

Appendix A

WORK PROCESS SCHEDULE AND RELATED INSTRUCTION OUTLINE



HILLYARD TECHNICAL CENTER/SAINT JOSEPH SCHOOL DISTRICT

For the Occupation of:

I.T. GENERALIST

O*NET-SOC CODE: 15-1299.00

RAPIDS CODE: 1059CB

Developed in Cooperation with:

**U.S. DEPARTMENT OF LABOR
OFFICE OF APPRENTICESHIP**



Appendix A

**WORK PROCESS SCHEDULE
HILLYARD TECHNICAL CENTER/ST. JOSEPH SCHOOL DISTRICT
I.T. GENERALIST
O*NET-SOC CODE: 15.1299.00 RAPIDS CODE: 1059CB**

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 apprenticeship is a minimum OJL attainment of **2,000-4,000 hours**, supplemented by the minimum required **288** hours of related instruction.

3. RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journeyworker ratio is: 1 Apprentice to 1 Journeyworker.

4. APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journeyworker wage rate as determined by employers/advisory committee.

Wages will never be less than the minimum wage as determined by the State of Missouri

5. PROBATIONARY PERIOD

Every applicant selected for apprenticeship will serve a probationary period of approximately 90 days . Students readiness for continuation in the program will be assessed at spring conferences. Input will be collected from the student's home school, technical instructor and employer.



6. SELECTION PROCEDURES

Students engage in a rigorous selection process for apprenticeship positions. Students apply online to indicate interest in preapprenticeship. Students are selected for preapprenticeship based on recommendation by the sending school counselor and their technical instructor.

The Apprenticeship Coordinator promotes diversity in the program by making it accessible to all who are interested. Students receive support in composing a resume, preparing for interviews, researching job opportunities and companies, completing OSHA training and workplace communication. Students who follow through and complete these tasks dutifully will be presented to employers as candidates for hire. Those who procure employment become registered apprentices with our program upon confirmation with the sending school and parent/guardian.

All Registered Youth Apprentices are celebrated at a spring signing ceremony and become the next cohort for our program.



**WORK PROCESS SCHEDULE
 HILLYARD TECHNICAL CENTER/ST. JOSEPH SCHOOL DISTRICT**

I.T. GENERALIST	
Job Description: Set up technology for employees, maintain internal networks, support telework functions, and provide help desk support	
RAPIDS Code: 1059CB	O*NET Code: 15-1299.00
Estimated Program Length: 2,000-4,000 hours	
Apprenticeship Type: <input checked="" type="checkbox"/> Competency-Based <input type="checkbox"/> Time-Based <input type="checkbox"/> Hybrid	

Suggested On-the-Job Learning Outline

Apprenticeship Competencies – Technical

The below on-the-job-learning (OJL) work process competencies are intended as a guide. It need not be followed in any particular sequence, and it is understood that some adjustments may be necessary in the hours allotted for different work experience. In all cases, the apprentice is to receive sufficient experience to make them fully competent and use good workmanship in all work processes, which are a part of the trade. In addition, the apprentice shall be fully instructed in safety and OSHA requirements.

Ratings are:

- No Exposure- Apprentice has not been exposed to this skill/concept yet.
- Not Mastered- Apprentice requires instruction and close supervision.
- Requires Supervision- Apprentice can complete task with limited or periodic supervision.
- Proficient- Can work independently without supervision

Network and System Administration – Installation, maintenance and troubleshooting	No Exposure	Not Mastered	Requires Supervision	Proficient
Sets up desktop, laptop or other devices for employees				
Installs a standard software image on network or individual computers, laptops or devices and assigns appropriate access controls through group policy				



Sets up user identifications and passwords and implements policies regarding passwords and user/administrator permissions				
Establishes secure external connections to network or desktops using secure access remote technology.				
Installs MFP (multi function printer) devices on network within proper firewalls.				
Sets up network security for employee and department folders for centralized data repository				
Sets up email accounts for users according to Office 365 guidelines and establishes license type based on employees' job role and company policies.				
Familiar with Microsoft technologies (Azure AD, Office 365 suite, One Drive, SharePoint, Teams, Power BI, Dynamics 365 and Windows 10 operating system)				
Remove former employees from network, archive data, files, remove workstations, disable devices according to policy				

Hardware and Database Administration	No Exposure	Not Mastered	Requires Supervision	Proficient
Uses FAQ's or other job aids to troubleshoot hardware or software faults.				
Uses logic to discover source of faults and recommends appropriate solutions.				



Demonstrates ability to use basic software, including set-up of preferred default settings, instructs other users on the basic features of standard software packages.				
Identifies situations in which the fault must be escalated to a higher-level technology support individual, including outside vendor.				
Work with the database team to learn the technical landscape of cloud computing.				
Prioritizes requests for help based on business need, staff hierarchy or urgency of problems.				
Assists in setting up, configuring, managing and decommissioning servers including data storage using the Microsoft Azure portal.				
Helps monitor server backups and disaster recovery virtual servers.				
Monitors computer performance and makes recommendations for upgrades to improve speed or decrease cost.				
Testing	No Exposure	Not Mastered	Requires Supervision	Proficient
Identify customer and end user pain points. Offer solutions to improve efficiency and drive down costs.				
Test enterprise Wi-Fi to ensure stability and security.				
Test hardware equipment and software prior to use to ensure it is production ready.				



