Course Title: IST/CSC109 UNIX/Linux Operating System   3 credits

Course Leader: Trudy Gift

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
(How do students demonstrate achievement of these outcomes?)
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. There was only one instructor for this course, the exams were the same for both sections.

The exams cannot be posted or added to this report as the report is available to the public. See the instructor if you need this information.
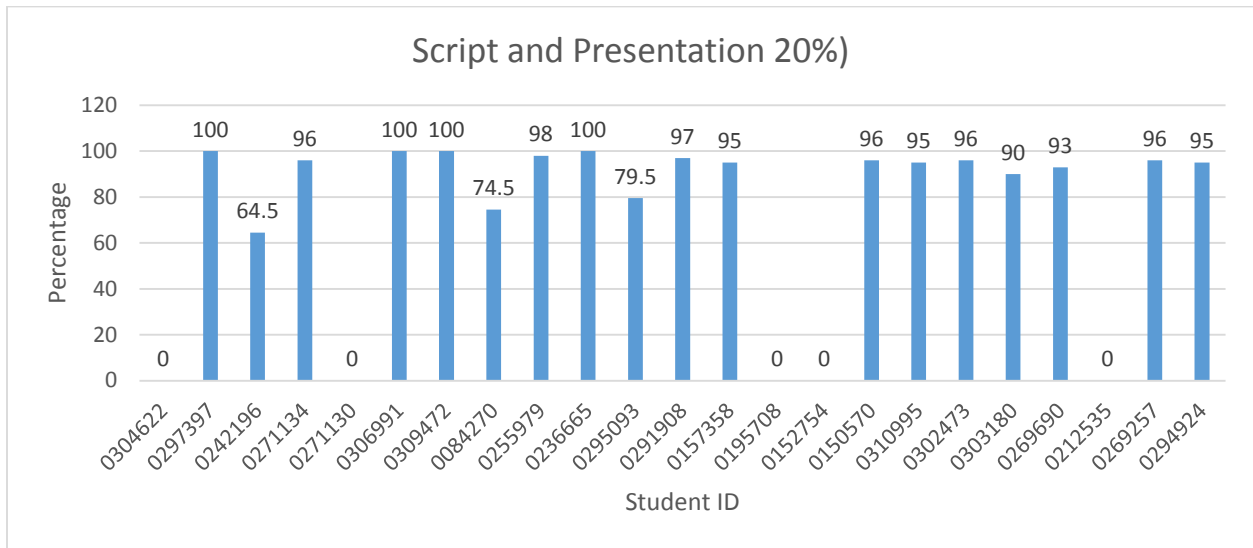
Spring 2015, the updated course was used in all sections (reflect more scripting applications as requested from the IST Advisory committee).

Attendance: Attendance improved in both the day and night sections of this course. Most of the F's (15 for both sections) can be attributed to: Night: 3 never attended; 1 walk-aways; Day: 0 walk-aways; 1. Attendance is imperative in this course as it is a hands-on class that incorporates critical thinking into all assignments (both in class and for homework and exams).

Scripting: Many students did not key scripts as they were directed while being presented by the instructor. The students that did follow the instructor led presentations enjoyed the process (data gathered through their comments/questions/presentation of final script). During the presentations of the final scripts, the instructor could see the pride that students took in getting the Linux operating system to do what they wanted it to do. Students were offered the opportunity to present at the spring Advisory meeting.

Final script files are reviewed by the instructor for accuracy, professionalism, application of commands, and creativity and graded based on a rubric. It is 20% of the final grade and contains specific requirements. Five students choose not to do the script. The following table shows the grade distribution for the script.

Script and Presentation 20%)

A bar chart titled "Script and Presentation 20%)" with y-axis labeled "Percentage" (0 to 120) and x-axis labeled "Student ID". The bars show:

Student ID	Percentage
0304622	0
0297397	100
0242196	64.5
0271134	96
0271130	0
0306991	100
0309472	100
0084270	74.5
0255979	98
0236665	100
0295093	79.5
0291908	97
0157358	95
0195708	0
0152754	0
0150570	96
0310995	95
0302473	96
0303180	90
0269690	93
0212535	0
0269257	96
0294924	95

Netlabs continues to be a failure. Students do not complete the lab as hoped. 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 those that did the Netlabs by two methods: checking last used dates and there were specific commands used in Netlabs that were required for the answers.

Assignments: Both in-class and homework assignments had poor completion rates (68% of the students missed one or more assigned tasks which could reflect in poor grades. Students seem to think they can turn in assignments whenever they want. There is no respect for deadlines (excuses will allow them to turn in assignments late with no penalty).

Validation
(What methods are used to validate your assessment?)
Using CompTIA Linux Certification Objectives, course content was 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. A UNIX/Linux System Administrator was consulted in the design of the course. His suggestions are incorporated into the course.

Objectives of the course were mapped to the LPI exam I and were updated in Fall 2014. The results can be found in the IST SLOA .5 folder on Drive Y. The mapping has not changed since the exam has not changed.

Results
(What does the data show?)
Those students that walked away from the course (without withdrawing) were not included in the 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. They are asked to read chapters prior to coming to class (seldom happens). Activities formerly used as a homework assignment are now completed

in class (implementing flip classroom technology). There is improved class participation. 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 are being included from the textbook. Results will be included in the Spring 2016 results.

