

Course Title: IST 150: PC Tech/Troubleshooting and Repair
Course Leader: Karen Weil-Yates

Expected Learning Outcomes for Course

- *Students will be able to assemble, setup, and upgrade personal computer systems and mobiles devices including netbooks and tablets*
- *Students will be able to diagnose, isolate faulty components using critical thinking skills*
- *Students will demonstrate customer service, troubleshooting and preventative maintenance skills*
- *Students will be able to prepare for certification*

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

Students are required to

- complete hands-on labs 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 identify parts and their characteristics; two, where they diagnose and repair a faulty system
- take the Kaplan Self-Test Essentials Exam Prep for A+ (currently the leading prep exam for certification)

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 300 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.

Course Outcomes Guide #4

Results (What does the data show?)

Transcender Exam (901) results are as follows for the year (3 sections), displayed as Averages:

Trans 1 2017	Trans 1 2016	Inc/Dec	Trans 2 2017	Trans 2 2016	Inc/Dec
45.3%	46.6%	-1.3%	71.6%	51.1%	20.5%

Trans 1 is treated as a pre-test; the difference/decrease is due to 2 students that failed the course and did not take the exams, but were not considered walk-aways in 2017

Trans 2 shows a 20.5% increase for 2017—I spent more time reviewing test taking strategies and using sample questions and solutions.

Hands-On Exams

The first Hands-On Exam has been divided into two exams. This was to see if scores would improve. There was a significant increase (28%) in scores. So I will continue to split the identification exam into two parts.

The second Hands-On Exam is troubleshooting: repairing a compromised system and documenting the process; techniques and safety are also included in the exam. There was an increase from the previous year; this year, the classes spent some time with troubleshooting (also, it is getting more & more difficult to challenge students in troubleshooting especially with “auto-correcting EUFI/BIOSs)

2017 Hands-on Exam 1	2016 Hand-on Exam 1	Inc/Dec	2017 Hands-on Exam 2	2016 Hands-on Exam 2	Inc/Dec
76%	48%	28%	87.9	79%	8.9%

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

Some students are still tending to postpone taking the second Self-Test or not take it at all. I am requiring students to take the Transcender in mid-semester more times in the semester.

I will continue with the on-line text; it has interactive labs that seem to be effective. I will also continue to require that theses labs and On-line worksheets that I call Ps&Qs (Podcasts & Questions) be done before we begin working on the chapter topic Hands-On Projects (HOPs)—this spring students were not permitted to work on HOPS until those were completed; they sat in the front of the room and completed the assignments while the rest of the class worked in the cage. It only had to happen once (for the most part)—they came prepared to work. It showed in their scores.

Budget Justification (What resources are necessary to improve student learning?)

10-seat site license for A+ Transcender Certification software; 10 systems per class; safety equipment (anti-static mats and wrist straps); test equipment (multimeters, power supply testers, etc); peripherals; I/O devices; old laptops; demo equipment; sleeve of CDs; networking equipment (NICs, switches, cables); wireless adapters, netbooks, removable hard drives, tablets & replacement screens, soldering equipment, Apple Mac-minis, all-in-ones.