Specification of Competency Standards
for the Information & Communications Technology Industry
Unit of Competency

Functional Area - Data Science

Title	Understand the use of data concepts and topologies to design data topology suitable for an enterprise
Code	111135L6
Range	Understand the use of data concepts and typologies with data dimensions to read, work with and communicate about data by putting it in proper context throughout the data life cycle for any enterprise to be successful with any type of analytics.
Level	6
Credit	3 （For Reference Only）
Competency	Performance Requirements 1. Understand the use of data concepts and topologies with data dimensions under different categories - Be able to: - understand the use of data concepts and topologies with data dimensions (See Remark 1) under different categories (See Remark 2) 2. Familiar with the flows of enterprise data - Have knowledge of the data flow, such as in which parts of the organization will data be generated, which divisions require data to function, how data flows are managed, and how data changes in transition 3. Know the various layers of data - Have knowledge of various data layers (See Remark 3) from raw statistics or snippets of unstructured data (for example, social media post) to actionable insight throughout the data lifecycle.
Assessment Criteria	• The integrated outcome requirement of this is the ability to have a properly designed data topology that is sustainable, future-proofing and resistant to the continuous changes that are associated with data characteristics (See Remark 4), providing the foundation for any enterprise to be successful with any type of analytics
Remark	1. The data topology is an approach for classifying and managing real-world data scenarios. There are three core elements of a data topology: - zone map - data flow - data layer 2. The data categories include (but not limited to): - discrete vs. continuous - structured vs. unstructured - number of dimensions 3. The data layers include data sources layer, data storage layer, data processing/analysis layer and data output layer. The data layers connects with the types of data management approach such as data warehousing or data lake, types of data acquisition options such as new data collection, data extraction or data-as-a-services 4. The data characteristics include volume, variety, velocity, veracity, and perception of the data's value