Minnesota Dual-Training Pipeline
Competency Model for Information Technology
Information Management and Analytics Career Cluster Pathway

Employer-Specific Requirements
Occupation-Specific Competencies*

- Manage Information Resources
- Analyze Mined Information
- Report on Findings
- Provide Technical Assistance to Staff and Contractors
- Understand Control Procedures
*Other on-the-job training associated with a specific occupation.

Cross-Occupational Technical Competencies*

- Data Analytics/Business Intelligence
- Big Data/Data Warehousing
- Database Admin/Management
- Server/Data Center Management
- Data Mining

Industry-Wide Technical Competencies

|-------------------------------------|---------------------------|--------------------------------------|-----------------------------------|--------------------------|-------------------------------|-----------|---------------------------------|

*Other on-the-job training associated with a specific occupation.

IT Pillars

- Infrastructure
- Development
- Security
- Data

Workplace Competencies

- Business Fundamentals
- Teamwork
- Innovative Thinking
- Planning and Organizing
- Problem Solving and Decision Making
- Working With Tools and Technology

Academic Competencies

- Reading
- Writing
- Mathematics
- Science
- Communication
- Critical and Analytic Thinking
- Fundamental IT User Skills

Personal Effectiveness Competencies

- Interpersonal Skills and Teamwork
- Integrity
- Professionalism
- Initiative
- Dependability and Reliability
- Adaptability and Flexibility
- Lifelong Learning

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.
Vegetable and Fruit Identification Guide

Vegetable and Fruit Identification Guide

Vegetables

1. Cabbage
2. Tomato
3. Broccoli
4. Lettuce
5. Spinach
6. Bell Peppers
7. Carrots
8. Zucchini
9. Squash
10. Onions

Fruits

1. Apple
2. Banana
3. Orange
4. Mango
5. Grapefruit
6. Pineapple
7. Kiwi
8. Watermelon
9. Grapes
10. Strawberry

This list is intended to be a guide of potential occupations available within the Information Management & Analytics Pathway. Other position titles may be used based on an employer's organizational structure.
Industry-Sector Technical Competencies

- **Data Analytics** – a set of tools and the process used to inspect, clean, transform, and model data with the goal of discovering useful information, suggesting conclusions, and supporting decision-making.
- **Business Intelligence** – a set of techniques and tools for the acquisition and transformation of raw data into meaningful and useful information for the purposes of business analysis (sometimes referred to as “data surfacing”).
- **Big Data** – data sets that are so large or complex that traditional data processing applications are inadequate. Challenges include analysis, capture, data curation, search, sharing, storage, transfer, visualization, querying and information privacy.
- **Data Warehousing** – a system used for reporting and data analysis; often central repositories of integrated data from one or more disparate sources. Data warehouses store current and historical data and are used for creating analytical reports for knowledge workers throughout the organization.
- **Database Administration; Database Management** – the use of specialized software to store and organize data. This work may include capacity planning, installation, configuration, database design, migration, performance monitoring, security, troubleshooting, back-up and data record retention.
- **Server/Data Center Management** – the key tasks associated with protecting data from security breaches.
- **Data Mining** – the computational process of discovering patterns in large data sets involving methods at the intersection of artificial intelligence, machine learning, statistics, and database systems.

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

- **Manage Information Resources** – a cycle of organizational activity, including acquisition, compilation, organization, distribution and disposition through archival or deletion.
- **Analyze Mined Information** – the act of critically reviewing and interpreting information collected from one or more sources.
- **Report on Findings** – the act of interpreting and compiling information to share with end business users and colleagues in the information technology field.
- **Provide Technical Assistance to Staff and Contractors** – the act of providing advanced customer service to end business users and associates.
- **Understand Control Procedures** – demonstrated proficiency and interpretation of controls used to collect, analyze, and protect data.

Possible Information Management & Analytics Career Cluster Pathway Certifications

- MCSE: Microsoft Certified Solutions Expert Business Intelligence
- MCSE: Microsoft Certified Solutions Expert Data Management & Analytics
- CCP Data Scientist: Cloudera Certified Professional
- CCP Data Engineer
- CCA: Cloudera Certified Associate Spark and Hadoop Developer
- CCAH: Cloudera Certified Administrator for Apache Hadoop
- MongoDB Certified DBA, Associate Level
- MongoDB Certified Developer, Associate Level
- Oracle Business Intelligence (BI)
- SAS Certified Data Scientist
- CAP: Certified Analytics Professional
- IIBA – International Institute of Business Analysis
  - ECBA: Entry Certificate in Business Analysis
  - CCBA: Certification of Capability in Business Analysis
  - CBAP: Certified Business Analysis Professional
  - CBATL: Certified Business Analysis Thought Leader
- Associates degree, Bachelor’s degree, Master’s degree in Information Management and Analytics

## IT Information Management and Analytics Career Cluster Pathway Training Plan

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<th>List Course/Training Name and Title</th>
<th>Description of Courses and/or Training Program</th>
<th>List Responsible Provider: Company, College, Trainer, or other</th>
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