

# NET 3200

Linux Systems Administration  
Fall Semester 2017

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| Instructor    | Matt Paulson<br>WSU Davis Office: D2 305D<br>SLCC Office: BB 226G<br>Phone: 801-395-3438 (available <b>TH ONLY</b> )<br>Email: <a href="mailto:mattpaulson@weber.edu">mattpaulson@weber.edu</a><br>WSU Davis Office Hours: TH 5:30 – 8:00 PM<br>SLCC Office Hours: MW 4:00 – 5:15 PM  |
| Classroom     | WSU Davis D2 315  |
| Days          | TR  |
| Time          | 4:00 – 5:15 PM  |
| Texts         | Selected Readings   |
| Description   | This course gives students a solid foundation in the fundamentals of the Linux operating system. Students gain system-level experience through problem-solving exercises at the command line and in the graphical user interface (GUI). By the end of the course, students will have learned the major, essential, command-line commands necessary to be accomplished users of Linux.   |
| Prerequisites | NET 2200  |
| Objectives    | <p>At the completion of this class the students will be able to:</p> <ol style="list-style-type: none"><li>1. View command help</li><li>2. Manage files and directories</li><li>3. Create hard and symbolic links</li><li>4. Configure the boot file</li><li>5. Manage system and service runlevels</li><li>6. Stop, restart, and manage services</li><li>7. Shut down the system</li><li>8. Manage users and groups</li><li>9. Manage passwords</li><li>10. Format a hard disk, and mount a volume</li><li>11. Manage quotas</li><li>12. Manage file and directory permissions</li><li>13. Manage printing</li><li>14. Manage network interfaces</li></ol> <p>The student will also:</p> <ul style="list-style-type: none"><li>• possess an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.</li><li>• possess an ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.</li></ul> |

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|                                 | <ul style="list-style-type: none"> <li>• recognize the need for an ability to engage in continuing professional development.</li> <li>• possess an ability to use current techniques, skills, and tools necessary for computing practice.</li> </ul>   |
| Class                           | Class will consist of lectures, discussions, assignments, quizzes and exams. Questions and comments are encouraged. It is expected that students will read the material related to each week's coursework. Attendance and participation will account for 10% of your grade and will be based upon the completion of in-class activities.   |
| Labs and Assignments            | There will be several in-class labs that you are expected to participate in. These labs will be vital for you to exhibit understanding of the course material, and to prepare you for mid-term exams. While these labs will not be graded, your participation in them is highly encouraged.  |
| Quizzes and Exams               | <p>There will be 3 quizzes given in-class, as noted on the tentative schedule. The quizzes will cover class material presented between each quiz instance. These quizzes will account for 20% of the total grade.</p> <p>There will be 2 exams given, as noted on the tentative schedule. The mid-term exam will cover all class material presented to date. The final exam will cover all material. These exams will account for 40% of the total grade.</p> <p>Both the quizzes and exams will be objective quizzes, in multiple-choice, true/false, and matching formats.</p>                                   |
| Readings                        | You will be expected to read and critique 4 current research articles related to the current class topic. For each reading critique, a set of articles will be provided from which you may select one article of interest. The critique should consist of a 1-2 paragraph summary of the article followed by a paragraph discussing the strengths of the article and another paragraph discussing the weaknesses or shortcomings of the article. A final paragraph should include a discussion on how the article could be extended in the future. The reading critiques will account for 20% of your final grade. |
| Late Policy                     | Late work will be accepted with a 20% penalty per day for up to three days to provide for unforeseen circumstances.  |
| Accommodations for Disabilities | Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in room 221 of the Student Services Center at the Davis Campus. SSD can also arrange to provide course materials (including this syllabus) in alternative formats if necessary. You can also call 801-395-3524 or visit <a href="http://www.weber.edu/ssd">http://www.weber.edu/ssd</a> for more details.  |
| Grading                         | <p>Reading Critiques      20%</p> <p>In-Class                      20%</p>   |

