



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

REQUIRED COMPETENCIES

Youth apprentices must become proficient in both general employability and occupation-specific competencies. All of these, and examples of how each can be demonstrated, are found in the following pages. A total of 10 occupational competencies must be learned for this occupation. Employers may substitute out one of these and should write in the competency they are adding. Youth apprentices must be evaluated on these competencies at least two times each year of their apprenticeship.

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

The following Registered Apprenticeship is available in this area:

- Cybersecurity Analyst
- IT Service Desk Technician

POST-SECONDARY PATHWAY OPPORTUNITIES

There are several post-secondary pathway opportunities in this area. The following is a 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

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

1st Evaluation (Required)

2nd Evaluation (Required)

Employer/Mentor Signature	Employer/Mentor Signature
Employer/Mentor	Employer/Mentor
Business/Company	Business/Company
Date Signed	Date Signed

3rd Evaluation (Optional)

4th Evaluation (Optional)

Employer/Mentor Signature	Employer/Mentor Signature
Employer/Mentor	Employer/Mentor
Business/Company	Business/Company
Date Signed	Date Signed

School-Based and/or YA Coordinator

1st Evaluation (Required)

School-Based and/or YA Coordinator Signature
School-Based and/or YA Coordinator
School District or Organization
Date Signed

2nd Evaluation (Required)

School-Based and/or YA Coordinator Signature
School-Based and/or YA Coordinator
School District or Organization
Date Signed

3rd Evaluation (Optional)

School-Based and/or YA Coordinator Signature
School-Based and/or YA Coordinator
School District or Organization
Date Signed

4th Evaluation (Optional)

School-Based and/or YA Coordinator Signature
School-Based and/or YA Coordinator
School District or Organization
Date Signed

Youth Apprentice

1st Evaluation (Required)

Youth Apprentice Signature
Youth Apprentice
School District / High School
Date Signed

2nd Evaluation (Required)

Youth Apprentice Signature
Youth Apprentice
School District / High School
Date Signed

3rd Evaluation (Optional)

Youth Apprentice Signature
Youth Apprentice
School District / High School
Date Signed

4th Evaluation (Optional)

Youth Apprentice Signature
Youth Apprentice
School District / High School
Date Signed

EMPLOYABILITY SKILLS (TO BE COMPLETED BY YA EMPLOYER/MENTOR)

All youth apprentices must demonstrate the key employability skills listed below in order to complete the YA program. They do so by earning at least a "Meets Expectation" rating in each. **At least two evaluations are required each year of a youth apprenticeship.** More columns are included below for those who choose to conduct more frequent reviews.

1	Working to Meet Expectations: Needs improvement; requires much assistance and supervision; rarely displays this behavior
2	Meets Expectations: Meets entry-level criteria; requires some supervision; often displays this behavior
3	Exceeds Expectations: Exceeds entry-level criteria; requires minimal supervision; consistently displays this behavior

Competency and Rating Criteria	Rating			
	Year One Evaluation Rating			
	Initial	Mid Year 1	Mid Year 2	Final
1. Develops positive work relationships with others. <i>Examples of qualities and habits that the employee might exhibit include . . .</i> <ul style="list-style-type: none"> Interacts with others with respect and in a non-judgmental manner Responds to others in an appropriate and non-offensive manner Helps co-workers and peers accomplish tasks or goals Applies problem-solving strategies to improve relations with others When managing others, shows traits such as compassion, listening, coaching, team development, and appreciation 	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
2. Communicates effectively with others <i>Examples of qualities and habits that the employee might exhibit include . . .</i> <ul style="list-style-type: none"> Adjusts the communication approach for the target audience, purpose, and situation to maximize impact Organizes messages/information in a logical and helpful manner Speaks clearly and writes legibly Models behaviors to show active listening Applies what was read to actual practice Asks appropriate questions for clarity 	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
3. Collaborates with others <i>Examples of qualities and habits that the employee might exhibit include . . .</i> <ul style="list-style-type: none"> Works effectively in teams with people of diverse backgrounds regardless of sex, race, ethnicity, nationality, sexuality, religion, political views, and abilities Shares responsibility for collaborative work and decision making Uses the problem-solving process to work through differences of opinion in a constructive manner to achieve a reasonable compromise Avoids contributing to an unproductive group conflict Shares information and carries out responsibilities in a timely manner 	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3

