

# **NETWORK ADMINISTRATOR (Competency-Based)**

## **APPENDIX A**

O\*NET CODE 15-1142.00

***Competency/performance-based apprenticeship occupations are premised on attainment of demonstrated, observable and measurable competencies in lieu of meeting time-based work experience and on-the-job learning requirements. In competency/performance-based occupations apprentices may accelerate the rate of competency achievement or take additional time beyond the approximate time of completion.***

This training outline is a minimum standard for Work Processes and Related Instruction. Changes in technology and regulations may result in the need for additional on-the-job or classroom training.

Potential Job Titles: Systems Administrator, Computer Systems Analyst, Network Control Operator and Supervisor, Network Control Operator, Level 1 IT Engineer.

## **WORK PROCESSES**

### **A. Workplace Basics**

1. Describe workplace structure.
2. Describe workplace policies and procedures; general and Information Technology (IT) related.
3. Demonstrate efficient basic task/time management, status reporting, work order updates, team participation.
4. Demonstrate ability to communicate technical ideas/concepts when assisting users unfamiliar with IT jargon.

### **B. Computer Fundamentals**

1. Identify, research, and resolve technical issues affecting the following, but not limited to; desktops, laptops, servers, printers, access points and mobile devices.
2. Demonstrate knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
3. Identify and demonstrate knowledge of computer software by: installing, configuring, and providing customer assistance in using common software, such as, but not limited to; Microsoft Office and/or Apple equivalents.

4. Provide all aspects of day-to-day support to users in Windows-based environments.
5. Demonstrate ability to maintain user accounts and access privileges.

### **C. Customer Service Fundamentals**

1. Perform help desk functions assisting in the following, but not limited to; internal and external systems, databases, networking equipment, personal computer systems, and peripherals.
2. Employ knowledge of principles and processes for providing customer and personal services, including customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
3. Consult with users, management, vendors, and technicians to assess computing needs and system requirements.
4. Respond promptly to inbound help desk requests and provide remote remediation when required.
5. Identify, research and resolve technical issues affecting the following technologies: desktops, laptops, servers, firewalls, switches, printers, access points, tablets, mobile devices, telecommunications technologies, Internet connectivity & Intranet connectivity.

### **D. Networking and Systems Fundamentals**

1. Provide support for Windows Server 2008/2012/2016 networks (if applicable).
2. Perform user maintenance through Active Directory.
3. Configure a network operating system, including protocols, accessibility, and layering.
4. Troubleshoot issues related to routing & switching.
5. Support & maintain network equipment including but not limited to Cisco, Meraki, SonicWall, & HP.
6. Support & maintain backup technologies utilizing tape and disk-disk architectures such as Acronis, ArcServ, Barracuda & Symantec Backup Exec.
7. Support and maintain network equipment including but not limited to Cisco, Meraki, SonicWall, and HP.
8. Remediate malware infections using Anti-Virus and Anti-Malware applications.

## E. Additional Computing Topics

1. Demonstrate a solid understanding of technology such as, but not limited to; databases and their application; multi-media software; video conferencing applications.
2. Provide internal training to staff on how to support and manage various technologies currently utilized and new ones as they are implemented.

**Approximate Total Hours            1,000-2,000**

**Apprentices in Competency-Based Programs shall participate in no fewer than 1,000 documented hours of on-the-job training, and until they have demonstrated a competency for each skill in the Work Processes.**

*Apprenticeship work processes are applicable only to training curricula for apprentices in approved programs. Apprenticeship work processes have no impact on classification determinations under Article 8 or 9 of the Labor Law. For guidance regarding classification for purposes of Article 8 or 9 of the Labor Law, please refer to <https://dol.ny.gov/public-work-and-prevailing-wage>.*

# **NETWORK ADMINISTRATOR**

## **APPENDIX B**

### **RELATED INSTRUCTION**

#### **Safety/Health/Environment**

1. General Workplace Safety
2. First Aid & CPR (minimum 6.5 hours every 3 years)
3. Right-to-Know/ Safety Data Sheets (SDS)
4. Sexual Harassment Prevention – must comply with Section 201-g of the Labor Law

#### **Computer and Network Components and Operations**

1. Hardware
2. Peripherals
3. Software
4. Installation and configuration of software
5. Operating Systems, e.g., Microsoft, MacOS
6. Troubleshooting
7. Networks: Local Area Network (LAN); Wide Area Network (WAN)
8. Domain Name Servers
9. Domain Controllers
10. Transmission Control Protocol (TCP) / Internet Protocol (IP)
11. Installation and configuration of various network devices
12. Network Functions
13. Routers
14. Routing Protocol
15. Cybersecurity
16. Databases (if Work Process E is selected in Appendix A)
17. Multi-Media applications (if Work Process E is selected in Appendix A)
18. Video applications (if Work Process E is selected in Appendix A)

#### **Professional Development**

1. Technical Support Communication

2. Time Management
3. Basic Project Management
4. Team and Supervisor Communication Skills
5. Customer Service Fundamentals
6. Industry recognized credentials/certifications pertaining to the field

### **Other Courses as Necessary**

At least 144 hours of Related Instruction per year must be available for the apprentice at the time of his/her indenture. However, the apprentice may test out earlier if able to demonstrate competence for each topic on the Related Instruction outline.

Appendix B topics are approved by New York State Education Department.