Tests functionality of links embedded in the website.				
Test new features added to CRM, eCommerce and CCAP				
Monitors network traffic and bandwidth utilization using SD-WAN technology				
Connects devices to networks physically and using remote access technologies.				
Understands the network design at HQ and at the branch offices.				
Software (ERP, CRM, eCommerce, CCAP and other internal programs)	No Exposure	Not Mastered	Requires Supervision	Proficient
Work through HelpDesk to surveys user needs to understand what changes are needed through standard software configuration changes.				
Understands the IT project management workflow and Stage Gate methodology for getting projects funded				
Work with Help Desk to determine if the requested change is a bug fix or an enhancement				
Understand and can explain the DEV/OPS methodology.				
Work with Software manager to understand the ROI on writing in house software vs buying 3 rd party solutions.				



Assists in maintaining or updating web content				
Uploads new content to organization's website or removes old content as instructed.				
Notifies appropriate person if incorrect, outdated or otherwise problematic content is identified.				
Notifies appropriate person if website is not functioning properly.				
Work with development team to document software changes made to any system				
Cyber Security	No Exposure	Not Mastered	Requires Supervision	Proficient
Monitors adherence to password policies, including enforcement of password update intervals.				
Installs MFA (multi factor authentication) on user accounts with highly sensitive data				
Sets up user access levels and permissions based on job role.				
Monitors antivirus software to understand potential threats and ensures auto update feature is working properly.				
Reads, attends conferences or interacts with other IT professionals to know and understand current threat levels and mechanisms.				
Ensures that encryption technology and access controls are utilized to protect sensitive data.				



Ensures that off-site staff are using secure connections to access network.				
Assists in or monitors use of backup technologies and network redundancies to minimize risk.				

Behavioral Competencies	4- Exceeds Target	3- Achieves Target	2- Meets Some Targets	1- Not Meeting Targets
Basics: Student shows a basic understanding of Manufacturing and desire to learn the industry.				
Communication: Student is receptive to learning and communicates effectively with coworkers.				
Enthusiasm & Attitude: Student shows a positive mental attitude and enthusiasm toward learning.				
Leadership & Teamwork: Student contributes ideas and collaborates with coworkers to accomplish goals.				
Networking: Student communicates well within the workplace in order to further productivity.				
Problem Solving & Critical Thinking: Student identifies solutions to most problems and knows when and who to ask for help.				
Professionalism: Exhibits appropriate behavior on the job and is productive.				



Date of evaluation: _____ Company Name: _____

Apprentice Name: _____ Apprentice Signature: _____

Mentor Name: _____ Mentor Signature: _____

Date turned in: _____ Instructor Signature: _____



RELATED INSTRUCTION OUTLINE

I.T. GENERALIST

O*NET-SOC CODE: 15.1299.00 RAPIDS CODE: 1059CB

Please provide the Related Instruction Outline to include a list of the anticipated courses, the learning objectives, and the estimated number of hours that each course will last.

Related Technical Instruction provided by Hillyard Technical Center, Saint Joseph, Missouri <https://hillyardtech.sjsd.k12.mo.us/>

Each apprentice **will receive annual compliance training in anti-harassment** in accordance with Paragraph 30.3, CFR. 29.30. Additional resources can be found at <https://www.apprenticeship.gov/eo/sponsors/prevent-harassment>

Course Description

COMPUTER SERVICE TECHNOLOGY

Software (provided): TestOut PC Pro and Network Pro

Instructor: Chance Stewart

Course Objectives: Students will gain a complete, step-by-step approach for learning the fundamentals of supporting and troubleshooting computer hardware and software. This course maps fully to TestOut's PC Pro exam as well as CompTIA's A+ certification. It also maps fully to TestOut Network pro and CompTIA's Network +. Students will also get in on the cutting-edge technology of Cell phone and tablet repair. This course will satisfy the **the minimum 288 hours of Related Technical Instruction (RTI)**.

Course Outline:

Specific topic coverage includes: PC Pro

1. First Look at Computer Parts and Tools.
2. Working inside a Computer.
3. Introducing Windows Operating Systems
4. All about Motherboards.
5. Supporting Processors and Upgrading Memory
6. Supporting Hard Drives.
7. Installing Windows.
8. Installing and Supporting I/O and Storage Devices.
9. Satisfying Customer Needs.



10. Maintaining Windows.
11. Optimizing Windows.
12. Troubleshooting Windows and Applications.
13. Troubleshooting Hardware at Startup.
14. Troubleshooting Windows Startup.
15. Connecting to and Setting up a Network.
16. Networking Types, Devices, and Cables
17. Windows Resources on a Network.
18. Security Strategies.
19. Supporting Laptops.
20. Mobile Devices and Client-side Virtualization.
21. Supporting Printers.

Network Pro

1. Using the simulator
2. Networking overview
3. Network Topologies
4. Protocols
5. Network connections
6. The OSI and TCP/IP Models
7. Twisted Pair
8. Coaxial
9. Coaxial
- 10.. Wiring Adapters
11. Fiber Optic
12. Ethernet 2
13. Internet devices
14. IP addressing
15. Firewalls
16. Troubleshooting networks

Phones and Tablets

1. Teardown
2. Troubleshoot
3. Repair