

COURSE SYLLABUS

Net 260: Linux System Administration

Course Description

Linux Network Administration addresses the skills needed to set up and maintain a Linux operating system. Essential tasks of the Linux administrator will be discussed. From a task-oriented perspective, the course will explore the concepts, structure, and assumptions that define a Linux environment using the commands, procedures, and strategies necessary to succeed as a Linux administrator.

General Course Information

| | |
|--|-----------------------|
| Number of Units/Weeks | 4/10 |
| #Hours Lecture/#Hours Laboratory/#Hours Homework | 40/00/80 |
| Prerequisite(s) | COM 259 |
| Co-requisites (s) | None |
| Course Developer(s) | Robert Scott M.S. |
| Date Approved / Last Review | May 2014 / March 2018 |

Learning Outcomes

Upon completion of the course, student will be able to:

- Understand the roll of the Operating System in a client/server environment.
- Read and follow complex instructions.
- Analyze instructions, and if necessary perform research to resolve inconsistencies or omissions.
- Understand the interaction and interdependence of the various parts of the operating system.
- Formulate a solution to a complex problem, implementing the concept of abstraction.
- Demonstrate a solution using client, server technology.
- Install and configure various packages and applications.
- Update packages as needed and provide backups as well as security.

Instructional Methods Employed in this Course

- LASA midterm and final
- Multiple choice questions
- Hands-on exercises

Information Resources for this Course



Textbook



Jason W. Eckert (2016) *CompTIA Linux+ Guide to Linux Certification Fourth Edition*. Massachusetts: Cengage Learning

Other Materials

Nemeth, Evi., Snyder, Garth., Hein, Trent R., Whaley, Ben (2010). *UNIX and Linux System Administration Handbook (4th Edition)*. New Jersey: Prentice Hall. ISBN-13: 978-0131480056

Sobell, Mark G. (2014). *A Practical Guide to Fedora and Red Hat Enterprise Linux (7th Edition)*. New Jersey: Prentice Hall. ISBN-13: 978-0133477436

CentOS Bible (2009)
Christopher. Negus, Timothy Boronczyk: ISBN-13: 978-0133477436

Linux Bible (2012)
Christopher Negus, Christine Bresnahan: 978-1118218549



Web Site Readings

Various How To's for Cent OS
<http://wiki.centos.org/HowTos>

Securing SSH
<http://wiki.centos.org/HowTos/Network/SecuringSSH?highlight=%28ssh%29>

Configuring Samba
<http://us1.samba.org/samba/docs/man/Samba-HOWTO-Collection/install.html#id2544263>

CUPS Printing Options
<http://www.cups.org/documentation.php/options.html>

DNS Servers
http://www.centos.org/docs/5/html/Deployment_Guide-en-US/ch-bind.html

Table/Topics & Assignments

Types of Assignments:

Lecture -

Considered Lecture Hours

Classroom Discussion - considered Lecture Hours

In Class Critique -

Considered Lecture Hours

Delivering Oral Presentations -

Considered Lecture Hours

In Class (IC) Exercise -

Considered Lecture Hours

Reading -

Considered Homework, work done outside of class

WebClass lesson (non-online courses) -

Considered Homework, work done outside of class

Project Work -

Considered Lab Hours

Midterm or Final -

Considered Lecture Hours

| Week 1 | | | | | | |
|--------------|--|-----------|-----------|----------|-------------|---------------|
| Type | Topic/Description | LEC Hours | LAB Hours | HW Hours | Point Value | Due |
| LEC 1A | Chapter 1 Introduction to Linux Chapter 2 Linux Installation | 2.5 | -- | -- | -- | |
| IC EX 1A | Project 1 - 2 - | 1.5 | - | -- | 50 | End of Week 1 |
| HW 1A | Read Chapters 1-2, pgs. 1 – 82 Questions Ch. 1 - 2 | -- | -- | 10.2 | --30 | Week 2 |
| Total Week 1 | | 4 | - | 10.2 | 80 | |
| Week 2 | | | | | | |
| Type | Topic/Description | LEC Hours | LAB Hours | HW Hours | Point Value | Due |
| LEC 2A | Chapter 3 Linux Filesystem Chapter 4 Filesystem Management | 2.5 | -- | -- | -- | |
| IC EX 2A | Project 3 – 4 | 1.5 | - | -- | 40 | End of week 2 |
| HW 2A | Read Chapters 3 & 4, pgs. 83 – 186 Questions Ch. 3 - 4 | -- | -- | 12.3 | 30 | Week 3 |
| Total Week 2 | | 4 | - | 12.1 | 70 | |
| Week 3 | | | | | | |
| Type | Topic/Description | LEC Hours | LAB Hours | HW Hours | Point Value | Due |
| LEC 3A | Chapter 5 Filesystem Administration | 3 | -- | -- | -- | |
| IC EX 3A | Project 5 | 1 | - | -- | 20 | End of Week 3 |
| HW 3A | Read Chapter 5 pgs 187 – 254 Questions Ch. 5 | -- | -- | 9 | 15 | Week 4 |
| Total Week 3 | | 4 | - | 9 | 35 | |
| Week 4 | | | | | | |
| Type | Topic/Description | LEC Hours | LAB Hours | HW Hours | Point Value | Due |
| LEC 4A | Chapter 6 Server Deployment Chapter 7 Working with the BASH Shell | 2.5 | -- | -- | -- | |
| IC EX 4A | Project 6 - Project 7 - | 1.5 | -- | -- | 40 | End of week 4 |

