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Competency Based Apprenticeships

Using National Occupational Frameworks to Expand Competency Based Apprenticeship

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Innovativeapprenticeship.org

Types of Apprenticeships

Format

- Time-Based
- Competency-Based
- Hybrid

Scope

- Individual Employer/Sponsor
- National Guidelines
- National Standards

States – including territories

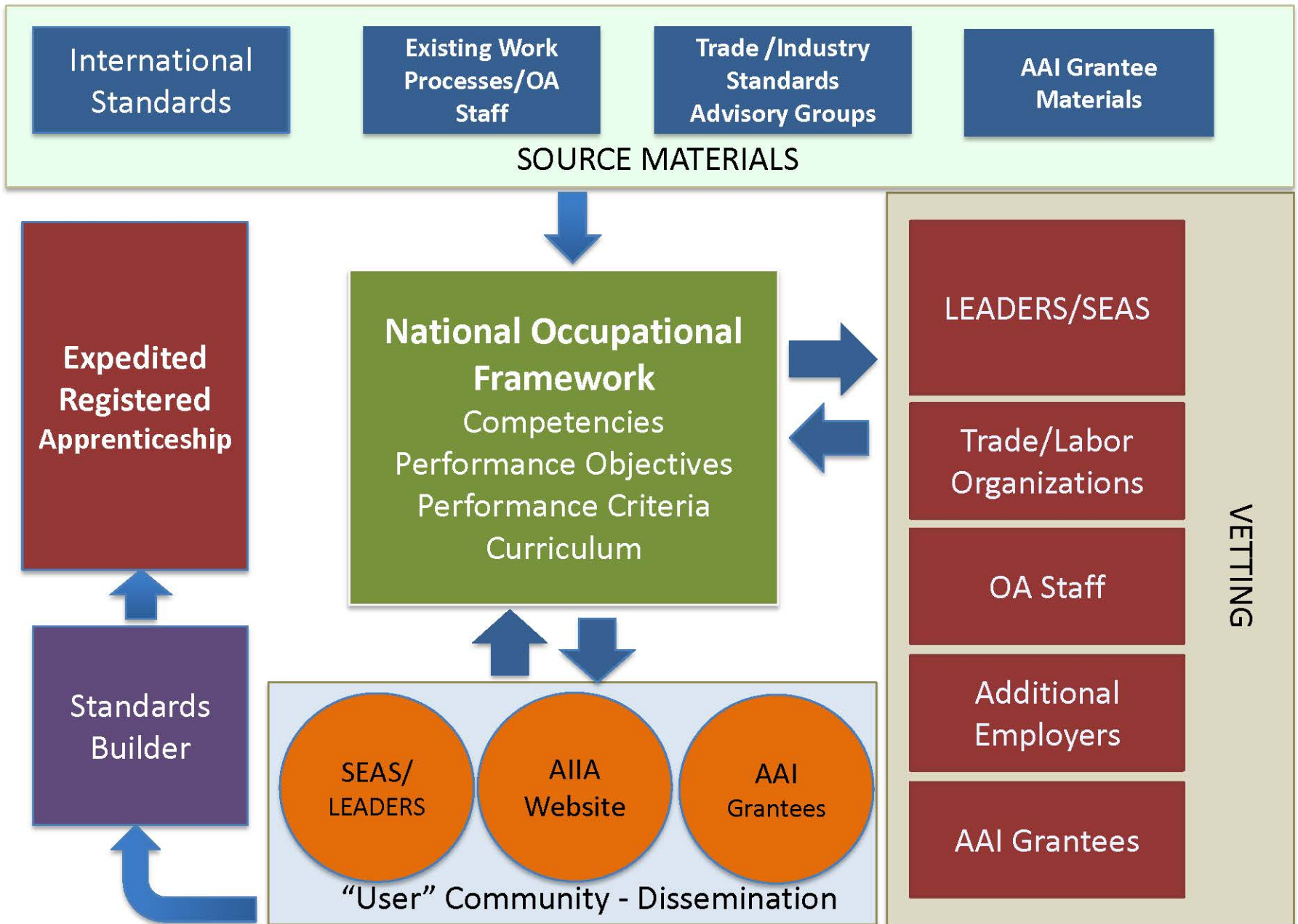
- 27 “Federal” States – DOL Federal Representatives
- 27 “State” States – State Apprenticeship Agency Representatives

