Appendix A8

WORK PROCESS SCHEDULE

AND

RELATED INSTRUCTION OUTLINE

FOR THE OCCUPATION OF:
CYBERSECURITY SUPPORT TECHNICIAN
O*NET-SOC CODE: <u>15-1212.00</u> RAPIDS CODE: <u>2050CB</u>

WORK PROCESS SCHEDULE
CYBERSECURITY SUPPORT TECHNICIAN
O*NET-SOC CODE: 15-1212.00 RAPIDS CODE: 2050CB

This schedule is attached to and a part of these Standards for the above identified occupation.

1.	APPRENTICESHIP APPROACH

☐ Time-based   ☒ Competency-based   ☐ Hybrid

2.	TERM OF APPRENTICESHIP

The term of the occupation shall be defined by the attainment of all competencies of the position, which would be reasonably expected to occur within 2 to 3 years of OJL, supplemented by 175 hours of related instruction during the apprenticeship. The sponsor may recognize prior-learning achievements or demonstration of competencies to account for related instruction or OJL hours.

3.	RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journeyworker ratio is: 1 Apprentices to 1 Journeyworker per worksite.

4.	APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages. Apprentices' starting wage should be a minimum of $14.77 per hour. The journeyworker wage is $16.83 per hour, which is to be paid to the apprentice after completion of the apprenticeship. The starting wage and journeyworker wage may be adjusted to accommodate each employer and shall be uploaded into the Rapids database. This wage scale is specifically for Denver, CO, and may vary based on minimum wage laws in different geographic locations, which will be indicated on Appendix D.

Term:

1st Period	Starting Wage (0-18 months)	$14.77/hr
2nd Period	On level (18-36 months)	$15.87/hr
Completion	Full Competency	$16.83/hr

5.	PROBATIONARY PERIOD

Every apprentice selected for apprenticeship will serve a probationary period of 500 hours.

6.	SELECTION PROCEDURES

Please see page 15.

WORK PROCESS SCHEDULE
CYBERSECURITY SUPPORT TECHNICIAN
O*NET-SOC CODE: 15-1212.00 RAPIDS CODE: 2050CB

Description: A Cyber Security Support Technician works to protect an organization's information and data private and safe. They work with computer security programs to detect, prevent, and address potential security threats. Cyber Security Support Technicians might support maintaining server security, firewalls, or security threat reports and may help staff members troubleshoot security issues. Successful Cyber Security Support Technicians can follow company processes and procedures as well as document the steps they took to investigate a security threat.

On-The-Job Training: Apprentices will receive training in the various work experiences listed below. The order in which this training is given will be determined by the flow of work on the job and will not necessarily be in the order listed.

Ratings are:
(4) Exceeds Expectations (Advanced)
(3) Meets Expectations (Proficient)
(2) Meets Some Expectations (Emerging)
(1) Does Not Yet Meet Expectations (Novice)
(0) Not applicable (No Skill)

4. Exceeds Expectations (Advanced): Consistently exceeds performance standard established for the time in position. Achieves results above and beyond what is required. Extends themselves in their roles to exceed personally and as a team to achieve exceptional results.

3. Meets Expectations (Proficient): Employee meets all expectations in a fully satisfactory way and is proficient in the outlined competencies.

2. Meets Some Expectations (Emerging): Meets the performance standards established for time in position. Handles routine tasks & some unexpected situations with the usual amount of supervision. Can continue to develop with coaching, training or more experience to gain proficiency.

1. Does Not Yet Meet Expectations (Novice): Occasionally meets some of the objectives related to this goal but does not meet others in a fully satisfactory way. This performance level generally indicates the need for additional coaching, training, or other plan for performance improvements.

0. Not Applicable (No Skill): Training in this competency has not yet begun.

Apprentices need to receive a "3" or better in each competency to complete the apprenticeship.

Apprentice Competency Evaluation

Core Competencies	Required for this employer (yes/no)	Rating	Supervisor Sign-off	Date
Prioritization *Manages multiple tasks and shifting priorities.* ● Prioritizes alerts effectively with support from supervisor. ● Deprioritizes work to deal with urgent alerts with support of supervisor. ● Uses good judgment to escalate alerts to higher level staff for appropriate action. (For example, escalates widespread or critical threats to Security Operations Center.) ● Appropriately deprioritizes work to deal with urgent alerts.				
Threat Detection, Prevention, and Mitigation *Uses and configures tools and technologies to detect, mitigate, and prevent potential threats.* ● Demonstrates basic understanding of common threats and some common responses to threats. ● Applies understanding of basic IT infrastructure to identify common threat vectors. ● Demonstrates knowledge of how alerts come in and are processed. ● Uses tools to appropriately monitor and respond to system generated alerts, including appropriately escalating when necessary. ● Supports supervisor in performing a root cause analysis. ● Demonstrates understanding of common offensive tactics. ● Follows recommended investigation guidelines. ● Uses different systems to investigate an alert. ● Pursues information related to a threat until severity is determined. ● Appropriately assigns themselves to alerts. ● Performs components of a root cause analysis independently. ● Uses knowledge of common offensive tactics to do penetration testing with supervision.				

