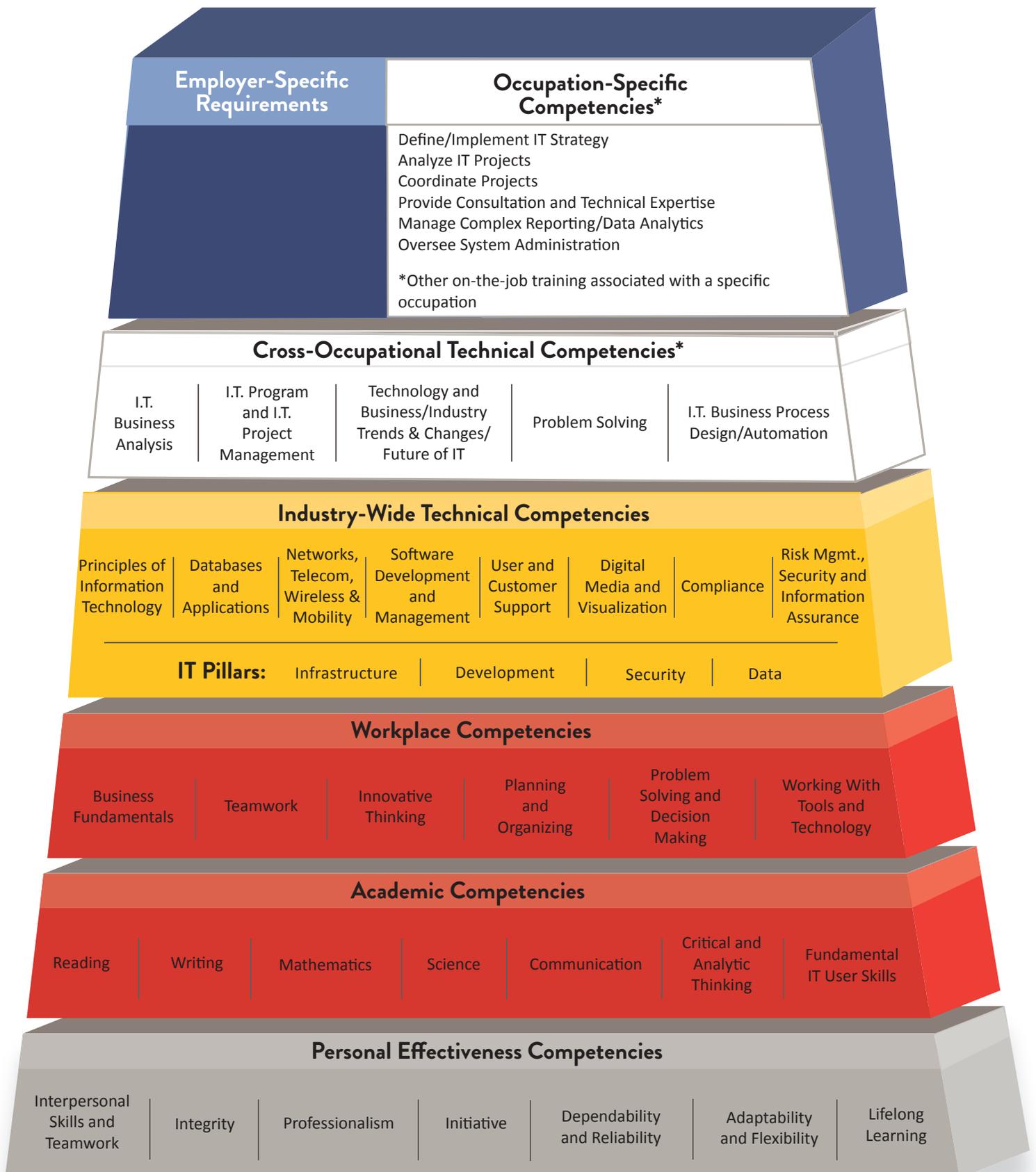


Minnesota Dual-Training Pipeline

Competency Model for Information Technology

Technical Planning Pathway



Based on: Information Technology Competency Model Employment and Training Administration, U.S Dept. of Labor, September 2012.

*Pipeline recommends the Industry-Sector Technical Competencies as formal training opportunities (provided through related instruction) and the Occupation-Specific Competencies as on-the-job training opportunities.