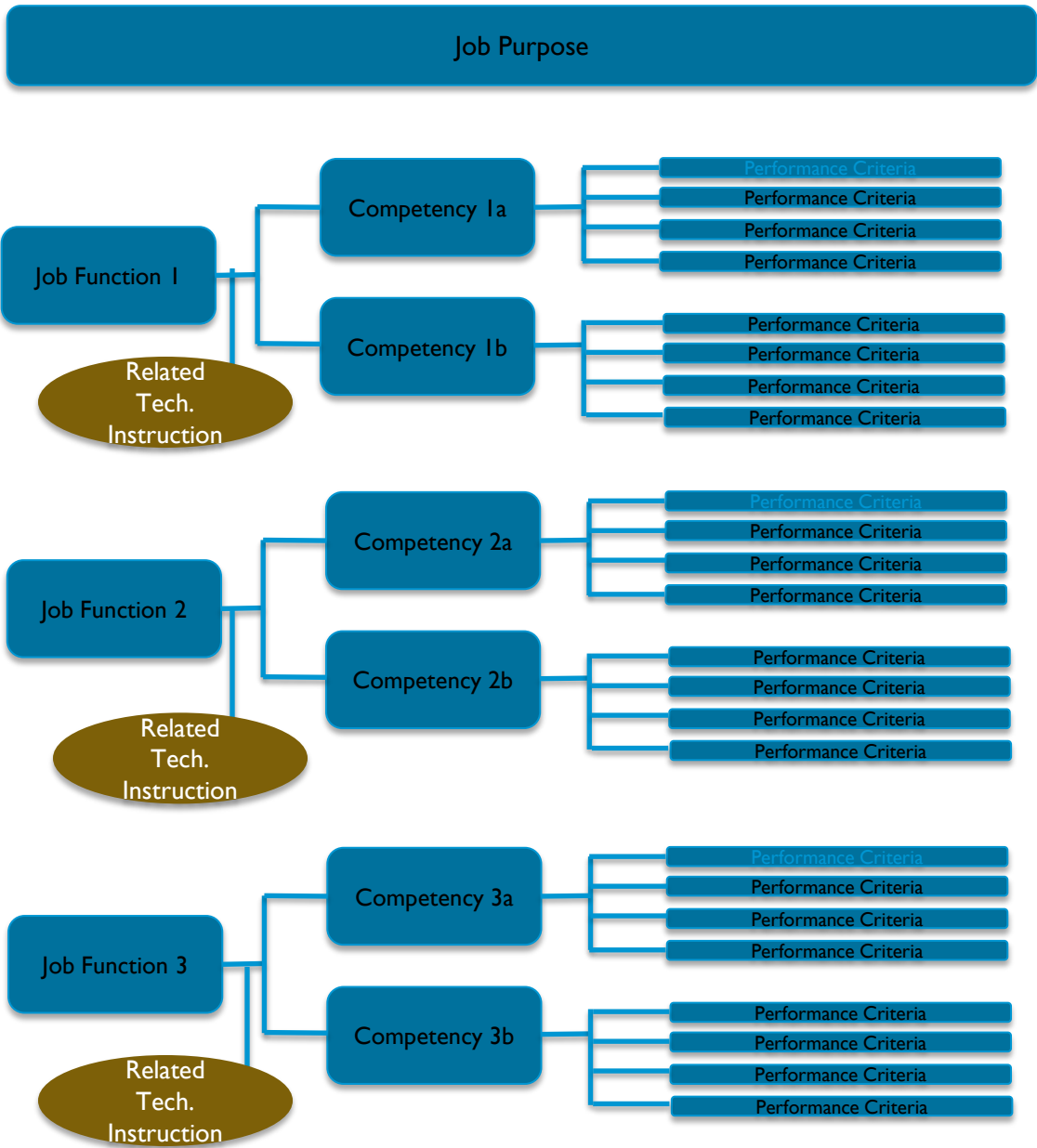
Benefits of Competency-based Programs

Benefits of Competency-based Programs

- Acknowledges what one already knows and can do
- Creates learning efficiencies (eliminates extraneous material)
- Pace aligns with an individual learner
- Potentially reduces time to productivity
- Focus is on filling gaps rather than repeating what is already known
- Validation of apprenticeship as a high quality learning opportunity
- Makes it easier to justify college credit for work experience
- Credential portability

