

Information Technology Career Pathways & Skill Standards (Credentials)

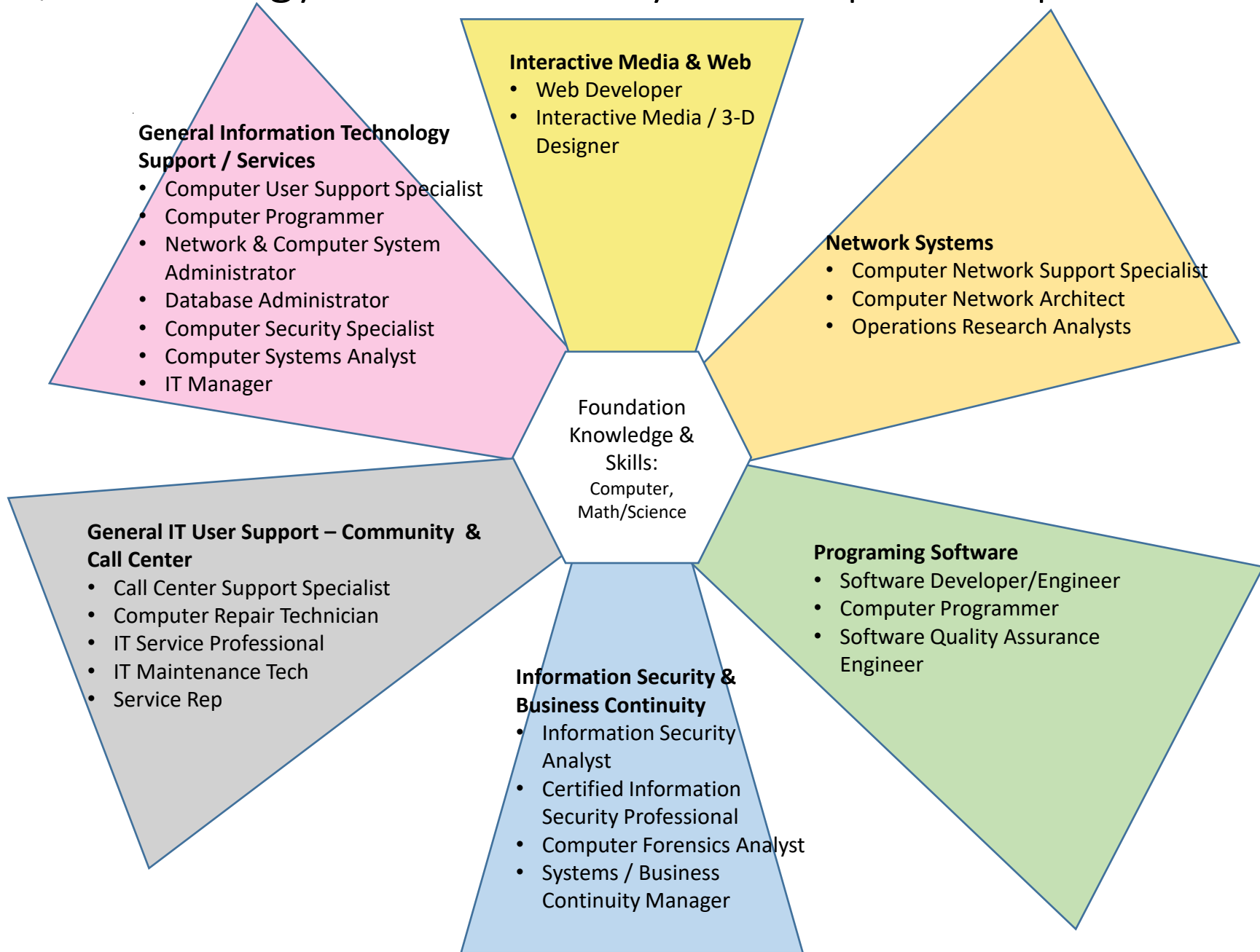
Graphic Model

*Prepared by the Center for Individual & Organizational Effectiveness (C4IOE.com)
for the Tri-County Workforce Investment Board – Butler, Pennsylvania
Spring 2017*

This Graphic Model accompanies an Information Technology Report and a Descriptive Model of Information Technology Career Pathways & Skill Standards, which are all available on the Tri-County Workforce Investment Board website. References / Sources for this model are listed in the Report. This model is not intended to identify ALL information technology occupations (and their related credentialing requirements), but does identify representative occupations within each of the occupational clusters.