• Analyzes the evidence surrounding a threat to draw distinctions between threats (legitimate vs. false positive). • Selects appropriate next steps based on evidence collected. • Appropriately identifies problems and escalates to higher level staff for mitigation. • Appropriately handles a volume of alerts that meets company standards. • Performs a root cause analysis.				
Network and Firewall Maintenance and Management *Installs, configures, tests, operates, maintains, and manages networks and their firewalls including hardware and software that permit sharing and transmission of information.* • Demonstrates basic understanding of the company's architecture, programs, and tools. • Demonstrates basic understanding of existing firewall rules and infrastructure. • Consistently reads security bulletins and updates and makes connections to the company's systems. • Demonstrates basic understanding of inbound information sharing and transmission. mechanisms. • Drafts firewall rules with support from supervisor. • Delineates between relevant and irrelevant information in security bulletins and updates. • Conducts impact assessments on company systems and makes recommendations with support from supervisor. • Applies knowledge of inbound information. sharing and transmission to perform job functions with support from supervisor. • Independently stages firewall rules for approval by engineers. • Monitor's security bulletins and updates from vendors for potential vulnerabilities impacting systems. • Conducts impact assessments on company systems and makes recommendations as necessary.				

● Applies knowledge of inbound information. sharing and transmission to perform job functions with minimal support from supervisor.				
Security Processes, Protocols, and Documentation *Uses company processes, protocols, and documentation to monitor and respond to security incident and event management alerts.* ● Follows existing processes and procedures to respond to an alert with limited supervision. ● Identifies areas in existing runbooks that could be clearer or have more detail. ● Creates new runbooks or other documentation for organizational processes or protocols.				
Confidential Information Handling *Always ensures the privacy of sensitive data.* ● Identifies sensitive data containing personal identifying information. ● Demonstrates understanding of different data classifications. ● Upholds company policies related to confidential information. ● Categorizes information into different data. classifications. ● Demonstrates understanding of policies related to sensitive data handling and transmission. ● Recognizes violations of sensitive data classifications. ● Applies understanding of data classification into alert handling. ● Uses appropriately secure methods for transmitting data.				
Access Controls *Consistently performs job functions with the mindset of who can and should access data and systems.* ● Demonstrates understanding of who has access to certain data and systems. ● Appropriately follows company policies for authentication and access. ● Creates documentation and follows up with additional authorizations for access control.				
Server Security				

Installs, configures, troubleshoots, and maintains server configurations to ensure their confidentiality, integrity, and availability; also manages accounts, firewall configuration, and patch and vulnerability management. ● Demonstrates understanding of the company's server infrastructure. ● Demonstrates understanding of factors that impact the company's server security. ● Demonstrates understanding of routine and proactive server security activities, such as updating patches, granting, and revoking access controls, and password best practices. ● Applies understanding of access controls to maintain server security with support of supervisor. ● Performs basic routine and proactive server. security activities with supervision, such as updating patches, granting, and revoking access controls, and password best practices. ● If applicable: Deploys server patches with support of supervisor. ● Ensures that software on servers is up to date and functional. ● Takes appropriate action to maintain software security on the server. ● Performs routine and proactive server security activities independently, such as updating patches, granting, and revoking access controls, and password best practices.				

In addition to completing all core competencies, an apprentice based on the employer's assigned role will complete the following additional competencies.

Optional Competencies	Required for this employer (yes/no)	Rating	Supervisor Sign-off	Date
DevSecOps *Uses knowledge of secure coding practices to contribute to maintaining code security.* ● Demonstrates understanding of the basics of secure coding practices.				

• Performs scans to ensure that code is secure. • Supports supervisor in communicating security best practices to development team. • Communicates with developers to ensure that vulnerabilities in code are remediated. • Appropriately communicates security best practices to development team.				
Cloud Security *Installs, configures, troubleshoots, and maintains cloud configurations to ensure them confidentiality, integrity, and availability.* • Demonstrates understanding of the company's cloud infrastructure and cloud security monitoring tools. • Demonstrates understanding of factors that impact the company's cloud security. • Demonstrates understanding of routine and proactive cloud security activities, such as updating patches, granting, and revoking access controls, and password best practices. • If applicable: Implements cloud hosting company's recommended policies with support from supervisor. • Applies understanding of cloud access controls to maintain cloud security with support of supervisor. • Performs basic routine and proactive cloud security activities with supervision, such as updating patches, • granting and revoking access controls, and password best practices. • If applicable: Deploys cloud patches with support of supervisor. • Takes appropriate action to maintain software security on the cloud server. • Performs routine and proactive cloud security activities independently, such as updating patches, granting, and revoking access controls, and password best practices. • If applicable: Ensures that software on cloud servers is up to date and functional. • If applicable: Demonstrates familiarity with cloud security platforms as a service (PaaS)				

Apprenticeship Competencies – Career Readiness

In addition to mastering all the essential technical competencies outlined in the work processes, an apprentice must consistently demonstrate growth and proficiency in the following career readiness competencies to complete the apprenticeship.