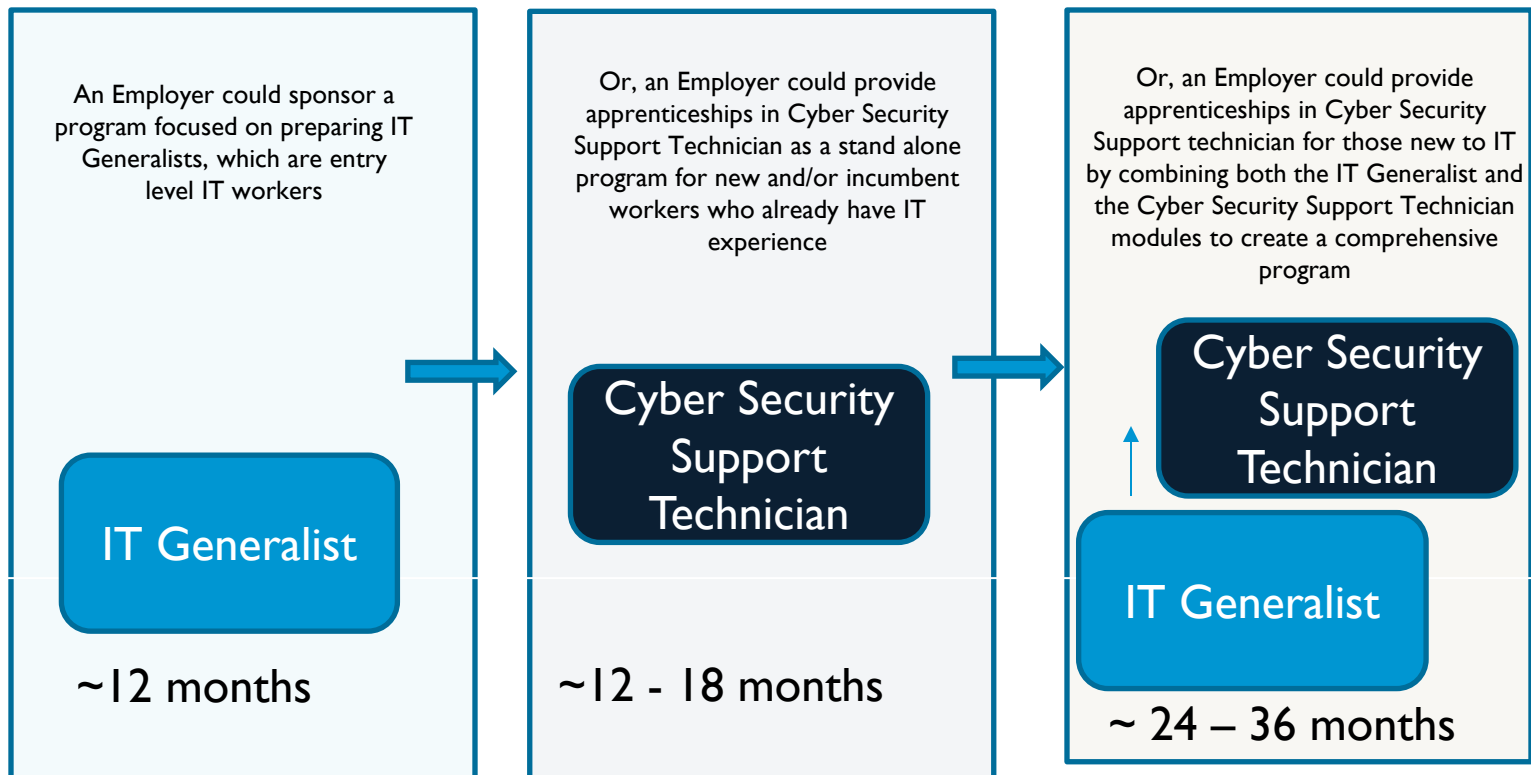
CREATING NATIONAL OCCUPATIONAL FRAMEWORKS





Stacking Credentials for Customization and Career Laddering

Our IT National Occupational Frameworks are designed to be used either as stand alone programs or as stacking credential programs, based on the worker and employer needs.



