UNIT GUIDE

Course Code	ACWD
Course Name (NICF)	**NICF-Advanced Certificate in Infocomm Technology (Software & Applications)**
Product Name (Marketing & Sales)	Advanced Certificate in Web Development (AC WD)
Module Name (NICF)	NICF Capstone Project using Java
Product Name (Marketing & Sales)	Capstone Project using Java

Course Term	Part Time – 5 months; Full Time – 3 months
Module Term	Part Time – 3-4 weeks; Full Time – 2 weeks
Course Pre-requisites	Nil
Delivery Mode	Blended Learning
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nicf NATIONAL INFOCOMM COMPETENCY FRAMEWORK
Jointly developed by IDA and WDA

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REVISION HISTORY:

Version Number	Effective Date of release	Details	Author
1	17Apr 2016	Creation	
2			

1. Module Description

The objective of this module is to introduce learners to understand Test Planning, Problem Management & Project Management.

This module is part of the WSQ Qualification Course **NICF-Advanced Certificate in Infocomm Technology (Software & Applications)**.

This module explains Test planning, testing methods, developing phase test plan, requirements specification and optimal test scheduling. This module covers problem management, methods, investigation and resolution, documentationand monitoring of problems. This modules also covers basics of project management.

This module contains 9 instructional units and is delivered in blended mode. The learning journey is described in the session plan.

The learner shall perform e-learning and Assignments for each of the Instructional Units with online support from the Tutors. Subsequently, the learner shall perform a modular project with the guidance of an Industry expert who acts as a Project Tutor.

2. Learners' Profile

Prospective Learners should meet any of the following educational qualifications and work experience requirements to attend this course:

Entrants, Early and Mid-Career Professionals should meet the following criteria:

- Minimum Educational Qualifications: NITEC, Singapore (National ITE Certificate)
- Work experience: Not mandatory

Aspiring Tech Entrepreneurs should meet the following criteria:

- Minimum Educational Qualifications: NITEC, Singapore (National ITE Certificate)
- Work experience: Involved in the subject matter for at least 2 years, in areas of management or consulting

IT Professionals with more than 3 years of work experience need not meet above Education requirements to take this course.

3. Instructional Units

The following instructional units and the topics are covered in this module

1. IU1: Introduction to Testing (ITSF)
2. IU2: Test Planning (ITSF)
3. IU3: Requirements Specification & Phase Test Plan (ITSF)
4. IU4: Struts Testing Methods (ITSF)
5. IU5: Problem Management – Part 1 (ITSF)
6. IU6: Problem Management – Part 2 (ITSF)
7. IU7: Introduction to Project Management (BTEC)
8. IU8: Developing a Project Plan (BTEC)
9. IU9: Executing, Monitoring & Closing a Project (BTEC)

4. Learning Outcomes& Targeted Job Roles

Learning Outcomes

By the end of this module, the learner should be able to gain the following knowledge:

- Understand the basics of Test Planning, Test Scheduling.
- Understand the basics of developing a Requirements specification & Phase Test Plan
- Understand the basics of Problem Management
- Understand in details various stages in Project Management.

By the end of this module, the learner should be able to apply the following skills:

- Plan a Test to test a web application
- Schedule a test optimally considering various factors
- Create phase Test plan and test scripts
- Handle a problem in an appropriate manner.
- Investigate & resolve problems along with suitable documentation.
- Be able to manage Projects.

Targeted Job Roles

The learners can work as entry level Web Designer and Web Developer after completing the Qualification

5. Competency Units

Competency Unit:

ICT-DIT-3017-1.1 - Test Planning

Abilities:

Learners are expected to deliver the following job performances:

- A1: Determine the requirements and specifications of applications or systems to be tested
- A2: Propose relevant tests for applications or systems to achieve the testing objectives
- A3: Identify points across the different product life stages for optimal scheduling of tests and verification of different requirements
- A4: Develop a phase test plan
- A5: Assess appropriate way for executing test scripts through manual, automated or mixed

Knowledge:

The learners are expected to acquire the following knowledge to deliver an appropriate level of job performance