Apprentices will be evaluated in these competencies semi-annually, and the supervisor will initial and date the accomplishment of the career ready competency at each review.

Ratings are:
(4) Exceeds Expectations (Advanced)
(3) Meets Expectations (Proficient)
(2) Meets Some Expectations (Emerging)
(1) Does Not Yet Meet Expectations (Novice)
(0) Not applicable (No Skill)

4. Exceeds Expectations (Advanced): Consistently exceeds performance standard established for the time in position. Achieves results above and beyond what is required. Extends themselves in their roles to exceed personally and as a team to achieve exceptional results.

3. Meets Expectations (Proficient): Employee meets all expectations in a fully satisfactory way and is proficient in the outlined competencies.

2. Meets Some Expectations (Emerging): Meets the performance standards established for time in position. Handles routine tasks & some unexpected situations with the usual amount of supervision. Can continue to develop with coaching, training or more experience to gain proficiency.

1. Does Not Yet Meet Expectations (Novice): Occasionally meets some of the objectives related to this goal but does not meet others in a fully satisfactory way. This performance level generally indicates the need for additional coaching, training, or other plan for performance improvements.

0. Not Applicable (No Skill): Training in this competency has not yet begun.

Apprentices need to receive a "3" or better in each competency to complete the apprenticeship.

ENTREPRENEURIAL SKILLS	Required for this employer (yes/no)	Rating	Supervisor Sign-off	Date
Critical Thinking/Problem Solving ● Recognize that problems can be identified, and possible solutions can be generated. ● Define the problem using a variety of strategies. ● Make connections between information gathered and personal experiences to apply and/or test solutions.				
Creativity / Innovation				

● Demonstrate curiosity, imagination, and eagerness to learn more. ● Build on personal experience to specify a challenging problem to investigate. ● Engage in novel approaches, moves, directions, ideas and/or perspectives				
Inquiry ● Recognize and describe cause-and-effect relationships and patterns in everyday experiences. ● Investigate to form hypotheses, make observations, and draw conclusions. ● Test hypotheses/prototype with planned process for getting feedback				
Risk Taking ● Demonstrate a willingness to try new things. ● Demonstrate flexibility, imagination, and inventiveness in taking on tasks and activities. ● Innovate from failure, connect learning across domains and recognize new opportunities				

PERSONAL SKILLS	Required for this employer (yes/no)	Rating	Supervisor Sign-off	Date
Self-Management / Self Awareness ● Accurately recognize one's own emotions, thoughts, and values and how they influence behavior. ● Appropriately express one's own emotions, thoughts and values and identify how they influence behavior. ● Assess personal strengths and limitations, with a well-grounded sense of confidence, optimism and a 'growth mindset'				
Self-Direction ● Recognize personal characteristics, preferences, thoughts, and strengths. ● Pursue opportunities to engage and learn interests. ● Apply knowledge to set goals, make informed decisions and transfer to new contexts				
Adaptability / Flexibility ● Recognize emotional response to ideas that differ from one's own ● Regulate reactions to differing perspectives. ● Look for and value in different perspectives expressed by others				
Perseverance / Resilience				

● Resist distractions, maintain attention, and continue the task at hand through frustration or challenges.			
● Set goals and develop strategies to remain focused on learning goals.			
● Focus on learning goals by employing motivation and familiar strategies for engagement and evaluate progress, making necessary changes to stay the course			

CIVIC/INTERPERSONAL SKILLS	Required for this employer (yes/no)	Rating	Supervisor Sign-off	Date
Collaboration / Teamwork ● Recognize how personal actions have had a positive or negative impact on others with feedback as needed. ● Recognize how members of a community rely on each other, considering personal contributions as applicable. ● Follow a process identified by others to help generate ideas, negotiate roles and responsibilities, and respects consensus in decision making				
Communication ● Articulate personal strengths and challenges using different forms of communication to express oneself. ● Consider purpose, formality of context and audience, and distinct cultural norms when planning content, mode, delivery, and expression. ● Establish goals for communication and plan out steps accordingly				
Global / Cultural Awareness ● Compare attitudes and beliefs as an individual to others. ● Identify and explain multiple perspectives (cultural, global) when exploring events, ideas, and issues. ● Plan and evaluate complex solutions to global challenges that are appropriate to their contexts using multiple disciplinary perspectives (such as cultural, historical, and scientific)				
Ethics ● Takes great care with organizational data.				

