Unit	Data Analysis Tools SQA Unit Code – HD52 04	
Code	DADAT	*QCF:*
Level	SCQF: 8	*QCF: 4/5*
Credit Value	SCQF: 18	*QCF: tbc*
Unit summary	This unit is concerned with the tools which can be used to analyse large, highly dynamic data sets to provide actionable insights. These data sets typically include semi- and un-structured data in addition to structured data, and are often referred to as 'Big Data'. The data will be derived from a range of sources and can relate to contexts including business and scientific or social research.	

Learning Outcomes The learner will:	Assessment Criteria
1. Use the resource management facilities of a distributed data processing system	1.1 identify and quantify the resources available to the system 1.2 configure the system resource manager to enable access to all available resources 1.3 identify and prioritise the applications and tasks to be processed 1.4 configure the system resource manager to allocate resources to applications and tasks to meet identified needs and priorities 1.5 configure the system resource manager to schedule the processing of tasks and applications to meet identified needs and priorities
2. Use a Map and Reduce model for data analysis	2.1 specify the input and output key/value pairs required for data analysis tasks 2.2 design the map and reduce functions required for data analysis tasks 2.3 identify any grouping and combination options that will improve the efficiency of the processing of data analysis tasks 2.4 specify the reporting and configurations options applicable to data analysis tasks

	2.5 implement data analysis tasks using a Map and Reduce model
3. Use data analysis and data visualisation applications	3.1 evaluate the suitability of data analysis and data visualisation software applications for data analysis tasks 3.2 use data analysis software applications for data analysis tasks 3.3 use a data visualisation software application to present data in a manner which aids understanding and highlights patterns or trends
4. Use a programming language to analyse data	4.1 Design programs to perform data analysis tasks 4.2 Implement program designs for data analysis tasks 4.3 select and use relevant tests and data to check the functionality of data analysis programs 4.4 create documentation to support the use and maintenance of data analysis programs
5. Use the data analysis facilities provided by spreadsheet software packages	5.1 evaluate the suitability of the data analysis facilities provided by spreadsheet software packages for data analysis tasks 5.2 use data analysis facilities provided by spreadsheet software packages for suitable data analysis tasks
Additional information about the unit	
Guidance on approaches to assessment	*This unit **must** be assessed in the workplace. The actual data and/or the data management and analysis system may either be situated in the candidate's own organisation or, where the candidate's organisation is supplying a service, in another.* *Outcome 4 should be assessed in conjunction with one, or more, of the programming paradigm units – PP3, OOP3 or EDP3. Where the candidate already holds one of these units the assessment criteria of the programming unit should be used as a guide for this outcome.* *The assessment criteria are intended to be system neutral and the terminology used may be interpreted to meet the context of the particular data management and analysis system in use.*

Details of the relationship between the unit and relevant National Occupational Standards or other professional standards	This unit is based on the NOS for Data analytics.
Location of the unit within the subject/sector classification system	IT Professional
Name of the organisation submitting the unit	The Tech Partnership