Course Title: IST 151: PC Tech/Operating Systems

Course Leader: Karen Weil-Yates

Expected Learning Outcomes for Course

- *Students will be able to install, configure and maintain the operating system in both single and dual boot configurations within the Windows family of operating systems.*
- *Students will utilize system utilities to allocate and organize storage and manage peripheral devices*
- *Students will demonstrate customer service, troubleshooting and preventative maintenance skills using critical thinking skills*
- *Configure, navigate, and synchronize mobile devices, including netbooks and tablets, and IoT*
- *Students will be able to prepare for certification*

Assessment
(How do students demonstrate achievement of these outcomes?)

Students are required to
- complete hands-on activities and answer questions that promote Internet research of diagnostic solutions, setups, and upgrades; customer service and critical thinking. (Outcomes 1, 2, 3, 4)
- Take a hands-on exam, where they are given a drive and must prepare it for deployment in another country (regional settings, sfc, sigverif, group policy, registry change, and setting password parameters) (Outcomes 2, 3)
- take the Kaplan Transcender 902 Exam Prep for A+ (currently the leading prep exam for certification) (Outcome 5)

Validation
(What methods are used to validate your assessment?)

All instructors who teach this course must be A+ certified. The textbook is an approved CompTIA A+ text and is published by an industry leader in the information technology field.

- This course's assessments were validated at the by advisory committee members as needed. Course content is mapped to A+ 902 Certification Exam objectives (additional objectives are also included). Students are required to take a nationally approved certification preparation exam for A+. They take the exam at least twice in the semester: The first time is to give the instructor an idea of the student's "starting point"—much like a pre-test. Then, the student may take this exam as many times as they like throughout the semester, with the instructor recording the highest score.
- Get them used to the type of questions and the speed/pace at which they make take a true certification exam
- Get students into the habit of preparing for an exam—repetitions help with memory retention

- Give students the initiative and encouragement to take the actual certification—the prep that is used sets a higher bar than the actual certification—this if students pass this prep that can pass the certification.

Results
(What does the data show?)

	Exam 1	Trans 2	HOP 16H/ Bootable USB	HOP 11B-G/ Mobile Devices	HOP 18B/ IoT
2019	78%	87%	73	53%	71%
2018	82%	67%	No data collected	88%	No data collected

Hands-On Exam

The Hands-On Exam is scenario based; students are asked to prepare a prototype system that will be deployed to another country. They must perform 7 tasks using various utilities and commands that they have studied; they must also create a batch file to solve a specific problem. (Outcomes 2 & 3). The class average dropped this year; I feel this was due to a new student that was who was moved from non-credit in the fall to credit in the spring—he did not have the IST 108 pre-requisite. Both he and his partner struggles with the exam. I plan to review batch files in more depth (part of the exam). (Outcome 5)

Transcender (Trans 2):

Transcender 2 (meaning the second time the students take the exam) shows an average of **87%**. These assessments map to the fifth Outcome. The increase showed that there was a little competition in the class this year.

HOP 16H/ Bootable USB

This was a new assessment added to the report to map to Outcome 1. Students are required to create a dual boot USB drive that will them to use the drive to boot and install or repair an OS installation. They may select two from Windows 7, 8, 8.1, or 10. This is a great resource tool to have. Two students did not attempt the assignment.

HOP 11B-G/ Mobile Devices & HOP 18B/ IoT

These two assessments combined meet Outcome 4. Students are given a tablet (or they may use their own) and must complete the tasks in HOP 11B-G from creating a valid business scenario to changing settings, setting up an email account, downloading apps that relate to their scenario, setting up security and to investigating known problems with the device. with HOP 18B/IoT students have the opportunity to download apps, install them using their cell phones, change settings and then uninstall for about 6 different devices in the IoT realm. IoT is the latest category of technology and has been added to the new CompTIA certification. There were 3 students that did less than 50% of the devices.

Follow-up
(How have you used the data to improve student learning?)

This will be the last year for Transcender to be used as an assessment tool; the company no longer offers a site/seat license. Only individual student licenses are available which means that students can take the prep exam at home which is great for them but loses its validation as an assessment score. I will have to determine another method for students to practice for their certifications.

I will continue with an on-line text, adopting a new one that reflects the new CompTIA certification that takes effect August 2019. I will modify and update the HOPs (Hands-On Projects) to follow the new text.

Budget Justification
(What resources are necessary to improve student learning?) 10-seat site license for A+ Self-Test Certification; Operating System Software, CDs/DVDs; 2 removes drives per student; sleeve of DVDs/CDs; 9 tablets (new/under warranty); 6-9 tablets (older for rooting—removing OEM software and adding new ROMs). MSDNAA Operating system software will not be available to students who use the operating systems to create their own bootable devices; I will have to search for a source.