PROFESSIONAL SKILLS	Required for this employer (yes/no)	Rating	Supervisor Sign-off	Date
Task/Time Management ● Articulate task requirements and identify deadlines. ● Develop and utilize basic task and time-management strategies effectively. ● Demonstrate task-management attributes associated with producing high-quality products including the abilities to: 1) Work positively and ethically 2) Manage time and projects effectively 3) Multi-task 4) Clearly communicate with others				
Self-Advocacy ● Appropriately express a range of emotions to communicate personal ideas/needs. ● Ask questions to develop further personal understanding. ● Demonstrate confidence in sharing ideas/feelings				
Work Ethic ● Complete tasks with ongoing support ● Seek clarity on tasks and needs occasional support. ● Demonstrate skill in assigned tasks and completes with little or no support				

ACADEMIC SKILLS	Required for this employer (yes/no)	Rating	Supervisor Sign-off	Date
Core Academic Foundation ● Begins to use math and literacy skills to inform work. ● Uses math and literacy skills to perform job tasks with frequent checks by supervisor. ● Independently and consistently use math and literacy skills to perform tasks (with occasional checks for quality)				

● Does not disclose any kind of personal or sensitive organizational information; understands that all data is confidential. ● Demonstrates honesty and integrity in all interactions. If an error is made, prioritizes minimal impact to the organization over their own reputation				

RELATED INSTRUCTION OUTLINE
CYBERSECURITY SUPPORT TECHNICIAN
O*NET-SOC CODE: 15-1212.00 RAPIDS CODE: 2050CB

Related instruction - The curriculum is defined as a variety of classes, around which the exams and projects are based. By defining the related instruction this way, all related instruction competencies required of the students are met through a combination of coursework and/or hands-on exercises. Employers will select relevant courses for related instruction in the topics outlined below, totaling **at least 144 hours** over the duration of the apprenticeship. Selection of required topics and associated training time may vary by employer and apprentice. Employer may add additional occupation specific courses as necessary over and above those specified below.

RELATED INSTRUCTION	Approximate Hours
Apprenticeship Orientation	15
Workplace Essentials	45
Employer Onboarding	10
Prioritization	5
Threat Detection, Prevention, and Mitigation	45
Network and Firewall Maintenance and Management	15
Security Processes, Protocols, and Documentation	10
Confidential Information Handling	5
Access Controls	10
Server Security	15
TOTAL RI HOURS	**175**

COURSE DESCRIPTIONS

Apprenticeship Orientation (15 hours)
Introduction to career-readiness to prepare students for working in a professional environment: apprenticeship and workplace expectations with a focus on growth mindset.

Workplace Essentials (45 hours)
Skills in common computer applications, effective workplace communication, time management, and conflict resolution.

Employer Onboarding (10 hours)
Orientation training provided to new employees by the employer

Prioritization (5 hours)
Manages multiple tasks and shifting priorities.

Threat Detection, Prevention, and Mitigation (45 hours)
Uses and configures tools and technologies to detect, mitigate, and prevent potential threats.

Network and Firewall Maintenance and Management (15 hours)

Installs, configures, tests, operates, maintains, and manages networks and their firewalls, including hardware and software that permit sharing and transmission of information.

Security Processes, Protocols, and Documentation (10 hours)
Uses company processes, protocols, and documentation to monitor and respond to security incident and event management alerts.

Confidential Information Handling (5 hours)
Ensures the privacy of sensitive data at all times.

Access Controls (10 hours)
Consistently performs job functions with the mindset of who can and should access data and systems.

Server Security (15 hours)
Installs, configures, troubleshoots, and maintains server configurations to ensure their confidentiality, integrity, and availability; also manages accounts, firewall configuration, and patch and vulnerability management.

SELECTION PROCEDURES

1. Apprenticeship opportunities are shared with students enrolled in CareerWise and its affiliated programs.

2. Interested applicants complete the application process outlined in the apprenticeship recruitment notice. All suitably qualified applicants can apply to the apprenticeship opportunity.

3. All applicants that meet the minimum qualifications will be selected for an employer interview.

4. At the time of interview, applicants will be asked the same set of questions to ensure each applicant is treated equally.

5. Applicants shall be rated and ranked based on interview scores.

If required by the employer, the top candidates may be invited for a second interview.

6. The applicants will be notified of the hiring decision in a timely manner and all applicants will be treated equally with regard to notifications.

7. All records regarding the selection of apprentices will be forwarded to and maintained by the Sponsor (see Sponsor Requirements Guide).

Direct Entry:

The Sponsor may allow direct entry applicants that are part of an employer's incumbent workforce, a qualified pre-apprenticeship program, or Job Corps graduates whose training, similarly, qualifies them for the occupation.