IT / Technology Career Pathways & Sample Occupations



IT / Technology Career Pathway and Training / Skill Standards

Information Technology Support / Services

Masters Degree ** 5+ Years Experience**

Example Required Credentials: CompTIA IT Fundamentals, CompTIA A+, Project Management Professional (PMP) , Certified Information Systems Security Professionals (CISSP) , Red Hat Certified Engineer (RHCE) , VMware Certified Professional (VCP) Oracle DBA

Sample Job titles include: IT Manager, Computer Systems Analyst, Information Security Analyst

Bachelor's Degree ** 4 Years Experience**

Example Required Credentials Management information systems (MIS), Computer Systems Analyst, Network Administrator, Computer Systems Analyst, Computer Network Architect

Sample Job titles include: Computer User Support Specialists, Network Technician, IT Help Desk, Network Administrator, Computer Systems Analyst, Information Security Analyst

Associate's Degree ** 2 Years Experience**

Example Required Credentials: : CompTIA IT Fundamentals , CompTIA A+, Cisco Certified Entry Networking Technician, IT Virtualization Technician, IT Network Technician, IT User Support Technician

Sample Jobs: Computer Support Specialist, Network Technician, IT Help Desk, Network Administrator

Non-Degree Certificate ** 2 Years Experience**

Example Required Credentials: CompTIA IT Fundamentals , CompTIA A+, Cisco Certified Entry Networking Technician, IT Virtualization Technician, IT Network Technician, IT User Support Technician

Sample Job titles include: Computer User Support Specialist, Help Desk Technician, IT Support Specialist, Field Service Technician, Enterprise Support Technician, Desktop Support Analyst, Microsoft Certified Solutions Associate

High School Diploma or Equivalent ** 2 Years Experience**

Example Required Credentials: CompTIA A+ Technician, CompTIA Network+, Cisco Certified Network Associate (CCNA), VMWare Certified Associate

Sample Job titles include: Computer User Support Specialist

No Specific Education Requirement ** 0-1 Year Experience**

Example Required Credentials: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

Sample Job titles include: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

IT / Technology Career Pathway and Training / Skill Standards

Interactive Media & Web

Masters Degree ** 3-5+ Years Experience**

Example Required Credentials: 2-D and 3-D illustration

Sample Job titles include: Virtual Reality Designer, Imaging Specialist, Game Design, Senior Programmer

Bachelor's Degree ** 4+ Years Experience**

Example Required Credentials: Optimizing media graphics Flash design, Online database development, Web publishing, Computer design, Game scripting, Project development

Sample Job titles include: Web Designer, Corporate Webmaster, Web Programmer, Internet Marketing Specialist, 3D Graphic Artist, Media Designer, Virtual Reality Designer, Programming (aka Engineering) Programmers, Programmer Scripter Language

Associate's Degree ** 2-4 Years Experience**

Example Required Credentials: HTML programming, Microsoft Technology Associate (MTA), JavaScript, SQL, Flash

Sample Job titles include: Web Designer, Web Programmer, Web Analyst, Entry-Level Programmer, Entry-Level Analyst

Non-Degree Certificate ** 1-2 Years Experience**

Example Required Credentials: IT Java Developer, IT.NET Developer, IT Web Programming

Sample Job titles include: Entry Lever Web Designer/Developer

High School Diploma or Equivalent ** 1-2 Years Experience**

Example Required Credentials: GED, Web Designer / Developer Technician

Sample Job titles include: Entry Lever Web Designer/Developer

No Specific Education Requirement ** 0-1 Year Experience**

Example Required Credentials: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

Sample Job titles include: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

IT / Technology Career Pathway and Training / Skill Standards

Network Systems

Masters Degree ** 4+ Years Experience**

Example Required Credentials: LINUX, System & network configuration, UNIX, Cisco, Firewalls

Sample Job titles include: Health Information Technician, Database Administrator, Operations Research Analyst , Operations Research Analysts

Bachelor's Degree ** 4+ Years Experience**

Example Required Credentials: CompTIA A+ OCP: Oracle Certified Professional SAP HANA: SAP Certified Technology Associate - SAP HANA (Edition 2016)

Sample Job titles include: Network Engineer, Infrastructure Engineer, Help Desk Support Manager, Senior Network Administrator, Computer Network Support Specialist, Network & Computer System Administrator, Computer Systems Analyst, Computer Network Architect

Associate's Degree ** 2 -3 Years Experience**

Example Required Credentials: CCNA Certification, MSCA Certification,

Sample Job titles include: IT Network Specialist, Experienced Help Desk Support, Network Administrator, Network Support Tech.

