

COURSE DESCRIPTION

Department and Course Number: COMP 6520

Course Title: Network and Operating System Administration

Total Credits: 3

Required: No

Prerequisites: COMP 4320

Class meetings per week: 3 hours

Lab meetings per week: 0 hours

Course Coordinator: Dr. Homer Carlisle

Date Prepared: February 7, 2004

Current Catalog Description:

Studies of the installation, configuration, and management of traditional, distributed, and networked system software. Network integration of different systems. Performance monitoring, safety, and security issues together with policies, politics, and the laws regarding system software management.

Textbooks:

Nemeth, Snyder, Seebass, Hein,. 2001. *UNIX System Administration Handbook*. Prentice Hall. ISBN 0-13-020601-6.

References:

1. Vi and EMACs essentials (on-line)
2. Unix essentials (on-line)
3. <http://sageweb.sage.org/resources/bookshelf>
4. <http://www.uwsg.indiana.edu/usail/>
5. <http://www.usenix.org>
6. <http://www.sans.org>
7. <http://www.ugu.com>
8. <http://www.microsoft.com>
9. <http://www.linuxdoc.org/LDP/sag/book1.html>
10. www.devworld/apple.com/techpubs

Course Objectives:

To provide students a performance-based learning experience, increasing their knowledge of operating systems, networking, and computer hardware, and to provide them with an insight into the field of computer and network management.

Prerequisites by Topic:

1. Introduction to operating systems
2. Introduction to networking
3. C programming

Topics Covered: (specify number of hours on each)

1. Introduction to system administration, policies, politics, and time management (2 hours)
2. Operating system install, use, startup, shutdown, scripting (2 hours)
3. Operating system management, users, processes, file system(4 hours)
4. Hardware management and maintenance (3 hours)
5. Performance management, backups, and upgrades (3 hours)
6. Software management, drivers, kernels (3 hours)
7. Hands on TCP/IP, hardware (2 hours)
8. Routing, network performance (4 hours)
9. Network services (DNS, DHCP) (3 hours)
10. Networked file systems and directory services (4 hours)
11. Heterogeneous operating system environments (3 hours)
12. Mail and web services (3 hours)
13. Security issues and system administration (3 hours)
14. Ethics and system administration (4 hours)
15. Exams (2 hours)

Laboratory Projects: (specify number of weeks on each)

1. Operating system installations (Solaris, Linux, XP, OS X) (performance based, not timed ~2 weeks)
2. Documenting system administration (install logs, patch logs, hardware documentation, network documentation, etc. (performance based remainder of semester)
3. Course laboratory project proposal (worked on throughout semester)
4. New disk and file system installation (performance based, not timed ~1 week)
5. Software package installations (performance based, not timed ~1 week)
6. Network hardware installs and reconfigurations (performance based ~2 weeks)
7. Backup restore homework (performance based ~2 weeks)
8. Distributed file system installs (performance based ~2 weeks)

Oral and Written Communications:

Students present their course laboratory project (item 3 above) the last weeks of class. Documentation and slide presentations are a part of these presentations.

Social and Ethical Issues:

Social and ethical issues are an important part of the course. System administrators have to deal with privacy as well as issues of license and appropriate administrative behavior. The syllabus reflects the formal time spent on these issues.

Theoretical Content:

None.

Problem Analysis and Solution Design:

None.