Employability Skills		Rating			
Competency and Rating Criteria		Year One Evaluation Rating			
		Initial	Mid Year 1	Mid Year 2	Final
4. Maintains composure under pressure <i>Examples of qualities and habits that the employee might exhibit include . . .</i>	<ul style="list-style-type: none"> • Uses critical thinking to determine the best options or outcomes when faced with a challenging situation • Carries out assigned duties while under pressure • Acts in a respectful, professional, and non-offensive manner while under pressure • Applies stress management techniques to cope under pressure 	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
		<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
		<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
5. Demonstrates integrity <i>Examples of qualities and habits that the employee might exhibit include . . .</i>	<ul style="list-style-type: none"> • Carries out responsibilities in an ethical, legal and confidential manner • Responds to situations in a timely manner • Takes personal responsibility to correct problems • Models behaviors that demonstrate self-discipline, reliability, and dependability 	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
		<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
		<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
6. Performs quality work <i>Examples of qualities and habits that the employee might exhibit include . . .</i>	<ul style="list-style-type: none"> • Carries out written and verbal directions accurately • Completes work efficiently and effectively • Performs calculations accurately • Conserves resources, supplies, and materials to minimize costs and environmental impact • Uses equipment, technology, and work strategies to improve workflow • Applies problem-solving strategies to improve productivity • Adheres to worksite regulations and practices • Maintains an organized work area 	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
		<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
		<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
7. Provides quality goods or services (internal and external) <i>Examples of qualities and habits that the employee might exhibit include . . .</i>	<ul style="list-style-type: none"> • Shows support for the organizational goals and principles by own personal actions • Displays a respectful and professional image to customers • Displays an enthusiastic attitude and desire to take care of customer needs • Seeks out ways to increase customer satisfaction • Produces goods to workplace specifications 	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
		<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
		<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
8. Shows initiative and self-direction <i>Examples of qualities and habits that the employee might exhibit include . . .</i>	<ul style="list-style-type: none"> • Prioritizes and carries out responsibilities without being told • Responds with enthusiasm and flexibility to handle tasks that need immediate attention • Reflects on any unsatisfactory outcome as an opportunity to learn • Improves personal performance by doing something different or differently • Analyzes how own actions impact the overall organization • Supports own action with sound reasoning and principles • Balances personal activities to minimize interference with work responsibilities 	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
		<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
		<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3

Employability Skills		Rating			
Competency and Rating Criteria		Year One Evaluation Rating			
		Initial	Mid Year 1	Mid Year 2	Final
9. Adapts to change <i>Examples of qualities and habits that the employee might exhibit include . . .</i> <ul style="list-style-type: none"> Shows flexibility and willingness to learn new skills for various job roles Uses problem-solving and critical-thinking skills to cope with changing circumstances Modifies own work behavior based on feedback, unsatisfactory outcomes, efficiency, and effectiveness Displays a "can do" attitude 		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
10. Demonstrates safety and security regulations and practices <i>Examples of qualities and habits that the employee might exhibit include . . .</i> <ul style="list-style-type: none"> Follows personal safety requirements Maintains a safe work environment Demonstrates professional role in an emergency Follows security procedures Maintains confidentiality 		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
11. Applies job-related technology, information, and media <i>Examples of qualities and habits that the employee might exhibit include . . .</i> <ul style="list-style-type: none"> Applies technology effectively in the workplace Assesses and evaluates information on the job Assesses training manuals, website, and other media related to the job 		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
12. Fulfills training or certification requirements for employment <i>Examples of this requirement may include . . .</i> <ul style="list-style-type: none"> Participation in required career-related training and/or educational programs Passing certification tests to qualify for licensure and/or certification Participation in company training or orientation 		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
13. Sets personal goals for improvement <i>Examples of this requirement may include . . .</i> <ul style="list-style-type: none"> Setting goals that are specific and measurable Setting work-related goals that align with the organization's mission Identifying strategies to reach goals Reflecting on goal progress to regularly evaluate and modify goals 		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3

OCCUPATIONAL COMPETENCIES

(TO BE COMPLETED BY YA EMPLOYER/MENTOR)

Youth apprentices must earn a rating of at least "MEETS EXPECTATIONS" in each competency by the conclusion of the apprenticeship. A total of 10 competencies, 9 must be from the list below. If necessary, employers can substitute one competency with another occupationally appropriate skill. That skill should be added to the competency list for assessment. **At least two evaluations are required each year of a youth apprenticeship.** More columns are included below for those who choose to conduct more frequent reviews.

1	Working to Meet Expectations: Needs improvement; requires much assistance and supervision; rarely displays this behavior
2	Meets Expectations: Meets entry-level criteria; requires some supervision; often displays this behavior
3	Exceeds Expectations: Exceeds entry-level criteria; requires minimal supervision; consistently displays this behavior

Occupational Competencies		Rating			
Competency and Rating Criteria		Evaluation Minimum Rating of 2 for EACH Check Rating			
		Initial	Mid Year 1	Mid Year 2	Final
1. Evaluate work order. <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"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
2. Install and configure Customer Infrastructure. <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 overpower, MOCA, or HPNA 		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3

Occupational Competencies		Rating			
Competency and Rating Criteria		Evaluation			
		Minimum Rating of 2 for EACH Check Rating			
		Initial	Mid Year 1	Mid Year 2	Final
3. Verify completion of installation		<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
<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"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
		<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
4. Maintain network documentation		<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
<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"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
		<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
5. Communicate with vendors		<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
<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"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
		<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
6. Perform basic technical network support duties		<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
<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"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
		<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
7. Monitor Network performance		<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
<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"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
		<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3

Occupational Competencies		Rating			
Competency and Rating Criteria		Evaluation			
		Minimum Rating of 2 for EACH Check Rating			
		Initial	Mid Year 1	Mid Year 2	Final
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"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
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"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
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"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
Competency Substitute (if you replaced a competency above, note the competency and rating)		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3

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