Our Web Portal provides public access to the National Occupational Frameworks

Information Technology x Innovativeapprenticeship.org/framework/information-technology-generalist

Secure | https://innovativeapprenticeship.org/framework/information-technology-generalist

Competencies and Related Instruction

- Full Framework
- Work Process Schedule (Excel)
- Work Process Schedule (PDF)

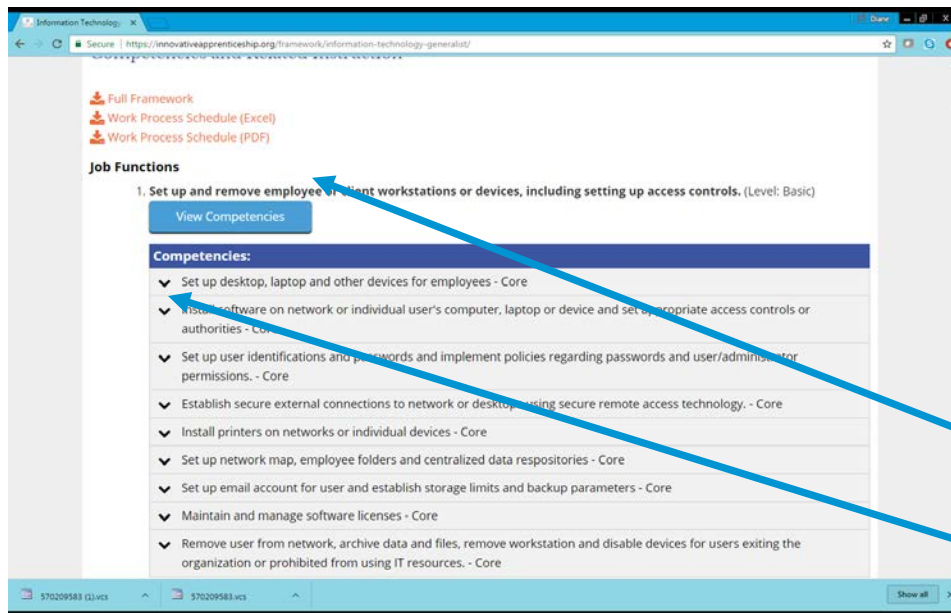
Job Functions

- 1. Set up and remove employee or client workstations or devices, including setting up access controls. (Level: Basic)**
 - View Competencies
 - View Related Instruction
- 2. Install, provide user support for, or troubleshoot hardware and commercial software (Level: Basic)**
 - View Competencies
 - View Related Instruction
- 3. Support internal or external clients in the use of audio/visual technology and conference technology (Optional) (Level: Basic)**
 - View Competencies
 - View Related Instruction
- 4. Install, maintain and troubleshoot networks (Level: Basic)**

https://innovativeapprenticeship.org/framework/information-technology-generalist/#

Our website provides National Occupational Frameworks in several different formats:

- A full framework that can be printed and utilized by program and curriculum designers
- Excel and PDF versions of the Work Process Schedule that can be shared with employers and included in the Standards; and
- An electronic framework that enables the viewer to determine how much detail they want to see

