hall and the CS instructional labs (271, 273, and 275). See the course website for instructions on connecting from home.

Final Project: The finalized specifications for the final project is TBD, but previous projects done in prior semesters include: setting up and securing a multi-user web environment and looking for   vulnerabilities on other students' project while protecting your own server, building and maintaining an Internet server and designing implementing different features and utilities not covered in class. The specifics of each group's project will be somewhat open-ended, but should demonstrate a good command of the skills that we cover in the class as well as an ability to generalize these skills to new situations and applications.

Tentative Schedule

Week	Topic (Intermediate)
1	Introduction to System Administration and The Shell
2	The Filesystem
3	Compiling Software from Scratch
4	User and Group Authentication
5	UNIX Power Tools
6	Special Topics, Final Projects Assigned
7	Network Services: DNS, DHCP, SMTP, HTTP
8	System V Init; Getting Involved
9	Desktop Linux Technologies (X11, udev, D-Bus...)
10	"The Touch": Solving Problems You Know Nothing About
11	Last Class - Final Project Presentations