

CSC 353 - SYSTEM ADMINISTRATION

CREDIT HOURS: 3

PREREQUISITES: CSC 201 or 302; CSC 211

GRADE REMINDER: Must have a grade of C or better in each prerequisite course.

CATALOG DESCRIPTION

The configuration, installation and maintenance of a computer using a current operating system in a networked environment. Emphasis will be placed on resource management, performance and security. May not be used to satisfy computer science requirements for a major or minor in computer science or computer information systems.

PURPOSE OF COURSE

To acquaint the student with operating system and network administration through the assignment of a variety of problems requiring system design, development and implementation.

EDUCATIONAL OBJECTIVES

Upon successful completion of the course, students should be able to:

1. Demonstrate an understanding of operating systems concepts.
2. Maintain a networked computer system.
3. Describe the life-cycle of a computer.
4. Identify tools and techniques for system administration.
5. Configure, install, and maintain a networked computer system.
6. Identify relevant security issues.

COURSE CALENDAR

This course meets for a minimum of 37.5 lecture contact hours during the semester, including the final exam. Students have significant weekly extracurricular assignments which involve readings, operating system configuration, virtual machine creation, programming, or engaging in other forms of preparation. Students are expected to complete 4-5 major homework assignments related to the above topics, multiple in-class laboratory assignments, and 2-3 exams in addition to the final exam. Students are expected to prepare for any class assignments or quizzes over the material covered in class or the extracurricular assignments. Successful completion of these activities requires at a minimum six additional hours of outside of classroom work each week.

CONTENT

Hours

Introduction and Concepts	5
Process Management	
Memory Management	
Storage Management	
System Protection	
Installation.....	1
Installation and Configuration	
Process and Documentation	

User Management	3
Create/Delete/Update	
Groups and Permissions	
Policies and Procedures	
File Systems	6
Format and Layout	
Organization and Operation	
Configuration	
Peripherals.....	3
Hardware Management	
Printer Installation, Configuration, Management	
Device Driver Installation, Configuration, Management	
Networking	6
Network Interface Configuration	
Setup and Masking	
Wireless	
Applications	6
Installation, Configuration, Management	
Office Suite	
ISV Software	
Utilities	
Policies and Procedures	
Performance	5
Tuning - Files System, Tools (Defragment, Compress, etc.)	
Tasks - TSR issues	
Registry Management	
Security	4
Tools - Web Setup, Firewalls, Virus, Spyware, blockers	
Policies and Procedures - Access/Permissions/Accounts	
Maintenance.....	3
Backup/Restore	
RAID Organization and Operation	
Hardware/Software Updates	
Exams (plus final).....	3
	TOTAL 45

REFERENCES

Frisch, A., Essential System Administration, O'Reilly & Associates, 3rd Ed., 2002.

Hassel, J., Learning Windows Server, O'Reilly & Associates, 2nd Ed., 2003.

Hein, T., Nemeth, E., and Snyder, G., Linux Administration Handbook, Prentice Hall, 2002.

Installing, Configuring, and Administering Microsoft 7 Windows 7 XP Professional (70-270), 2nd Ed.,

<http://www.microsoft.com/MSPress/books/7721.asp>

Microsoft7 Windows7 XP Inside Out, 2nd Ed., <http://www.microsoft.com/MSPress/books/7109.asp>

Microsoft7 Windows7 XP Networking Inside Out, <http://www.microsoft.com/MSPress/books/5885.asp>

Microsoft7 Windows7 XP Professional Administrator's Pocket Consultant, 2nd Ed.,
<http://www.microsoft.com/MSPress/books/7777.asp>

Microsoft7 Windows7 XP Networking and Security Inside Out: Also Covers Windows 2000
<http://www.microsoft.com/MSPress/books/7110.asp>

Nemeth, E. et al, UNIX System Administration Handbook, Prentice Hall, 3rd Ed., 2000.

Supporting Users and Troubleshooting a Microsoft7 Windows7 XP Operating System (70-271)
<http://www.microsoft.com/MSPress/books/7250.asp>

Supporting Users and Troubleshooting Desktop Applications on a Microsoft7 Windows7 XP Operating System (70-272), <http://www.microsoft.com/MSPress/books/7576.asp>

Williams, R., and Walla, M., The Ultimate Windows Server 2003 System Administrator's Guide, Addison-Wesley, 2003.