

Course Title: CSC109 UNIX/Linux Operating System Date: June 2019

Course Team: Doug Horton, Adjunct Professor – Karen Weil-Yates FT faculty reviewer

Expected Learning Outcomes for Course

- Choose appropriate UNIX/Linux operating system commands to make effective use of the environment to solve problems
- Write efficient, effective scripts with documentation
- Research and present information and resources utilizing new commands

Assessment

There are three take-home, application exams comprised of 50 questions that the students complete. The exams demonstrate their knowledge of Unix/Linux commands and the ability to apply critical thinking skills to all questions. They are encouraged to use their textbook, Internet research.

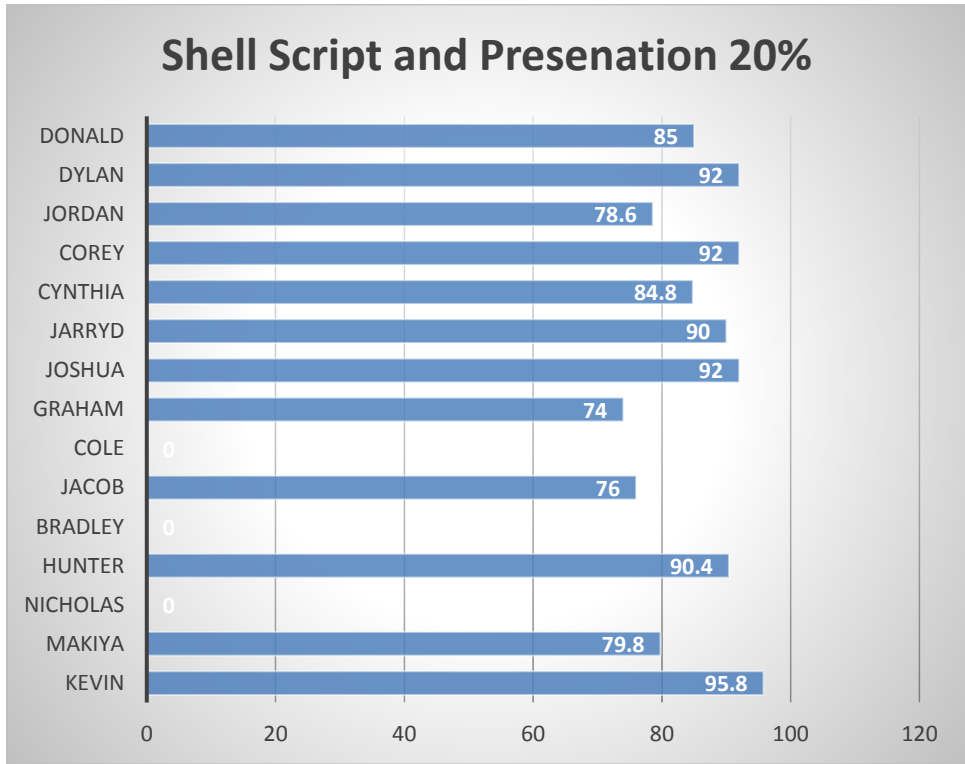
There are two instructors for this course in the spring (1 in the fall); the exams cover the same type of question but not the same wording. Filenames, options, scenarios were changed.

In looking at just the scores on the three exams, there is no huge difference in the percentage. I reason this to be the nature of the course. If students continually work on all projects, assignments, and do the hands-on in class, they will do well on the exam. If students 'pick and choose' the assignments they want to do, they consistently get lower scores. The average for the final exam was 60.63% but when you remove the two students who did not take the exam, the average rose to 69.96%.

Attendance: Attendance in day course improved dramatically this semester. Of the random class sampling 2 students who did poorly in the course attended regularly but did not submit any assignments.