Every question on the exam is an application/critical thinking question. 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.
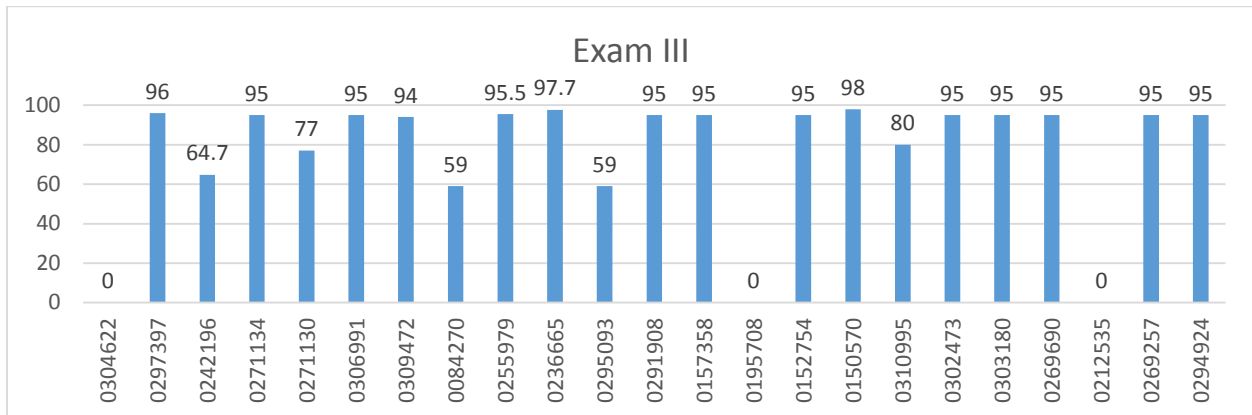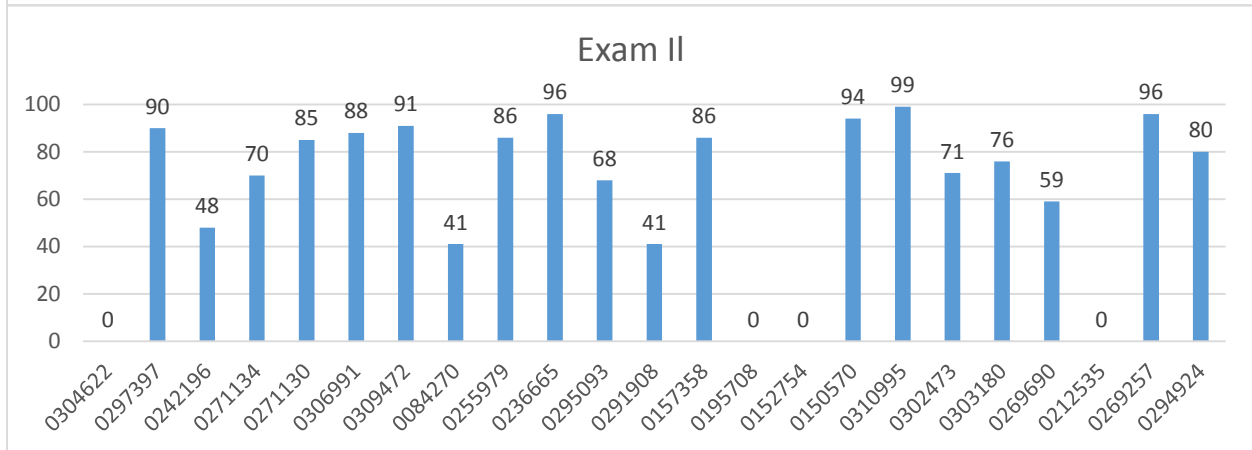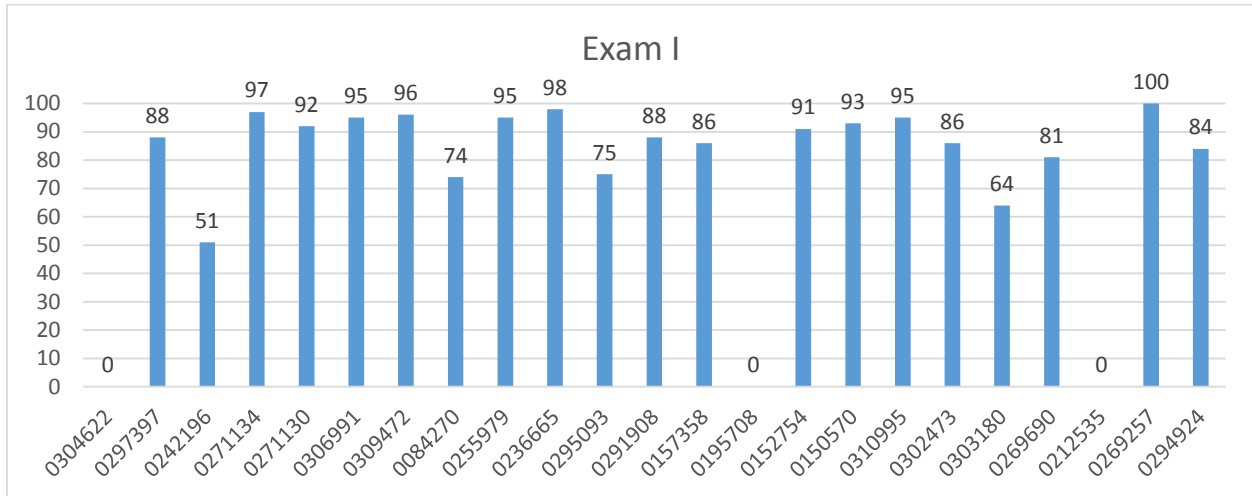
Follow-up

(How have you used the data to improve student learning?)
The new textbook and format seem to be working well. We will use Netlabs for another year before we consider dropping it.
The cost on the textbook is outrageous ($207 from the HCC Campus Store; online $49). We are trying an online version for the summer course. Students will be able to purchase the textbook online if they desire. A link to the online book will be given.

Budget Justification
(What resources are necessary to improve student learning?)
Currently no budget request items are needed.