| HW 4A | Read Chapters 6 - 7, pgs 255 – 348 Questions Ch. 6 - 7 | -- | -- | 12 | 30 | Week 5 |
|---------------|---|--------------|--------------|-------------|----------------|---------------|
| Total Week 4 | | 4 | 1.5 | 12 | 70 | |
| Week 5 | | | | | | |
| Type | Topic/Description | LEC Hours | LAB Hours | HW Hours | Point Value | Due |
| EXAM | Midterm | - | -- | -- | 250 | |
| Total Week 5 | | - | 0 | | 250 | |
| Week 6 | | | | | | |
| Type | Topic/Description | LEC Hours | LAB Hours | HW Hours | Point Value | Due |
| LEC 5A | Chapter 8 System initialization and X Window Chapter 9 Managing Linux Processes | 2.5 | -- | -- | -- | |
| IC EX 5A | Project 8 & 9 | 1.5 | -- | -- | 40 | End of week 6 |
| HW 5A | Read Chapter 8 – 9 pgs. 349 - 424 Questions Ch. 8 - 9 | -- | -- | 10.0 | 30 | Week 7 |
| Total Week 6 | | 4 | | 8.0 | 70 | |
| Week 7 | | | | | | |
| Type | Topic/Description | LEC Hours | LAB Hours | HW Hours | Point Value | Due |
| LEC 6A | Chapter 10 Administrative Tasks Chapter 11 Compression, Backup, and software installation | 2.5 | -- | -- | -- | |
| IC EX 6A | Project 10 - 11 | 1.5 | -- | -- | 40 | End of week 7 |
| HW 6A | Read Chapter 10 – 11 pgs. 425 - 524 Questions 10 - 11 | -- | -- | 10 | -30 | Week 8 |
| Total Week 7 | | 4 | 0 | 10 | 70 | |
| Week 8 | | | | | | |
| Type | Topic/Description | LEC Hours | LAB Hours | HW Hours | Point Value | Due |
| LEC 7A | Chapter 12 Network configuration Chapter 13 Configuring Network Services | 2.5 | -- | -- | -- | |

| | | | | | | |
|----------------|--|----------------------|----------------------|---------------------|------------------------|---------------|
| IC EX 7A | Project 12 - 13 | 1.5 | -- | -- | 40 | End of week 8 |
| HW 7A | Read Chapter 12 – 13 525 – 624 Questions 12 - 13 | -- | -- | 12 | 30 | Week 9 |
| Total Week 8 | | 4 | 0 | 12 | 70 | |
| Week 9 | | | | | | |
| Type | Topic/Description | LEC Hours | LAB Hours | HW Hours | Point Value | Due |
| LEC 8A | Chapter 14 Troubleshooting | 2 | -- | -- | -- | |
| IC EX 9A | Projects 14 | 2 | -- | -- | 20 | End of week 9 |
| HW 9A | Read Chapter 14 pgs. 525 - 672 | -- | -- | 6.2 | -15 | |
| Total Week 9 | | 4 | 0 | 4.2 | 35 | |
| Week 10 | | | | | | |
| Type | Topic/Description | LEC Hours | LAB Hours | HW Hours | Point Value | Due |
| LEC 10A | In-class discussion | 3 | - | - | - | |
| EXAM | Final Exam | 1 | -- | -- | 250 | |
| Total Week 10 | | 4 | 0 | 0 | 250 | |

