

CoLAB TalentReady IT Pathways
Data Management KSAs for Curriculum Alignment

1. Data Storage, Operations and Administration

	KSA Description	Knowledge, Skill, or Ability?	Bloom's Taxonomy Level?	Cross-cutting KSAs	Notes
a	Explain the role of data, information, and databases in organizations (for decision making).	Ability	4		
b	Define and appropriately use key terms such as: information, data, database, database management system, metadata, data warehousing and data mining.	Knowledge	2		
c	Describe a database management system.	Knowledge	2		
d	Identify various types of databases including local vs cloud.	Knowledge	2		
e	Describe a database management system (DBMS) and identify specific DBMS platforms and the role they play.	Knowledge	2		
f	Discuss and differentiate end-user vs meta data.	Knowledge	2		
g	Identify and differentiate structured vs unstructured data.	Knowledge	2		
h	Discuss and differentiate OLTP and OLAP databases.	Knowledge	2		
i	Demonstrate an understanding of database performance monitoring and tuning.	Knowledge	2		
j	Explain the data life cycle in terms of acquisition, migration, retention, expiration and disposition.	Knowledge	2		
k	Demonstrate an understanding of backup and recovery procedures and their necessity for disaster recovery and business continuity.	Knowledge	2		
l	Apply SQL data manipulation language such as Select (From), Insert, Update, Delete, JOIN (inner, outer, full, left, right), Where, Group By, Order By, etc.	Ability	3	Software 1d	
m	Demonstrate fundamental programming skills including the use of variables, loops, conditional branching, and program logic.	Skill	3	Cyber Security Specialist 7a, Software Development 2c	
n	Describe the implications of data architecture on data processing.	Knowledge	2	Data Analytics 2d	
o	Demonstrate an understanding content tagging and its role in data management.	Knowledge	2		
p	Demonstrate an understanding of cloud architecture and the capabilities of services such as AWS, Azure, IBM, Oracle and Google.	Knowledge	2	Cyber Security Specialist 3c, Cyber Security Technologist 8g, Networking 4d, Software Development 1g	
q	Explain version control and the significant role it plays in data management.	Knowledge	3		
r	Identify and describe basic file types and demonstrate fundamental file management.	Skill	2	Cyber Security Specialist 1e, Cyber Security Technologist 1g, Networking 5f, Software Development 1k	
s	Ability to install and configure software.	Ability	3	Cyber Security Specialist 1c, Cyber Security Technologist 1e, Networking 5a, Software Development 1h	