# CSCI 3291 (Current Topics in Computer Science — UNIX System Administration), Fall 2004

## Syllabus

## 1 Course description

What I hope you will all learn from the course is enough about installing and configuring Linux that you could reasonably set up a system like the one we have in our labs (server plus many clients); along the way you will probably learn a bit about UNIX/Linux internals, and most of what you learn should also apply to versions of UNIX other than Linux. Topics we will discuss include the following.

- Installation and configuration.
- Monitoring and controlling processes and files.
- Adding and deleting users.
- `cron` jobs.
- Booting and shutting down.
- A little about system internals — the kernel, devices and device drivers, filesystems, daemons, etc.
- A little about networking and network services — NFS, DNS, NIS, mail, Web hosting, etc.
- Interoperability with Windows.

## 2 Basic information

### Class meeting times and location

- M 2:30 pm – 4:20pm, HAS 228

### Prerequisites

There are no formal prerequisites, but I expect a background in basic UNIX commands similar to what students in my CSCI 3190 last spring (should have) acquired.

### Instructor and contact information

- Dr. Berna Massingill
- Office: HAS 201L
- Office phone: (210) 999-8138
- Web page: `http://www.cs.trinity.edu/~bmassing/`
- E-mail: `bmassing@cs.trinity.edu`
- Office hours:
  - Monday 4:20pm – 5:20pm in HAS 228
  - Tuesday/Thursday 1pm – 4pm
  - Wednesday 2pm – 5pm

In addition to these scheduled office hours, you are welcome to drop by and see if I am in my office and free to talk, or you can make an appointment by calling me or sending me e-mail. If I am not in my office during scheduled office hours, I should be somewhere in the building (perhaps in one of the labs helping another student), and there will usually be a note on my door saying where to find me.

# 3 Course materials

## Textbook

We will use the following as a textbook for the course.

- Evi Nemeth, Garth Snyder, Scott Seebass, and Trent R. Hein. *UNIX System Administration Handbook*. Prentice Hall, third edition, 2001.

## Web page

Most course-related information (this syllabus, homework and reading assignments, etc.) will be available via the Web. The "home page" for the course is `http://www.cs.trinity.edu/~bmassing/CS3291/`; it is linked from my home page (`http://www.cs.trinity.edu/~bmassing/`) and from Blackboard.

## Other references

Here are some other frequently recommended books on system administration and related topics.

- Aeleen Frisch. *Essential System Administration*. O'Reilly, third edition, 2002.
- Craig Hunt. *TCP/IP Network Administration*. O'Reilly, third edition, 2002.
- Thomas A. Limoncelli and Christine Hogan. *The Practice of System and Network Administration*. Addison-Wesley, 2002. A discussion of policy and principles rather than details (useful for professional sysadmins).
- Evi Nemeth, Garth Snyder, and Trent R. Hein. *Linux Administration Handbook*. Prentice Hall, 2002. A Linux-specific version of the book we're using as a textbook.

# 4 Course requirements

## Grading

Grades in this course will be determined on the basis of class attendance/participation, homeworks, and a project, weighted as follows.

| **Component** | **Maximum points** |
|---|---:|
| Homework | about 400 |
| Project | about 100 |
| Class participation | 50 |

Numeric grades will be calculated as a simple percentage, by dividing points earned on the above components by maximum points. These numeric grades will then be converted to letter grades based on a curve, but in no case will the resulting letter grades be worse than students would receive based on the following scheme.

| Numeric grade | Letter grade |
|---:|---:|
| 90 – 100 | A |
| 80 – 89 | B |
| 70 – 79 | C |
| 60 – 69 | D |
| 0 – 59 | F |

### Homework assignments

Homework assignments will be geared toward giving you "learn by doing" experience and will revolve around setting up a network of Linux machines using three computers provided by the department. Students will work in groups, of whatever size we need to end up with one group per machine. Detailed requirements will be provided as part of each assignment, and due dates will be announced via the course Web page.

### Project

Each student will also complete a modest-size project, possibly as part of a group. Detailed requirements and due dates will be announced later in the course.

### Attendance

Regular class attendance is strongly encouraged; class participation grades will be based largely on attendance.

### E-mail

Course-related announcements will sometimes be made by sending e-mail to the Trinity e-mail addresses of all registered students. Students are strongly encouraged to read mail sent to their Trinity addresses frequently. An archive of such announcements will be provided via the course Web page.

### Late and missed work

Unless otherwise stated for a particular assignment, homework will be accepted up to one class period late, *but no more*, at a penalty of 10 percent off per working day. This penalty may be waived or additional time allowed *at the instructor's discretion* in cases of illness or conflict with a university-sponsored activity or religious holiday.

If you have unusual circumstances (as we all sometimes do), please discuss these with the instructor as far in advance as possible.

### Collaboration and academic integrity

Unless otherwise specified, all work submitted for a grade (homework assignments and exams) must represent the student's own individual effort. Discussion of homework assignments and course

material among students is encouraged, but not to the point where detailed answers are being written collectively. Answers that are identical beyond coincidence are in violation of Trinity's Academic Integrity Policy and *will result in disciplinary action, including, but not limited to, a failing grade on that assignment for all parties involved*. You are responsible for the security of your work, both electronic and hard copy.