Competency Model for Technical Planning Pathway Occupations

Possible Technical Planning Pathway Occupations

- Account Developer
- Analytics: Consultant/Engineer
- Big Data: Administrator/Engineer/Manager
- Business Intelligence: Analyst/Developer/Manager
- Client Support Analyst
- CRM Analyst
- Data: Administrator/Analyst
- Data Analytics: Consultant/Engineer/Manager
- Data Center: Engineer/Manager/Specialist/Technician
- Data Conversion: Lead/Manager
- Data Engineer
- Data Integration: Developer/Engineer/Specialist
- Data Integrity: Lead/Specialist
- Data Management: Coordinator/Specialist
- Data Mining Analyst
- Data Platform Engineer
- Data Quality Analyst
- Data Science: Engineer/Manager
- Data Specialist
- Data Warehouse: Analyst/Consultant/Developer/Engineer/Manager
- Database: Administrator/Analyst/Coordinator/Developer/ Engineer/Manager/Specialist
- Digital Analytics Manager
- Director Of: Analytics/Data Science/Engineering
- ERP: Analyst/Integration Manager/Project Manager/ Consultant
- Healthcare Data Analyst
- Information Technology Business Analyst
- Information Technology Business Consultant
- Information Technology Business Specialist
- Java Engineer
- Lead Data Engineer
- Management Analyst
- Marketing Data Analyst
- Master Data Specialist
- Network: Engineer/Specialist
- Operations: Analyst/Specialist/Manager
- Performance Improvement Specialist
- Principal Data Engineer
- Program Analyst
- Quality Assurance Specialist
- Reporting Analyst
- Security Consultant
- Senior Big Data Engineer
- Senior Data Engineer
- Senior Data Warehouse Engineer
- Senior Performance Analyst
- Senior Reporting Analyst
- Senior Storage Administrator
- Senior Technical Specialist
- Software Development Engineer
- Solutions Architect
- Statistical Analyst
- Storage: Administrator/Engineer
- Supply Chain Analyst
- Sybase Database Administrator
- Systems: Analyst/Engineer
- Technical: Analyst/Specialist
- *This list is intended to be a guide of potential occupations available within the Technical Planning Pathway. Other position titles may be used based on an employer's organizational structure.*

Industry-Wide and Cross-Occupational Technical Competencies

- Business Analysis – set of tasks and techniques used to work as a liaison among stakeholders to recommend solutions that enable the organization to achieve its goals
- Program and Project Management – prioritize incoming projects, plan, organize, implement, lead and control the work of a project to meet objectives
- Technology and Business/Industry Trends and Changes/Future of IT – management and organization of information within the business realm. Strategies to gain a competitive edge in technology growth areas
- Problem Solving – define and analyze root cause of problems, generate multiple solutions, evaluate and select the solution that best fits the organization and implement and follow up with success
- Business Process Design and Automation – strategy a business uses to automate processes in cost effective way. Can consist of integrating applications, restructuring labor resources and using software applications
- Principles of Information Technology – the application of computers to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise
- Databases and Applications – an organized collection of data and computer programs designed to perform a group of coordinated functions, tasks or activities for the benefit of the user
- Networks, Telecom, Wireless and Mobility – the means by which computers are enabled to exchange data
- Software Development and Management – the process of conceiving, specifying, designing, programming, documenting, testing, and bug fixing involved in creating and maintaining the source code
- User and Customer Support – detailed customer service offered to the end business user in the realm of computers and networks
- Digital Media and Visualization – any media that are encoded in a machine-readable format; can be created, viewed, distributed, modified and preserve on digital electronics devices
- Compliance – adherence to procedures laid down by an operational entity that dictates how users operate internally AND adherence to procedures that dictate communications and interactions with external partners
- Risk Management, Security, and Information Assurance – identification, assessment, and prioritization of risks followed by coordinated and economic application of resources to minimize, monitor, and control the probability and impact of unfortunate events or to maximize the realization of opportunities

Occupation-Specific Competencies, typically addressed in on-the-job training

- Define IT Strategy – long-term action plan for achieving a goal, set in the context of a rapidly changing technology environment. Plan must have measurable links to a business strategy
- Implement IT Strategy – execution of an IT plan, idea, model, design, specification, standard, algorithm or policy.
- Analyze IT Projects – techniques aimed at verifying what costs the project has incurred, what activities are finished and whether project team members have experienced problems with equipment or functions. The team can take corrective action if the analysis reveals discrepancies.
- Coordinate Projects – Accomplishes work requirements by orienting, training, assigning, scheduling and coaching employees. Meets work standards by following production, productivity, quality, and customer service standards
- Provide Consultation and Technical Expertise – work with clients who are seeking expert knowledge and advice about business and IT problems
- Manage Complex Reporting/Data Analytics – inspecting, cleaning, transforming, modeling and reporting complex data with the goal of discovering useful information, suggesting conclusions, and supporting decision-making.
- Oversee System Administration – responsible for the upkeep, configuration, and reliable operation of technical systems. Ensures that the performance, resources, and security of the technology meets the needs of the users without exceeding the budget

Possible Technical Planning Pathway Certifications

- CSP: Certified Strategic Planner
- SPP: Strategic Planning Professional
- SMP: Strategic Management Professional
- SPA: Strategic Planning Associate
- CompTIA Project +

IT Technical Planning Pathway Training Plan

	List Course/Training Name and Title	Description of Courses and/or Training Program	List Responsible Provider: Company, College, Trainer, or other	Anticipated Completion Date
Related Instruction Competencies				
Business analysis				
Program and project management				
Technology and business/industry trends and changes/future of IT				
Problem solving				
Business process design and automation				
Principles of information technology				
Databases and applications				
Networks, telecom, wireless and mobility				
Software development and management				
User and customer support				
Digital media and visualization				
Compliance				
Risk management, security, and information assurance				

On-The-Job Training Competencies				
Define IT Strategy				
Implement IT strategy				
Analyze IT projects				
Coordinate projects				
Provide consultation and technical expertise				
Manage complex reporting/data analytics				
Oversee system administration				