Non-Degree Certificate ** 1-2 Years Experience**

Example Required Credentials: None at this level

Sample Job titles include: Network Technician, Help Desk Support, Computer Support Specialist

High School Diploma or Equivalent ** 1-2 Years Experience**

Example Required Credentials: GED

Sample Job titles include: Entry-Level Help Desk Support, Computer Technician

No Specific Education Requirement ** 0-1 Year Experience**

Example Required Credentials: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

Sample Job titles include: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

IT / Technology Career Pathway and Training / Skill Standards

Programing Software

Masters Degree ** 4+ Years Experience**

Example Required Credentials: CompTIA Linux+m CompTIA Network+, Java C, C++, PHP, Objective-C, Perl, Python

Sample Job titles include: Lead Developer or Architect, Developer Manager Computer Programmer, Database Administrator, Software Developer, Computer & Information Systems Managers

Bachelor's Degree ** 4+ Years Experience**

Example Required Credentials: AJAX and JavaScript Website Development, Website Development-XHTML/CSS

Sample Job titles include: Web Designer, Corporate Webmaster, Web Programmer, Internet Marketing Specialist, Computer Programmer, Database Administrator, Software Developer, Applications Software Developers, Computer Systems Analysts

Associate's Degree ** 2+ Years Experience**

Example Required Credentials: IT Web Software Developer

Sample Job titles include: Computer Programmer, Database Administrator, Software Quality Assurance Engineer, Web Designer, Web Programmer, Web Analyst, Entry Level Programmer, Entry Level Analyst

Non-Degree Certificate ** 2+ Years Experience**

Example Required Credentials: IT Java Developer, IT.NET Developer, IT Web Programing

Sample Job titles include: Computer Programmer, Database Administrator, Software Developer

High School Diploma or Equivalent ** 2+ Years Experience**

Example Required Credentials: IT Java Developer, IT.NET Developer, IT Web Programing

Sample Job titles include: Entry Level Web Designer / Web Developer

No Specific Education Requirement ** 0-1 Year Experience**

Example Required Credentials: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

Sample Job titles include: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

IT / Technology Career Pathway and Training / Skill Standards

Information Security & Business Continuity

Masters Degree ** 2-5+ Years Experience**

Example Required Credentials: Certified Information Systems Security Professional (CISSP), GIAC Certified Forensic Analyst (GCFA), Certified Business Continuity Manager

Sample Job titles include: Security Analyst, Security Consultant, Security Manager, Security Director, Security Officer

Bachelor's Degree ** 4+ Years Experience**

Example Required Credentials: Certified Information Systems Security Professional (CISSP), GIAC Certified Forensic Analyst (GCFA), Safe Harbor, GPDR, NIST 800-34

Sample Job titles include: Security Analyst, Security Consultant, Security Manager, Business Continuity Manager

Associate's Degree ** 2-5 Years Experience**

Example Required Credentials: Cisco Certified Network Associate Security, Microsoft Technology Associate: Security Fundamentals, CompTIA Security +

Sample Job titles include: Security Specialist, Security Analyst

Non-Degree Certificate ** 2+ Years Experience**

Example Required Credentials: CompTIA A+, CompTIA IT Fundamentals, CompTIA Security+, CompTIA Network+

Sample Job titles include: Security Specialist, Security Associate

High School Diploma or Equivalent ** 1-2 Years Experience**

Example Required Credentials: CompTIA A+, CompTIA IT Fundamentals, CompTIA Security+, CompTIA Network+

Sample Job titles include: Security Specialist, Security Associate

No Specific Education Requirement ** 0-1 Year Experience**

Example Required Credentials: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

Sample Job titles include: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

IT / Technology Career Pathway and Training / Skill Standards

General IT User Support – Community & Call Center

Masters Degree ** 5+ Years Experience**

Example Required Credentials: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

Sample Job titles include: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

Bachelor's Degree ** 4+ Years Experience**

Example Required Credentials: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

Sample Job titles include: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

Associate's Degree ** 2-3+ Years Experience**

Example Required Credentials: CompTIA A+, CompTIA IT Fundamentals, CompTIA Network+

Sample Job titles include: Process Consultant, Call Center Support Representative, Service Representative, Service Professional Specialist, Technician Maintenance Technician, PC Support

Non-Degree Certificate ** 1-3 Years Experience**

Example Required Credentials: None at this level

Sample Job titles include: Call Center Support Representative, Service Representative, Service Professional Specialist, Technician Maintenance Technician, PC Support

High School Diploma or Equivalent ** 1-5 Years Experience**

Example Required Credentials: None at this level

Sample Job titles include: Call Center Support Representative, Service Representative, Service Professional Specialist, Technician Maintenance Technician, PC Support

No Specific Education Requirement ** 0-1 Year Experience**

Example Required Credentials: No occupations / credentials were identified at this level. However, there may be occupations not yet identified

Sample Job titles include: No occupations / credentials were identified at this level. However, there may be occupations not yet identified