



IT NETWORK SYSTEMS AND SECURITY

IT Network and Security youth apprentices assist with network systems and cybersecurity processes, including network performance, maintenance, and security of systems and information.

Length of Apprenticeship: One year

COMPETENCIES

Youth apprentices must complete a **total of 10** competencies per year. **Nine** must be from the list below. If necessary, employers can substitute up to **1** competency with another occupationally appropriate skill. That skill should be added to the competency list for assessment. Note that where necessary, skills can be simulated.

Competencies
<ol style="list-style-type: none">1. Evaluate work order2. Install and configure customer infrastructure3. Verify completion of installation4. Maintain network documentation5. Communicate with vendors6. Perform basic technical network support duties7. Monitor Network performance8. Perform routine network system maintenance9. Apply Network upgrades and patches10. Maintain information and system security

REGISTERED APPRENTICESHIP BRIDGING OPPORTUNITIES

Some of the related instruction courses can bridge into the following registered apprenticeship:

- IT Service Desk

POST-SECONDARY PATHWAY OPPORTUNITIES

There are several post-secondary pathway opportunities in this area. Following is partial list.

- IT Network Technician Technical Diploma
- Network Enterprise Administrator Technical Diploma
- IT Help Desk Support Specialist Technical Diploma



IT Network Systems and Security

Youth Apprenticeship

ON-THE-JOB LEARNING PERFORMANCE STANDARDS GUIDE

YOUTH APPRENTICE INFORMATION

Youth Apprentice Name	
YA Coordinator	YA Consortium
School District	High School Graduation Date

REQUIREMENTS

Requirements

Youth apprentices must complete ALL the items listed below. Check completed areas.

- Year 1 Competency checklist
- Employability Skills checklist (in this job book) or the DPI Employability Skills Certificate
- Related instruction equal to 1 high school credit or at least 3 college credits
- Minimum of 450 work hours

HOURS

Record the hours the youth apprentice worked.

Total Hours Employed	Company Name	Telephone Number

SIGNATURES

The On-the-Job Learning Performance Standards Guide includes a list of competencies youth apprentices learn through mentoring and training at the worksite.

Instructions for the Worksite Employers/Mentors and School-Based or YA coordinators.

This document should be reviewed with the employer / mentor, school-based or YA coordinator on a regular basis with the youth apprentice to record progress and plan future steps to ensure completion of the required competencies. Mentors, school-based / YA coordinator, and the apprentice sign below.

Employer/Mentor Signature	Employer/Mentor Signature
Employer/Mentor	Employer/Mentor
Business/Company	Business/Company
Date Signed	Date Signed
School-Based and/or YA Coordinator Signature	School-Based and/or YA Coordinator Signature
School-Based and/or YA Coordinator	School-Based and/or YA Coordinator
School District or Organization	School District or Organization
Date Signed	Date Signed
Youth Apprentice Signature	Youth Apprentice Signature
Youth Apprentice	Youth Apprentice
School District / High School	School District / High School
Date Signed	Date Signed

COMPETENCIES

Youth apprentices must complete a **total of 10** competencies per year. **Nine** must be from the list below. If necessary, employers can substitute up to **1** competency with another occupationally appropriate skill. That skill should be added to the competency list for assessment. Note that where necessary, skills can be simulated.

Rating Scale

3: Exceeds entry level criteria | Requires minimal supervision | Consistently displays this behavior

2: Meets entry level criteria | Requires some supervision | Often displays this behavior

1: Needs improvement | Requires much assistance and supervision | Rarely displays behavior

Competency and Rating Criteria	Minimum Rating of 2 for EACH Check Rating		
	1	2	3
<p>1. Evaluate work order.</p> <ul style="list-style-type: none"> • identify the customer • identify services ordered • verify the location of the facility • review equipment needs • follow company procedure regarding installation • read network map • get connectivity to location • install cross connect • assists splicing customer facility • clean fiber optic connectors • install demarcation point (DMARC) • install a Universal Power Supply (UPS) • test connectivity to the premise 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>2. Install and configure Customer Infrastructure.</p> <ul style="list-style-type: none"> • install jack and wiring • certify inside wiring • install Wi-Fi gateway routers and modems • optimize Wi-Fi location • install ethernet switches • install VoIP devices • install Set Top Boxes (STB) and remotes • install Wi-Fi extenders • install mesh network • install ethernet over power, MOCA, or HPNA 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Competency and Rating Criteria	Minimum Rating of 2 for EACH Check Rating		
	1	2	3
3. Verify completion of installation <ul style="list-style-type: none"> hook up customer equipment test broadband, TV, voice services install IoT (Internet of Things) devices per company procedures verify services are working educate customer on products installed 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Maintain network documentation <ul style="list-style-type: none"> use tracking system review logs related to network functions document related network functions back up network files regularly following facility procedure 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Communicate with vendors <ul style="list-style-type: none"> track vendor orders and receipt of order reconcile discrepancies with worksite professional and vendor record addition of products to inventory contact vendors for service 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Perform basic technical network support duties <ul style="list-style-type: none"> support resolution of network problems isolate system faults provide technical support via telephone, E-mail, Web and onsite respond to user questions within realm of current training and learning choose correct technical and computer tools to perform task update documentation of network support to resolution 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Monitor network performance <ul style="list-style-type: none"> monitor system status and performance identify criticality of issue follow process to respond to system alerts follow process to respond to security problems identify patterns of failure provide solution recommendations refer issues to worksite professional document monitoring activities and results 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Competency and Rating Criteria	Minimum Rating of 2 for EACH Check Rating		
	1	2	3
8. Perform routine network system maintenance <ul style="list-style-type: none"> • follow preventive maintenance plan • run diagnostics as required • report system issues to worksite professional • identify new or replacement networking components needed • analyze maintenance processes and outcomes with worksite professional • complete work with minimum disruption of process flow • document maintenance activities and results 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Apply network upgrades and patches <ul style="list-style-type: none"> • use appropriate tools for the upgrade • follow appropriate installation procedure • backs up system before upgrade or patch, as required • complete work with minimum disruption of process flow • refer issues to worksite professional • document installation activities and results 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Maintain information and system security <ul style="list-style-type: none"> • identify the impact of sensitive data exposure • use virus and malware protection tool • use strong passwords • monitor security of company and personal data 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency Substitute (if you replaced a competency above, note the competency and rating)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:			