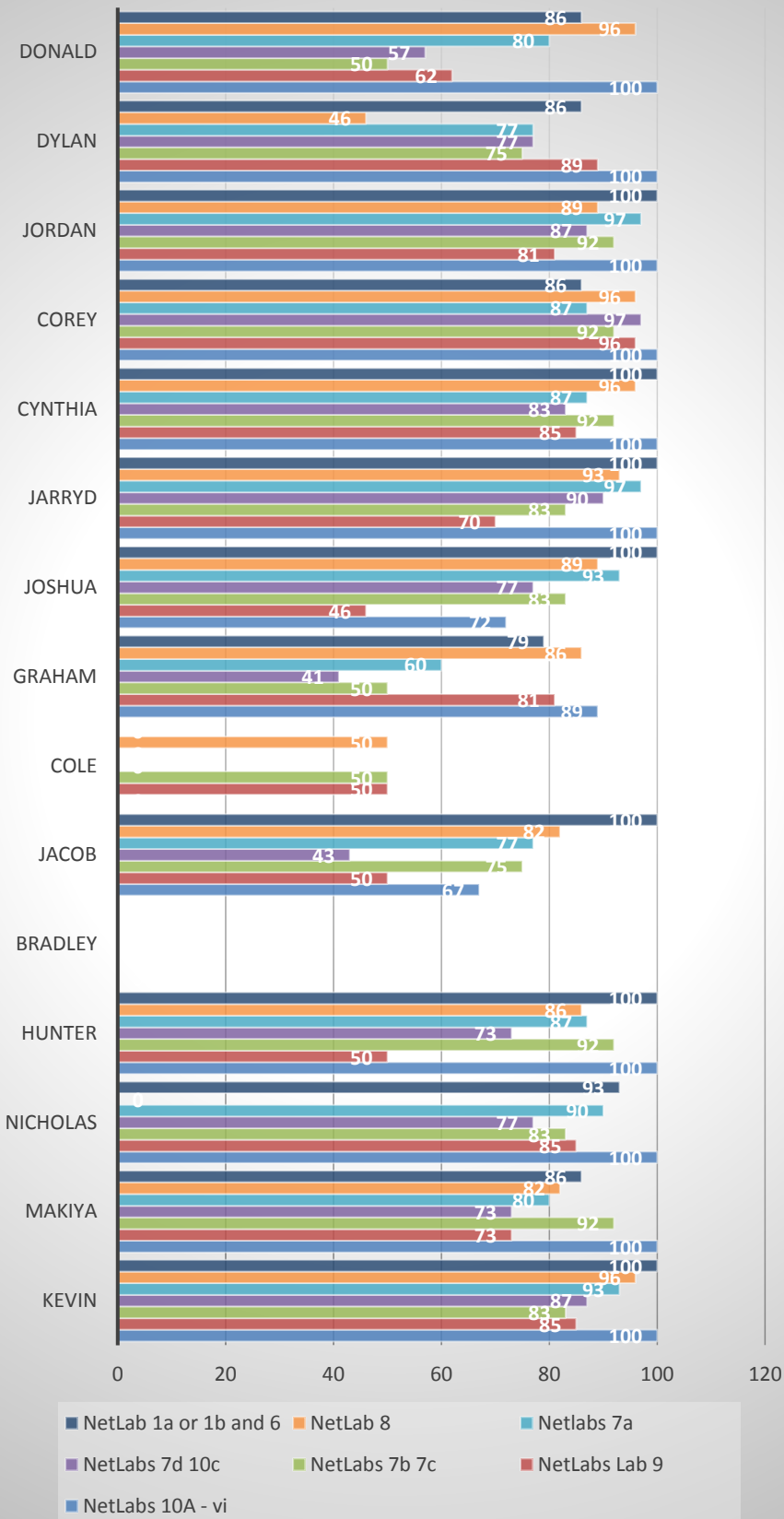
Scripting: Continuing with the random sampling, only 3 students did not complete the script, even though they knew this assignment was worth 20% of their grade.

The actual presentations were excellent for those students that put forth the effort.



In 2018 (as in 2017), Netlabs continues to be a problem. Students do not complete the lab prior to doing the quiz. They choose to seek the answers online, textbook, or guessing. The data shows that those students that actually completed the Netlabs did better in the class (grade distribution versus completion of Netlabs with a B or better). The instructor could tell students that did the Netlabs by two methods: checking last used dates and there were specific commands used in Netlabs quiz that were required for the answers. Considering this is a good way for students to get additional practice outside of class, I will continue to use it (and it is free to the students but the college does pay for it).

Netlab Quizzes



Validation

Continuing to use CompTIA Linux Certification Objectives with course content built around this national certification. The Linux Certification cannot be used as a capstone project because a minimum of 2 years work experience is suggested to pass the exam. In addition, there is limited system administration work completed in this course due to time constraints. The course is taught from a software engineering standpoint and not a system administrator. A UNIX/Linux System Administrator/Senior Software Engineer (US Coast Guard, Martinsburg, WV) was consulted in the design of the course. His suggestions are incorporated into the course and updated yearly.

Objectives of the course were mapped to the LPI exam I and were updated in fall 2017. There have been no changes since 2017. The mapping has not changed since the exam has not changed.

