

Program Outcomes Guide #3 (POG #3)

Program Title: Computer Support Specialist

Date: 16/FA

Program Team: Karen Weil-Yates

Expected Learning Outcomes

- Implement critical thinking skills in navigating, installing and troubleshooting Windows-based operating systems and navigating and implementing Unix-based operating systems on stand alone and networked systems, navigating, configuring and synchronizing mobile devices (Windows, Apple and Android-based)
- Demonstrate critical-thinking and problem-solving skills in building, repairing and upgrading microcomputer systems, associated peripherals and mobile devices.
- Exhibit skills in customer service, both online, written, and interactively through courtesy, dependability, timeliness, preparedness
- Demonstrate mastering of software applications through their use, installation & troubleshooting on both stand alone and networked systems
- Demonstrate understanding of Help Desk organization and management using written and oral communication skills, mathematical skills, networking skills, administration; including working with diverse customer/client populations (ethnic, socio-economic, religious) and the impact of globalization within the IT community
- Demonstrate the ability to work with Windows Server in installing, configuring, deploying, and managing resources

Assessment (How do students demonstrate achievement of this outcome?)

- Implement critical thinking skills in navigating, installing & troubleshooting Windows-based operating systems and navigating & implementing Unix-based operating systems
 - Demonstrate the ability to install system software properly
 - Demonstrate a systematic approach to troubleshooting a compromised system
 - Demonstrate the ability to navigate various operating systems and to utilize the proper system tools to solve analyze and solve problems and situations
 - Analyze a given scenario and determine the best/most efficient solution
- Demonstrate critical-thinking and problem-solving skills in building, repairing and upgrading microcomputer systems and associated peripherals
 - Demonstrate the ability to build a new tower-based system
 - Demonstrate the ability to replace components in all-in-one systems
 - Demonstrate the ability to select, install and use the correct replacement part
 - Demonstrate the ability to replacement components in a laptop and tablet; specifically screens
- Exhibit skills in customer service, both online and interactively through courtesy, dependability, timeliness, preparedness
 - Communicate clearly with customers in face-to-face, remotely and via the phone
 - Demonstrate and put into practice the 10 commandments of Computer Ethics
 - Demonstrate time management skills in repairing systems

- Demonstrate professionalism
- Documentation of solutions, troubleshooting process
- Demonstrate mastering of software applications through their use, installation & troubleshooting
 - Demonstrate a broad knowledge-base of applications software and the ability to demonstrate and explain concepts to end-users both written and orally
 - Demonstrate troubleshooting ability to determine why an end-user cannot complete a specific task and be able to explain and demonstrate the correct solution
 - Demonstrate the ability to investigate new application software to suit the needs of a client; install, customize and update software as needed; and train end-users to the new product
- Demonstrate understanding of Help Desk organization and management using written & oral communication skills, mathematical skills, networking skills, administration including working with diverse customer/client populations (ethnic, socio-economic, religious) and the impact of globalization within the IT community
 - Demonstrate understanding the role of the Help Desk within an organization
 - Document training modules, disaster recovery plans, job shadowing experience
 - Analyze one's own skills & abilities and develop a plan for improvement
- Demonstrate the ability to work with Windows Server in installing, configuring, deploying, and managing resources
 - Install and deploy Windows Server
 - Configure hardware, software and network connectivity
 - Monitor and maintain systems within a server network

Assessment tools currently being used:

- Self-Test software (brand of certification preparation software) for A+ and Net+
- Case Studies with work-place scenarios to solve given problems
- Activity sheets to demonstrate/practice skills
- On-line Activity Sheets to promote Internet research
- Topical Presentations (research, develop, create/document)
- Exams: Hands-on, Quizzes (scenario/problem-solving-based), Out-comes based
- Hands-on computer repair clinic (real systems are brought in, logged, assessed and repair from the community)
- Visio drawings of network topologies
- NetLabs
- Detailed documentation, such as: Research papers, training manuals, deployment plans

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

- Advisory Committee and Faculty Review
- Self-test software is nationally recognized preparatory exam software for certification exams
- Internship & job shadowing supervisors

Results (What do the data show?)

Requiring the Self-Test in 2 classes and making the score a “final grade” is showing an improvement in students’ scores (previously student took the Self-Test for a certain amount of points—just for taking it—now they have “vested” interest in taking the test).

Working in the Computer repair Clinic continues to be a success: we have increased the number of computers repaired per semester; students continue to improve their customer service troubleshooting and repair skills.

Reports from internship supervisors include good marks for customer service skills and technical skills.

LabSim software used in place of a textbook and as a testing tool in IST 154 has been adopted. There is a significant price reduction for students and each semester brings more positive comments. The first two semesters the scores were not good; students felt that there was too much to do and often stopped completing assignments, thus omitting the last 3 or 4 chapters. I removed the labs from the required list to the suggest list and saw an improvement in the numbers of students completing more/most of the chapters. I have expanded the number of courses using on-line textbooks this year.

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

I have updated Hands-on Exams to reflect more critical thinking skills; created rubrics for on-line forums; added samples of expected work outcomes to Moodle course content. I am adding my own podcasts to courses for brief explanations/demos in the areas where students seem to struggle the most.

Budget Justification

(What resources are necessary to improve student learning?)

Computers for repair classes; replacement parts; Operating systems (covered through the MSDNAA); Microsoft Office Suite; removable hard drives; Self-Test software; Networking equipment; CDs/DVDs.