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 be able to perform advanced file management operations in order to organize, maintain personal computer systems in a workplace or home environment*
- *Students will utilize system utilities to allocate and organize storage and manage peripheral devices*
- *Students will demonstrate customer service, troubleshooting and preventative maintenance skills*
- *Configure, navigate, and synchronize mobile devices, including netbooks and tablets*
- *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.
- take two hands-on exams: one, where they take a used drive (with existing software/OS), wipe it, partition it and install an OS and subsequent updates; two, where they diagnose and repair a faulty system (one that has booting issues) and take another drive and prepare it for deployment in another country (regional settings, sfc, sigverif, group policy, registry change, and setting password parameters)
- take the Kaplan Self-Test Practical Applications Exam Prep for A+ (currently the leading prep exam for certification)
- Students are also required to watch a webinar, listen to a podcast or attend a tech event and write a report; they must also create a bootable thumb drive or CD

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+ 802 (2013) 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. The second exam is the only other "written exam" that is given; it replaces all other multiple choice exams that were associated with the course (there were 4). The student may take this exam as many times as they

like throughout the semester, with the instructor recoding the highest score. They have access to the answers in the form of taking the exams in a study mode or by borrowing printouts in a notebook to review the answers and rationale behind those answers (there are over 250 questions). The intentions behind this strategy are to:

- 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
- Get students to set goals and achieve those goals (I am going to get a __% on this exam)
- 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?)

Self-Test Practical Applications Exam results are as follows for both sections:

	Self Test #1	Self Test #2	Pass *	Final Score
Student #1	62	97	Pass	93.9
Student #2	37	Incomplete		Incomplete
Student #3	54	97	Pass	91.4
Student #4	50	85	Pass	90.5
Student #5	59	Incomplete		Incomplete
Student #6	0	0		8.8
Student #7	62	0		20.6
Student #8	43	41		75.8
Student #9	44	47		67.4
Student #10	48	60		82.9
Student #11	53	62		67.4
Student #12	59	68		79.3
Student #13	57	0		7.7
Student #14	64	71	Pass	90.5
Student #15	0	0		2.4
Student #16	49	Incomplete		Incomplete
Student #17	42	38		77.0
Student #18	63	71	Pass	82.9
Student #19	0	0		3.4
Average	44.5	46.1		62.6

If you remove those who walked away and the Incompletes, the data changes to:

Average	Self Test #1	Self Test #2	Final Score

	52.9	67	81.7

Hands-On Exams and Project B:

Students work in teams to submit a bootable flash drive (Project B) as approved by the Advisory committee and write a report on their experience; all students, except for those who walked away from the courses, successfully completed the Project.

	Hands-on Exam 1	Hands-on Exam 2	Project B	
Student #1	100	96	100	
Student #2	100	-	100	Incomplete
Student #3	100	93	100	
Student #4	100	93	100	
Student #5	100	96	100	Incomplete
Student #6	0	0	0	
Student #7	0	0	0	
Student #8	100	96	100	
Student #9	77	93	-	Incomplete
Student #10	52	87	100	
Student #11	52	93	100	
Student #12	96	93	50	
Student #13	0	0	0	
Student #14	100	93	100	
Student #15	0	0	0	
Student #16	-	-	-	Incomplete
Student #17	56	87	100	
Student #18	84	93	50	
Student #19	0	0	0	
Average	62	69.6	68.8	

If you remove those who walked away and the Incompletes, the data changes to:

Average	Hands-on Exam 1	Hands-on Exam 2	Project B
	85.4	92.7	90.9

Follow-up
(How have you used the data to improve student learning?)
Students will continue to take the Self-Test: once at the beginning of the semester, as a pre-test/base rate and again at the end of the semester. For the second Self-Test, students are

permitted to take the exam in certification mode as many times as they like with the highest being recorded for their exam grade. Students are also encourage to take the exam during the semester in Study Mode—showing the correct answers along with an explanation as the student progresses through the exam. Students continue to work in pairs for their Project; the results are excellent with more students completing the assignment.

There will be a textbook change for Fall 2014 that includes an on-line simulation/practice element, hopefully allowing time for additional Hands-On projects.

Budget Justification
(What resources are necessary to improve student learning?) 10-seat site license for A+ Self-Test Certification; Operating System Software, CDs/DVDs; MSDNAA Operating system software; 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)