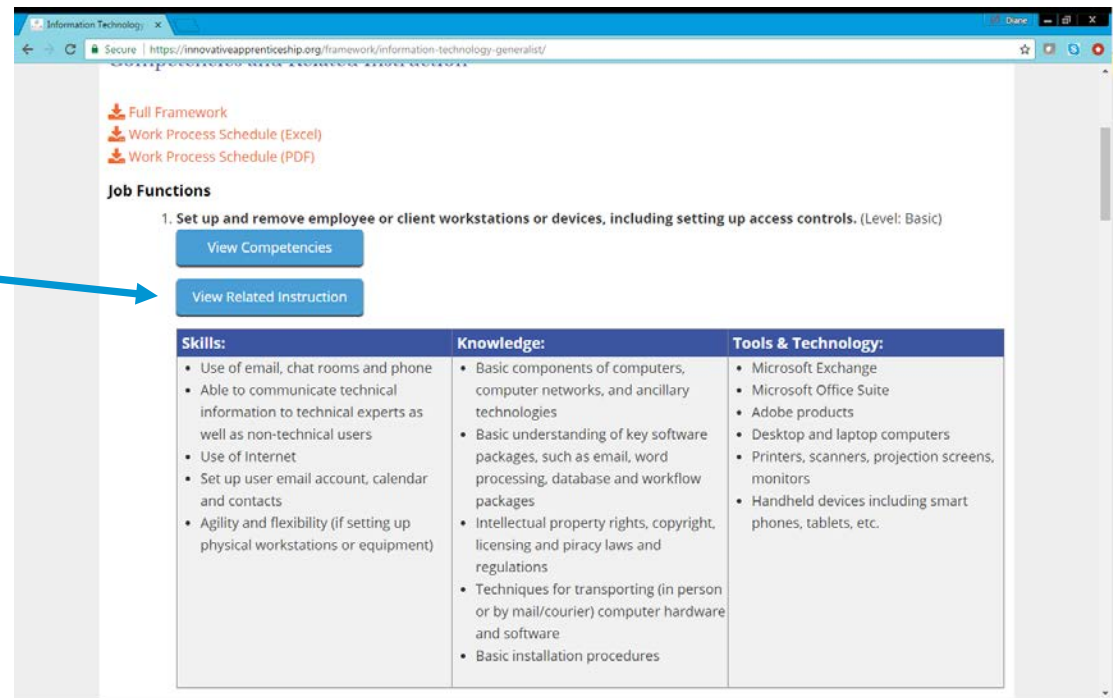


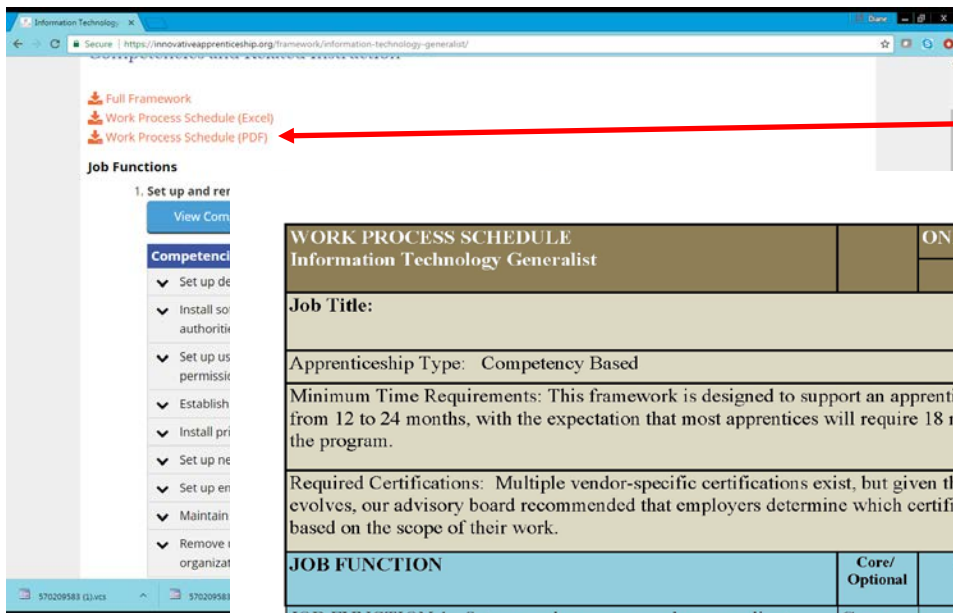
The Web-Based National Occupational Framework allows the viewer to see various levels of detail, depending upon their interests and needs.

Under each job function, there is a “**View Competencies**” button that, when clicked, reveals the competencies associated with each job function

Click the arrow next to each competency to view related performance criteria

Under each job function, there is also a “**View Related Instruction**” button that, when clicked, reveals the competencies associated with each job function





The Work Process Schedule

outlines the Job Functions and Skills around which the program is designed and apprentices are assessed.

This document can be submitted as part of the Registration Application (the Standard).

WORK PROCESS SCHEDULE Information Technology Generalist		ONET Code 15-1151	
Job Title:			
Apprenticeship Type: Competency Based			
Minimum Time Requirements: This framework is designed to support an apprenticeship that lasts from 12 to 24 months, with the expectation that most apprentices will require 18 months to complete the program.			
Required Certifications: Multiple vendor-specific certifications exist, but given the speed at which IT evolves, our advisory board recommended that employers determine which certifications they require based on the scope of their work.			
JOB FUNCTION	Core/ Optional	OJT	RI
JOB FUNCTION 1: Sets up and removes employee or client workstations or devices, including setting up access controls	Core		
Sets up desktop, laptop and other devices for employees	Core		
Installs software on network or individual users' computers, laptops or devices and sets appropriate access controls or authorities	Core		
Sets up user identifications and passwords and implements policies regarding passwords and user/administrator permissions	Core		
Establishes secure external connections to network or desktops using secure remote access technology	Core		
Installs printers on networks or individual devices	Core		
Sets up network map, employee folders and centralized data repositories	Core		
Sets up email account for users and establishes storage limits and backup parameters	Core		
Maintains and manages software licenses	Core		
Removes users from network, archives data and files, removes workstations and disables devices for users exiting the organization or prohibited from using IT resources	Core		
JOB FUNCTION 2: Installs, provides user support for, or troubleshoots hardware and commercial software	Core		
Uses FAQ's or other job aids to troubleshoot hardware or software faults	Core		

