Information and Communications Technology Industry Training Advisory Committee
Software Products and Software Services (SW) branch
Unit of Competencies

1. Title	Propose an architecture design (AD) of the software/system
2. Code	ITSWDM601A
3. Range	Formulate, analyse, evaluate and propose an architecture design (AD) of the software/system based on its SRS in the context of development of software products / services within an organisation or for a client [Design Development Maintenance – Software/Systems Design]
4. Level	6
5. Credit	1

6. Competency		
	6.1 Understand the requirements of an architecture design of software/system	<u>Performance Requirement</u> Be able to - understand the basic principles, methodologies and techniques in the whole software process life cycle - appreciate the objectives of software/system architecture design and its relation with other phases of the software process cycle - understand the software/system requirements specification - understand how reference architectures are used to communicate architectural concepts
	6.2 Formulate an architecture design of the software/system	Be able to - perform a software/system architecture design exercise based on the software/system requirements specification - describe any assumptions, dependencies, limitations and constraints regarding the software and its use in relation to related software or hardware, operating systems, end-user characteristics and others - identify the major components of the software architecture and their relationships according to the functional and non-functional requirements in the software/system requirements specification - establish a basic structural framework using appropriate architectural models depending on the type of applications - document the architecture design using appropriate architectural models describing how the system is structured into sub-systems - describe the development approach adopted - highlight part of the architecture design involving business process reengineering

	6.3 Analyse and evaluate the formulated architecture design of the software/system	Be able to ▪ assess system architecture as to meet the requirements in the software/system requirements specification ▪ determine whether all the functional and non-functional requirements have been considered ▪ ensure the architecture design is fit for its intended purpose of the software/system ▪ identify the incompatible aspects of the architectural design due to the inconsistent or conflicting requirements ▪ evaluate whether the architecture design is sufficient to support business processes efficiently and effectively ▪ determine whether there is a need to re-engineer business processes
	6.4 Exhibit professional skills in the formulation of architecture design	Be able to ▪ adapt standard design methodologies and principles for the software/system architecture design to cater for the specific organization's environment ▪ produce the architecture design in an efficient and effective manner ▪ follow the organisation's standards and guidelines where applicable ▪ obtain agreement among stakeholders
7. Assessment Criteria	The integrated outcome requirements of this UoCs are the abilities to formulate a software/system architecture design which can: (i) ensure that functional and non-functional requirements are met; (ii) describe the structure of the software/system architecture design; and (iii) highlight the part of architectural design involving business process re-engineering.	
Remark		