Results

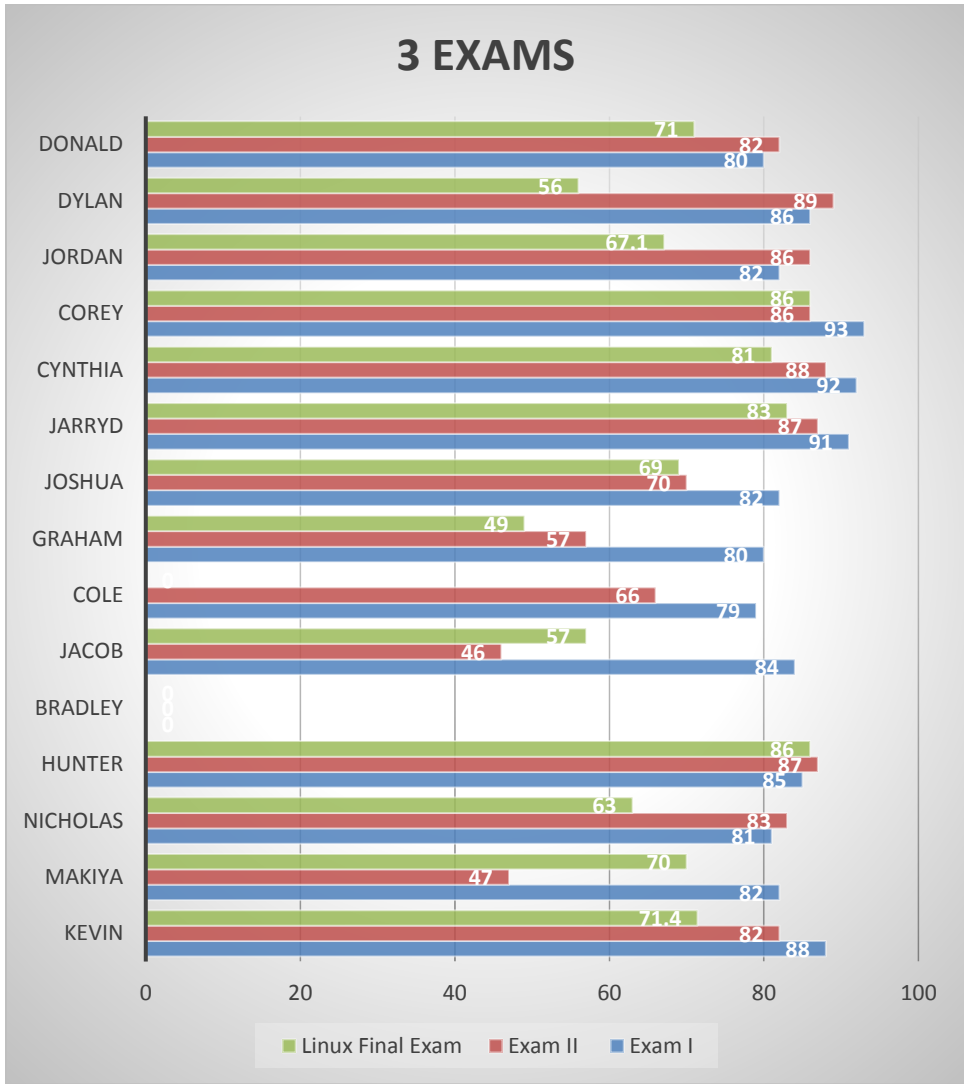
The course continues to be more hands-on and less demonstration by the instructor. Students are actively involved in all phases of the class. If they do not participate in the class activities, they are lost when it comes to the homework. They are asked to read chapters prior to coming to class (seldom happens). Last year activities formerly used as a homework assignment were completed in class (implementing flip classroom technology). This was not successful. This year total hands-on was implemented. If students followed along, they did well in the course. If they choose to 'surf', they struggled.

Starting in March, an instructional support person was hired specifically for IST/CSC/CYB. Because the person was not hired until well into the semester, I cannot speak to how beneficial it was for the students. Next year the data will be supplied.

There was more class participation than last year. Those students who did not join in on the class demonstrations do not do well in the course. Students are encouraged to work together to solve error messages (which is a reflection of what they will have to do on the job). More assignments were included from the textbook.

We are using an online textbook which did not cause any problem (unlike last year).

Every question on the exam is an application/critical thinking question. In the spring semester, I added activities from the textbook (both tutorial in nature and critical thinking). The results show improvement of the fall semester with the same exam. This correlates directly to Outcome 1: Choose appropriate UNIX/Linux operating system commands to make effective use of the environment to solve problems. Therefore, the three exam results reflect the success or failure of the outcome.



Follow-up

The textbook and format seem to be working well. We will continue to use Netlabs. Exams will continue to be take-home with the final script presentation as their final activity.

Budget Justification

Continue with the part-time learning assistant for the Learning Resource Center (David Grimes).