

San Diego Mesa College – UNIX Operating System – CISC151
Spring 2006

Richard L. Holladay, CCNA, Ph.D.

Syllabus & Information

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CRN: 60886

Description

This introductory course to the UNIX Operating System is for new users to learn the programs and services that make the UNIX System so popular. Topics include the shell, communicating with other users, manipulating files using the file structure, setting file access permissions, full-screen text editing, the Bourne and C shell, and programming simple shell scripts.

Credit

3.0 Units. Letter grade, or credit/no credit.

Associate Degree credit & transfer credit to CSU and/or private colleges and universities.

Weekly Class Meetings

Lecture: Wednesday 7:00- 9:50 P.M. in room K301.

Limitation on Enrollment

This course is not open to students with previous credit for CISC265 Introduction to the UNIX Operating System.

Fall Semester 16-Week Primary Session

02/06/06 – 06/05/06 Spring Semester

02/08/06 – First class meeting

02/16/06 – Last day to add

03/13/06 – Last day to file petition for credit/no credit option

04/21/06 – (by **5:00 PM**) Last day to withdraw with a W/WF

06/12/06 – Spring 2006 grades available on Reg-e GradesLine

NOTE: These dates are not official. See the current appropriate Mesa College document for any changes or corrections to the dates listed.

Holidays

Wednesday, 04/12/06 Spring Break

Final Meeting/Final Exam

Wednesday, 05/24/06

Instructor's Faculty Website & Email Address

Website: <http://homework.sdmesa.net/rholladay/index.html>

All course materials and lecture screens.

Email: richard@richardholladay.com

Always start the subject line with MESA UNIX so I know it's related to the class.

Allow up to 24 hours for a reply.

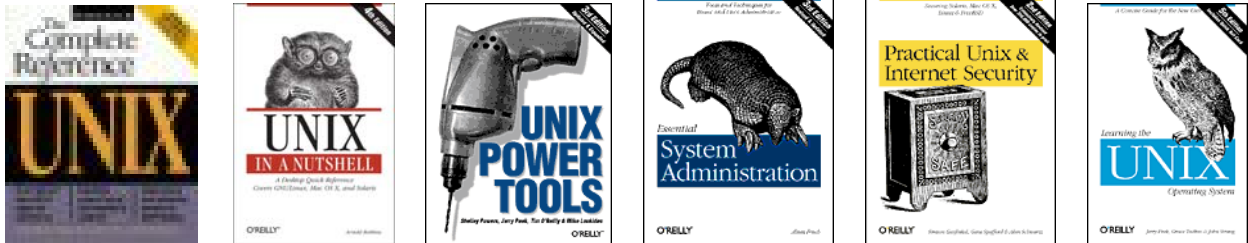
Course Objectives

- Log into and out of a UNIX server using local terminal or remote connection via telnet: PuTTY ssh
- Use UNIX commands to maintain user account settings
- Explain UNIX security and compare to DOS/Windows security
- Explain root superuser and regular user accounts
- Explain local UNIX help resources
- Explain and use UNIX editors such as `vi` and `emacs`
- Explain, use, and diagnose file linking with command such as `ln`
- Explain file permissions command such as `chmod` and `umask`, and security, and user access
- Explain and use archive and compression commands
- Explain downloading from the Internet
- Explain and use Regular Expressions in UNIX command such as `grep`, `egrep`, and `fgrep`
- Explain and use Regular Expressions in UNIX command such as `sed`, the UNIX Stream Editor
- Use and modify UNIX bash shell scripts for `grep`, `sed`, `awk`, `perl` commands
- Use UNIX flat file database search and summarize commands such as `awk`
- Explain UNIX' close ties to the C language, and create, compile and run C programs
- Explain system administration, system performance, privacy, and reliability issues
- Explain the use of UNIX to create HTML Web page servers
- Explain the start up and shut down of UNIX systems without damage to the file system or other data
- Explain the role of UNIX in networking and its historical ties to TCP/IP

Course Content and Scope

- Introduction to the UNIX Operating System – its history, architecture, and features
- UNIX Fundamentals - login, the `vi` editor, special characters
- Introduction to UNIX Utilities - display, list, print files, electronic communication
- The UNIX File Structure - file types, file commands, file naming, path names, permissions
- Shell I/O, pipes, processes, filename generation
- The `vi` Editor - cursor movements, editing text, search, substitution. Shell commands
- Regular Expressions - Special Characters
- The Bourne Shell - Bourne Shell scripts, variables, control structures, special characters
- Shell variables, Shell Scripts, history, alias, control structures
- `awk`, `grep`, `sed`, `perl`, and C
- Networking
- An Introduction to UNIX System Administration
- System and Network Security

Course Materials



Required Text, Software, and Supplies

- Rosen, Kenneth, Douglas Host, James Farber, and Richard Rosinski. *UNIX, The Complete Reference*. Berkely: Osborne/McGraw-Hill, 1999. ISBN: 0-07-211892-X.
- PuTTY. A free, telnet/ssh client for connecting to the Mesa UNIX Server from Windows. Free download available at: <http://www.chiark.greenend.org.uk/~sgtatham/putty/>
- 3.25" 1.44MB floppy disks, or 100MB ZIP Disks in IBM PC format for saving your work after Lab sessions and making backups of work
- Scantron narrow 50-answer forms and #2 pencil for Midterm and Final exams

