CSCI 4320 (Principles of Operating Systems), Fall 2001
Syllabus

1 Course description

This course introduces the fundamentals of operating systems design and implementation. Topics include the following:

- Role and purpose of operating systems.
- History of operating systems.
- Processes and process management, including a discussion of concurrency and related issues.
- Memory management.
- Input/output and device management.
- File systems.

2 Basic information

Class meeting times and location

- Section 1: TR 9:55am – 11:10am, Halsell 228
- Section 2: TR 11:20am – 12:35pm, Halsell 228

Prerequisites

- CSCI 2321 (Principles of Computer Design).

Instructor and contact information

- Dr. Berna Massingill
- Office: Halsell 201L
- Office phone: (210) 999-8138
- Web page: `http://www.cs.trinity.edu/~bmassing`
- E-mail: `bmassing@cs.trinity.edu`
- Office hours: Monday noon – 3:30pm, Tuesday 3:30pm – 5pm, Wednesday noon – 4:30pm, Thursday 3:30pm – 4pm, and by appointment

3 Course materials

Textbook

- Andrew S. Tanenbaum. *Modern Operating Systems.* Prentice Hall, second edition, 2001.

Web page

Most course-related information (this syllabus, homework and reading assignments, etc.) will be made available via the World Wide Web. The course Web page is a starting point for Web-accessible course material; you can find it linked from my home page (`http://www.cs.trinity.edu/~bmassing`), directly at `http://www.cs.trinity.edu/~bmassing/CS4320_2001fall/`, or via Tiger's Lair (`http://bb.trinity.edu/`).

Other references

- M. Beck, H. Boehme, M. Dziadzka, and U. Kunitz. *Linux Kernel Internals.* Addison Wesley Longman, second edition, 1998.
- K. M. Chandy and J. Misra. *Parallel Program Design: A Foundation.* Addison Wesley, 1989. A nice mathematical/formal treatment of concurrent algorithms (tangentially relevant to this course).
- A. M. Lister and R. D. Eager. *Fundamentals of Operating Systems.* Springer Verlag, fifth edition, 1993. Out of print, but an excellent short book emphasizing basic concepts.
- M. K. McKusick, K. Bostic, M. J. Karels, and J. S. Quarterman. *The Design and Implementation of the 4.4BSD Operating System.* Addison Wesley, 1996.
- A. Silberschatz, P. B. Galvin, and G. Gagne. *Operating System Concepts.* John Wiley & Sons, Inc., sixth edition, 2002. Popular textbook, with more detail than Tanenbaum but more difficult to read.
- A. S. Tanenbaum and A. S. Woodhull. *Operating Systems: Design and Implementation.* Prentice Hall, second edition, 1997.

4 Course requirements

Grading

Grades in this course will be determined by the results of two major exams (a midsemester exam and a final exam) and several homework assignments. Each exam will be worth 100 points, and together the homework assignments will be worth approximately 200 points, with the weight of individual assignments determined by their length and difficulty. Numeric grades will be calculated as a simple percentage, by dividing points earned (on homework assignments and exams) by points possible. 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

Exams

Exams are comprehensive but will emphasize the most recent material. They are scheduled as follows. Please plan accordingly.

- Midsemester exam: October 16, in class. *Changed to:* October 18, in class.
- Final exam: December 4, in class.

(Note the date and time of the final exam: It will be in class on the last possible day for a major assignment, rather than during the scheduled final-exam period.)

Homework assignments

Several homework assignments will be required for successful completion of this course. Some homeworks will be written (i.e., no programming); some will require programming. Detailed requirements, including due dates and times, will be provided as part of each assignment; normally you will have at least a week between the time the homework is assigned and the time it is due.

Attendance

Regular class attendance is strongly encouraged.

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

Exams can be made up only in cases of documented conflict with a university-sponsored activity or documented medical emergency. Homework will normally 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.

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 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.