Uses logic to discover source of fault and recommends appropriate solution	Core		
Demonstrates ability to use basic software, including setup or pre-installed default settings, on many other users on the basic functions of installed software packages, and identifies and resolves typical faults in relevant software packages	Core		
Identifies scenarios in which the fault must be escalated to a higher level of technology support individual, including an external vendor	Core		
Conducts outside vendor or vendor-supported help desk to solve difficult problems or piece of software problem	Core		
Provides "ticket" or request for help based on business need, staff capacity or urgency of problem	Core		
BOB FUNCTION 3: Supports internal or external clients in the use of audio visual technology and conferencing technology	Optional		
Setup and tests individual equipment, including projectors, screens, laptops, or video and related devices			
Facilitate, handle, operate and troubleshoot software designed to facilitate presentations, web-based conferencing and teleconferencing			
Test equipment and software prior to use to ensure audio and video quality is acceptable			
Setup, schedule and manage web-based or video conferences			
Provides support to users during meetings, conferences or software			
Setup user accounts on voice technologies or systems, including Voicemail			
BOB FUNCTION 4: Installs, maintains and troubleshoots networks	Core		
Install and maintain wired and wireless networks	Core		
Connect devices to networks physically and using remote access technologies	Core		
Locally export security software and device and monitor system for signs of hacking, intrusion or viruses	Core		
Test readiness of security devices or software and monitor bandwidth utilization	Core		
Install and test security levels and point-to-point based on employee job roles and company policies	Core		
Assess in setting up, configuring and managing servers including data storage	Core		

Setup user identification parameters on servers	Core		
Assess in monitoring server use, efficiency of data back-up and storage systems and integrity of redundant systems or technologies			
BOB FUNCTION 5: Makes minor software modifications to improve performance or addresses user needs	Optional		
Modifies user needs to understand what modifications are needed			
Modifies program within a software package, including securing permission from vendor to do so			
Inserts or loads organizational templates or standards into software, such as presentation templates in Powerpoint or equivalent software	Core		
Monitors computer performance and recommends/updates upgrades or modifications as necessary, to improve speed or other performance parameters			
Uses software to set up needed business functions, such as workflows, meeting scheduling or other functions			
BOB FUNCTION 6: Assists in maintaining or updating web content and manages user access profiles and authorities	Optional		
Set user access profiles based on organizational policies			
Uploads new content to organization's website or removes old content as instructed			
Test functionality of links embedded in the website			
Monitor appropriate person if incorrect, outdated or otherwise problematic content is identified			
Monitor appropriate person if website is not functioning properly			
BOB FUNCTION 7: Monitor and helps maintain network security by adhering to security policies	Core		
Monitor adherence to network policies, including enforcement of password update intervals	Core		
Set user access levels and permissions based on organizational policies	Core		
Monitor critical software to understand potential threats and updates as needed	Core		
Reads, attends conferences or interacts with other IT professionals to learn and understand current threat levels and mechanisms	Core		

Year One Frameworks

(occupational frameworks are in various stages of development)

Healthcare

Medical Assistant

Community Health Worker

Medical coder (AHIMA)

Pharmacy technician

Transportation (TLC)

Bus mechanic

Long Haul Truck Driver

Motor Coach Operator

Energy

Energy Line Worker

Advanced Manufacturing

CNC Operator

Mechatronics (M-S AMC)

Information Technology (AAI)

IT Generalist

Software developer

Cyber Security Analyst

Year Two Frameworks

Hospitality and Culinary

Cook/chef

Tour guide

Transportation (with TLC)

Signal Repair Technician

Railcar Mechanic

Information Technology

Programmer/App developer

Medical/Allied Health

Surgical technician

Sterile supply technician

Several Healthcare IT
occupations (with AHIMA)

Advanced Manufacturing

Industrial Maintenance
Technician

CNC operator – milling &
turning