Highly Recommended Software and Texts

- A UNIX or Linux distribution to run on a home computer to gain experience with UNIX GUI options (gnome, KDE, etc.) and graphical applications. Recommendations: Sun Solaris 10, Intel x86 version (free download), Fedora Core 4 Linux (free download); SuSe 10.0 Professional (free download); Knoppix Linux (free download, runs "live" from CD without installation).
- VMWare Workstation to run UNIX/Linux on Windows in a Window without installation. Student pricing available. Free evaluation version available at www.vmware.com/download/
- **Robbins, Arnold. *Unix in a Nutshell, Fourth Edition*. Sebastopol: O'Reilly, 2006. ISBN: 1-596-10029-9.**
- Powers, Shelly. *UNIX Power Tools, Third Edition*. Sebastopol: O'Reilly, 2002. ISBN: 0-596-00330-7.
- Frisch, Aeleen. *Essential System Administration, Third Edition*. Sebastopol: O'Reilly, 2002. ISBN: 0-596-00343-9.
- Garfunkel, Simpson. *Practical Unix and Internet Security, Third Edition*. Sebastopol: O'Reilly, 2003. ISBN: 0-596-00323-4.
- Peek, Jerry, *Learning the Unix Operating System, Fifth Edition*. Sebastopol: O'Reilly, 1991. ISBN: 0-596-00261-0.
- Lamb, Linda. *Learning the vi Editor, Sixth Edition*. Sebastopol: O'Reilly, 1998. ISBN: 1-56592-426-6.
- Newham, Cameron. *Learning the bash Shell, Third Edition*. Sebastopol: O'Reilly, 2005. ISBN: 0-596-00965-8.

Attendance Requirements and Student Responsibilities

- Attendance will be taken at all lectures and lab sessions and will be used as a method for determining your final grade (Policy 3110).
- **Two consecutive unexcused absences from Lecture will result in you being dropped from the course.** Please notify me of schedule conflicts that could result in absences.
- It is the student's responsibility to add, drop, or withdraw from class before the deadlines stated in the Official Mesa College Class Schedule. **Failure to do so may result in you receiving a failing grade in the course.**
- Students will be required to do their own work and adhere to the Honest Academic Conduct & Standards Policies, as described in the Policies & Procedures section of the latest *San Diego Mesa College Student Handbook*.

Reading Assignments

Reading Assignments must be completed prior to class. Students should be prepared to discuss content in class when called upon. Generally reading will be based upon the topics to be presented each week in class. Some supplemental reading also may be assigned during the course. See the separate handout *Class Schedule* for details.

Homework Assignments

There will be homework assignments consisting of individual exercises based on topics in the text. Details of the assignments will be available on the faculty website and the UNIX server. All homework will be submitted to a special area on the server. Due dates for each group can be found in the handout *Class Schedule*.

Exams

Completion of a Midterm and a comprehensive Final Exam will be required. These will be based upon reading assignments, lectures, lab topics, and homework. See the separate handout *Class Schedule* for dates.

Grading Policy

No exam makeups will be allowed without prior approval.

Homework is due according to the separate handout *Class Schedule*.

20% will be deducted for each week or portion that an assignment is late. No credit will be granted for homework that is more than two weeks late.

Grading:

Points	Points	Percentage
Midterm & Final Exams (100 points each)	200	40%
Homework Assignments (100 points per group)	300	60%
TOTAL:	500	100%

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Final Course Grade:

- Final Grades are based on a simple graduated scale (see below).
- Attendance will be taken and will be used as a method for determining your final grade (Policy 3110).
- **Points will be deducted for each unexcused absence.**
- **Two consecutive unexcused absences from Lecture or Lab will result in you being automatically dropped from the course.**

Grade	Percentage
A	90% – 100%
B	80% – 89%
C	70% – 79%
D	60% – 69%
F	0% – 59%

Instructor's Biography

Richard L. Holladay, CCNA, M.A., Ph.D., has extensive experience in industry as a Computer Programmer/Analyst and Systems Engineer. In addition, he has spent the last 15 years as an independent consultant, forming On-Line Systems Consulting in 1990. He has worked in IT for a variety of companies throughout California and Arizona including Honda Motors of America, Good Samaritan Hospital (San Jose), Nissan Motor Corporation, SAIC, Yamaha Motors, HomeBase, Hughes Missile Systems, General Dynamics, Union Bank, SunAmerica, American Express, and others. He was involved with major Y2K remediation projects for San Diego County Health & Human Services, San Diego City Schools, and the San Diego Community College District, and Sempra Energy. He also supports clients in San Diego, Orange, and Los Angeles Counties as a consultant, working with real estate firms and small medical practices. In addition, he serves as a critical reviewer for several publishers including Prentice Hall where he was on the Academic and OOD/UML review team for the newly released fifth edition of Deitels' *C++ How to Program*.

He holds a B.A. in Music from the University of California, and an M.A. and Ph.D. in Music Theory & Analysis from the Ohio State University. He earned a Specialized Certificate in Visual Basic Programming from the University of California at San Diego, and is a Cisco Certified Network Associate (CCNA). In addition to consulting, he teaches UNIX, Java, and C++ programming as an Adjunct Professor in the Department of Computer and Information Science at San Diego Mesa College, C++, Java, and Cisco Networking Academy courses at Cuyamaca College, and networking and IT courses as a full-time instructor at ITT Technical Institute.

Before beginning his programming career, he was an accomplished musician performing as a bassoonist in several community symphonies, opera, and chamber ensembles. He is also an avid woodworker and has built several harpsichords and clavichords. His current project is a 13-course Baroque lute based on a model built by J.C. Hoffman in 1730.

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