

## SYLLABUS — CECS 476

### System and Network Administration

Spring 2014

Class: ECS 405 (TTh 5:00–5:50PM)

Course code: 13289

Lab: ECS 405 (TT 6:00–7:15PM)

Instructor: Nathan Pickrell

Lab Hours: ECS 405 TTh 5:00-8:15PM (or on request if earlier)

### Course Objectives

To introduce the principles behind a multiuser operating system with network access. To teach the administration of computers with such operating systems. The course will cover both how the Unix system works and the tasks the system administrator must perform.

### Prerequisites

A knowledge of Unix and operating systems (e.g., CECS 326). The ability to read technical material (manuals, documentation). Some experience in computing (several upper division courses). The ability to follow instructions.

### Books

A book is helpful if you have trouble understanding the manual entries and the lecture. The Nemeth book is listed as the official text, but there are several good books in different areas of system administration.

*Unix System Administrators Handbook* by Nemeth et.al. This book covers several versions of Unix, including Linux. It covers many topics, but sometimes doesn't cover them as completely as you would like.

*Running Linux* by Welsh et.al. This book contains information specific to Linux. On some topics it has more information than Nemeth, but it does not cover as many topics.

In addition you may find books from the following list helpful. Most can be found cheaply at major computer stores or ordered on-line.

*Linux System Administration Handbook* by Komarinski and Collett. Good in the networking area, but a little shallow in non-networking places.

*Essential System Administration* by Aeleen Frish (O'Reilly). Good, but aimed at non-Linux versions of Unix.

*Linux Network Administrator's Guide* by Olaf Kirch (O'Reilly). Very good, but only covers the networking part of Linux.

### Other Materials

You will be issued accounts for the system administration lab. This account is separate from any other department or university accounts you are issued and is good for the semester only. Online manuals will be available using those accounts. How-To files are available for many functions. Additional materials will be available on-line. Copies of the lecture slides are available in the book store. Source for the lecture slides is available online in TeX format from the computer **cheetah** under the directory `~volper/classes/476`. That directory also includes lots of other useful items including copies of the old exams in `~volper/classes/476/old/exams`.

### Structure of the Course

There will be a large number (approximately one per lab) of assignments, one midterm, and a final. The assignments will be worth 40% of the grade, each exam will be worth 30% of the grade. I recommend that you maintain a notebook documenting those actions you have taken as a system administrator. The exams will be open note, so the better organized your notebook the more helpful you will find it during the exams.

## Laboratory

Your working environment for System Administration is part of the CSULB network. There are many machines on this network, they are accessible in many different ways. The lab will be ECS 405. It contains the machines reserved for this course. These machines are accessible over the network, but in a restricted fashion so as to prevent the machines from being hacked. You may login to these machines from any cecs computer, but you will need to login to **cheetah** first, then telnet/ssh to your Linux machine. If you are off campus you may access **cheetah** only through ssh. We suggest using putty if you are working from a Windows computer. We recommend you perform your actual system administration in the laboratory during lab hours. You will be issued system administration privileges; exercise these privileges only for the purposes described in the assignments.

## Assignments

Work is due in the lab on the date indicated on the assignment. If the assignment indicates there is a demonstration required that demonstration must be performed at the time the assignment is submitted. Assignments may be submitted early (no penalty). Late submissions will be penalized 5 points per lab that they are late. To allow for illness and emergencies, the first 50 points of late penalty you accrue during the semester will be waived. If you are examining your grade, the number of waiver points you have remaining is under the column labeled “**wv**”. No work will be accepted after the last lab of the semester.

In general, you should leave the results of your assignment running or active on your machine so the instructor can verify your work. In a few cases you will be given specific “clean up” instructions to shutdown particular parts of assignments which have the potential to clog the system.

You are expected to run your tests and make sure your assignments work before submission. One re-submission will be allowed during the semester, you will receive the average of the scores of the two submissions. The amount of late penalty will be based on the date of the second submission. This is intentionally severe, I don’t encourage re-submissions, test your work before submitting the first time.

To view your scores, login to **cheetah** and run **getscore**.

## Course Summary

In general, we will cover a set of principles used by the Unix operating system, you will look at the operating system to observe details on these principles, then you will perform system administration tasks based on these principles. Much of the material for your work will come from the on-line documentation.

Final Exam: 5:00–7:00, Thursday, 15 May 2014