Course Hours Summary

| Week | Topic | LEC Hours | LAB Hours | HW Hours |
|-------|-----------------------|-----------|-----------|----------|
| 1 | Chapter 1 & 2 | 2.5 | 1.5 | 10.2 |
| 2 | Chapter 3 & 4 | 2.5 | 1.5 | 12.1 |
| 3 | Chapter 5 | 3 | 1 | 9.0 |
| 4 | Chapter 6 & 7 | 2.5 | 1.5 | 12 |
| 5 | Midterm Exam | | | |
| 6 | Chapter 8 & 9 | 2.5 | 1.5 | 8.0 |
| 7 | Chapter 10 & 11 | 2.5 | 1.5 | 10 |
| 8 | Chapter 12 & 13 | 2.5 | 1.5 | 12 |
| 9 | Chapter 14 | 3 | 0 | 6.2 |
| 10 | Course Review / Final | 2 | 0 | 0 |
| Total | | 23 | 17 | 80 |

Table/Point Breakdown

| Week | Assignment | Possible Points | Percent of Grade |
|-------|------------------------------|-----------------|------------------|
| 1 | Project 1 & 2 | 50 | 50% |
| | Homework Questions 1 & 2 | 30 | 30% |
| 2 | Project 3 & 4 | 40 | 40% |
| | Homework Questions 3 & 4 | 30 | 30% |
| 3 | Project 5 | 20 | 20% |
| | Homework Questions Chapter 5 | 15 | 15% |
| 4 | Project 6 & 7 | 40 | 40% |
| | Homework Questions 6 & 7 | 30 | 30% |
| 5 | Mid Term | 250 | 250% |
| 6 | Project 8 & 9 | 40 | 40% |
| | Homework Questions 8 & 9 | 30 | 30% |
| 7 | Project 10 & 11 | 40 | 40% |
| | Homework Questions 10 & 11 | 30 | 30% |
| 8 | Project 12 & 13 | 40 | 40% |
| | Homework Chapters 12 & 13 | 30 | 30% |
| 9 | Project 14 | 20 | 20% |
| | Homework Chapter 14 | 15 | 15% |
| 10 | Final | 250 | 250% |
| Total | | 1000 | 1000% |

Your Grades for this Course

Your final grade for this course will be based on an assessment by the Instructor of your performance on a number of course activities, which may include objective tests, classroom exercises, laboratory demonstrations, project papers, or other types of activities. The chart below indicates in what activities you will engage, how many possible points can be earned for each activity, and the percentage of your final grade that will be accounted for by each activity.

Students in this course should be graded following Coleman University assessment practices and policies. A point system is used in the University to indicate student performance on various required activities or projects. For this course, it is recommended that points be distributed as follows:

Coleman University Grade Assignment Policy:

| Percent | Letter Grade | Grade Points |
|-------------|--------------|--------------|
| 94-100 | A | 4 |
| 90-93 | A- | 3.67 |
| 87-89 | B+ | 3.33 |
| 84-86 | B | 3 |
| 80-83 | B- | 2.67 |
| 77-79 | C+ | 2.33 |
| 74-76 | C | 2 |
| 70-73 | C- | 1.67 |
| 67-69 | D+ | 1.33 |
| 64-66 | D | 1 |
| 60-63 | D- | 0.67 |
| N/A | INC | 0 |
| N/A | W | 0 |
| N/A | CR | 0 |
| 59 or below | F | 0 |
| N/A | I | 0 |
| N/A | W | 0 |
| N/A | AU | 0 |
| N/A | TR | 0 |
| N/A | WV | 0 |

| Legend | |
|----------------|-----------------------|
| CR = Credit | NC = No Credit |
| I = Incomplete | W = Course Withdrawal |
| AU = Audit | TR = Transfer Credit |

Academic Accommodation / Adjustment Policy:

In accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA), Coleman University offers accommodations to students with documented physical, psychological, and/or cognitive disabilities. Coleman University will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to offer equal educational opportunities to qualified disabled individuals.

To qualify for an academic accommodation under ADA, the student must provide adequate documentation of a disability. Students seeking academic accommodations should contact the campus ADA Coordinator at 858-966-3953 or via email at ada@coleman.edu. The ADA Coordinator will review the documentation provided and verify ADA coverage. Students covered under ADA must meet with the ADA Coordinator at the beginning of every term to determine the appropriate academic accommodations. Failing to meet with the ADA Coordinator at the beginning of every term may impact the availability of accommodations.

After the academic accommodations have been determined, the students' instructors will be notified by the ADA Coordinator. If any problems or concerns regarding the provision of accommodations occur, the student must inform the ADA Coordinator. If the student feels accommodation is not being made appropriately, the student may follow the published Student Grievance Procedures.