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|                  | <div>Quizzes20%</div> <div>Exams40%</div> <div>The final grade will be given based on points accumulated through quizzes, assignments and exams. Standard grading will apply:</div> <table><tr><td>94 – 100</td><td>A</td><td>74 – 76</td><td>C</td></tr><tr><td>90 – 93</td><td>A-</td><td>70 – 73</td><td>C-</td></tr><tr><td>87 – 89</td><td>B+</td><td>67 – 69</td><td>D+</td></tr><tr><td>84 – 87</td><td>B</td><td>64 – 67</td><td>D</td></tr><tr><td>80 – 83</td><td>B-</td><td>60 – 63</td><td>D-</td></tr><tr><td>77 – 79</td><td>C+</td><td>00 – 59</td><td>E</td></tr></table>   | 94 – 100 | A  | 74 – 76 | C | 90 – 93 | A- | 70 – 73 | C- | 87 – 89 | B+ | 67 – 69 | D+ | 84 – 87 | B | 64 – 67 | D | 80 – 83 | B- | 60 – 63 | D- | 77 – 79 | C+ | 00 – 59 | E |
| 94 – 100         | A   | 74 – 76  | C  |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |
| 90 – 93          | A-  | 70 – 73  | C- |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |
| 87 – 89          | B+  | 67 – 69  | D+ |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |
| 84 – 87          | B   | 64 – 67  | D  |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |
| 80 – 83          | B-  | 60 – 63  | D- |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |
| 77 – 79          | C+  | 00 – 59  | E  |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |
| Allocated Time   | You should anticipate spending two to three hours of study per week for each credit hour of a university course. Computer and programming classes typically require time in the upper range.  |          |    |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |
| Canvas           | <p>This course will have a strong online component via the Canvas course management system. To log on to the course, go to <a href="http://canvas.weber.edu">http://canvas.weber.edu</a>, and follow the login instructions. You will need your WSU wildcat name and password to log in. You should have already received this information from the admissions department. If you still have problems getting into the course, please email me and I will see if I can resolve the issue.</p> <p>If you are unfamiliar with Canvas, go to <a href="https://learn-wsu.uen.org/courses/8878">https://learn-wsu.uen.org/courses/8878</a> for a student orientation. Click on the links on the left side of the page. PDF help documents are available at <a href="http://departments.weber.edu/ce/distancelearning/CanvasFAQ.aspx">http://departments.weber.edu/ce/distancelearning/CanvasFAQ.aspx</a></p> |          |    |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |
| Policies         | Exams can only be taken on the days given unless arrangements are made to take them ahead of time.  |          |    |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |
| Course Fees      | Course fees are designed to cover the costs of lab equipment maintenance and replacement including desktop and server computer systems and software; consumable materials and supplies; and support for lab aides, student tutors, and online instructional resources.  |          |    |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |
| Academic Honesty | <p>Students are expected to maintain academic ethics and integrity in regards to performing their own work. The WSU Student Code states clarifies cheating.</p> <div><div>1.</div><div>Cheating, which includes but is not limited to:</div><div><div>a.</div><div>Copying from another student's test paper;</div></div></div>   |          |    |         |   |         |    |         |    |         |    |         |    |         |   |         |   |         |    |         |    |         |    |         |   |

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|                          | <ul style="list-style-type: none"> <li>b. Using materials during a test not authorized by the person giving the test;</li> <li>c. Collaborating with any other person during a test without authority;</li> <li>d. Knowingly obtaining, using, buying, selling, transporting, or soliciting in whole or in part the contents of any test, without authorization of the appropriate official;</li> <li>e. Bribing any other person to obtain any test;</li> <li>f. Soliciting or receiving unauthorized information about any test;</li> <li>g. Substituting for another student or permitting any other person to substitute for oneself to take a test.</li> </ul> <p>2. Plagiarism, which is the unacknowledged (uncited) use of any other person or group's ideas or work. This includes purchased or borrowed papers;</p> <p>3. Collusion, which is the unauthorized collaboration with another person in preparing work offered for credit;</p> <p>4. Falsification, which is the intentional and unauthorized altering or inventing of any information or citation in an academic exercise, activity, or record-keeping process;</p> <p>5. Giving, selling or receiving unauthorized course or test information;</p> <p>6. Using any unauthorized resource or aid in the preparation or completion of any course work, exercise or activity;</p> <p>7. Infringing on the copyright law of the United States which prohibits the making of reproductions of copyrighted material except under certain specified conditions;</p> <p>NMT Department policy dictates that any verifiable evidence of student academic cheating, as defined and determined by the instructor, will result in: 1) an automatic failing grade for the class and 2) a report to the Dean of Students that will include the student's name and a description of the student's dishonest conduct.</p> |
| Emergency Closure Policy | <p>Emergency closures will be announced via Code Purple. If WSU campuses are closed for the day, this class will not be held.</p> <p>If for any reason the university is forced to close for an extended period of time, we will conduct our class through Canvas as an online course. Look for announcements through Canvas Announcements and Canvas Conversations.</p>  |
| Contacting Matt          | <p>Your best bet to contact me will be through the Canvas portal or email directly. I will do my best to return your message within 1 business day. I consider my office hours to be “drop-in” hours; feel free to stop by at your convenience, or contact me to set an appointment.</p>  |

# TENTATIVE Class Schedule and Course Outline

| Week of           | Topic   | Coursework            |
|-------------------|---|-----------------------|
| 28 Aug<br>Week 1  | Introduction<br>Review of Fundamental Security Concepts<br>Exploring the Linux Command Line Interface |                       |
| 4 Sept<br>Week 2  | Command Line Interface (cont)<br>Managing Software  |                       |
| 11 Sept<br>Week 3 | Configuring Hardware  | Reading #1            |
| 18 Sept<br>Week 4 | Managing Files  | Quiz #1               |
| 25 Sept<br>Week 5 | LAB: CLI, Hardware, Software, Files   |                       |
| 2 Oct<br>Week 6   | Booting Linux and Editing Files   | Reading #2            |
| 9 Oct<br>Week 7   | X Windows and You<br>Administering a Linux System   | Quiz #2               |
| 16 Oct<br>Week 8  | Administering a Linux System  | <b>Midterm Exam 1</b> |
| 23 Oct<br>Week 9  | Configuring Basic Networking  |                       |
| 30 Oct<br>Week 10 | LAB: Editing Files, X Windows, Administering,<br>Networking<br>Scripts, Email, Databases (cont)       |                       |
| 6 Nov<br>Week 11  | Writing Scripts, Configuring Email, and Using<br>Databases  | Reading #3            |
| 13 Nov<br>Week 12 | Scripts, Email, Databases (cont)  | Quiz #3               |
| 20 Nov<br>Week 13 | THANKSGIVING – NO CLASS<br>Securing Your System   |                       |
| 27 Nov<br>Week 14 | Securing Your System (cont)   | Reading #4            |
| 4 Dec<br>Week 15  | LAB: Scripts, Email, Databases, Security  |                       |
| 11 Dec<br>Week 16 | Review Final Exam   | Final Exam            |