- K1: Different types or levels of testing over product life stages
- K2: Range of tests, testware and their applications
- K3: Optimal scheduling times for different tests
- K4: Critical components of a phase test plan
- K5: Different means for executing test scripts

Competency Unit:

ICT-OUS-4011-1.1 Problem Management

Abilities:

Learners are expected to deliver the following job performances:

- A1: Manage the lifecycle of a wide range of problems
- A2: Introduce technologies and processes to enable automated detection of incidents or problems
- A3: Perform investigations and deep analysis of a problem to fully understand its root causes
- A4: Develop guidelines and methods for prioritisation and categorisation of problems according to their severity, frequency or potential implications
- A5: Recommend solutions to address the root cause of problems and minimise the reoccurrences of similar problems

- A6: Monitor documentation and tracking of problems encountered and resolved

Knowledge:

The learners are expected to acquire the following knowledge to deliver an appropriate level of job performance

- K1: Principles of problem management throughout its lifecycle
- K2: Relevant tools, processes and technologies to facilitate problem identification, investigation, analysis and resolution
- K3: Problem investigation and diagnosis techniques and methodologies
- K4: Problem prioritisation and sizing techniques, methodologies and parameters
- K5: Best practices and industry standards in documentation related to problem management

6. Learning Design

This module is delivered using the LA Learning Delivery model – Blended Learning with EASE, which usually comprises of 4 components: e-content, activities, support and evaluation. The main elements of the Blended Learning with EASE for this module are listed below:

#	Learning Activities	# Sessions	Duration / session (hours)	LearnerDuration (hours)	
				Live	Support
1	E-learning	4	3	-	15
2	Assignment	0	3	-	18
3	Flipped Class	3	3	9	-
4	Project Mentoring	3	2	6	-
5	Project Implementation	11	3	-	12
6	Assessment	1	0.5	0.5	-
			Learner Duration (hours)	15.5	45

1. E-learning

The learner shall engage in Self-directed learning using the e-content for each Instructional Unit of the module as per the Personalized Schedule. On-line Support is available for the learner as per defined schedule, to get assistance during the self-directed learning. The learner is supposed to complete the self-directed learning and assessments using MCQs before engaging in other activities related to the Instructional Units.

The Learner can engage in e-learning from any location from where the e-content can be accessed securely. The Learner shall perform ***15 hours of e-learning across 5 sessions of 3 hours*** each. This Activity duration is part of the Learner Duration in the Personalized Schedule.

2. Assignments

Learners shall perform the assignments relevant to the Instructional Units as per the Session Plan (***18 hours of Assignment across 6 sessions of 3 hourseach***). Where lab environment is required, the Assignment can be performed using Virtual Labs or Physical Labs, whichever is available.

Learners can perform the assignments either at Lithan Campus or any location from where the Virtual Labs can be accessed.

On-line Support is available for learners as per defined support schedule, to get assistance while performing the Assignment. Learners can post their queries on Lithan LMS forums and Lithan Tutors shall respond to the queries as per the support schedule shared with the learners.

3. Flipped Class

Learners shall attend the Flipped Class Sessions as per the Session Plan (**9 hours of flipped class across 3 sessions of 2 hours *each***).

In these sessions, Lithan's Instructor shall explain Complex topics and Assignments using Instructor Slide Decks or Assignment Statements (and solutions, if available), at Lithan's campus.

These sessions are designed to be interactive and learners can seek answers to their queries, if any.

5. Mentoring

While implementing the Project, learners shall attend Mentoring Sessions at Lithan Campus (***6 hours across 3 session of 2 hourseach***).

During these sessions, learners shall present each Milestone to a Mentor, who reviews the deliverable related to the Project Milestone and shares critical feedback. Learners shall incorporate the feedback into the Project work and proceed to complete the next milestone until all milestones are completed.

Learners shall submit the Project report, Project Presentation, Project Prototypes and other evidences on Lithan LMS, at the end of each milestone.

6. Project Implementation

After completing the e-learning and assignments of all Instructional Units, learners shall implement a Modular Project as per the Project Brief and Session Plan (12 hours across 4 sessions of 3 hours each). The performance of learners in Modular project will be used for Summative Assessment.

The objectives of the project along with deliverables and technical environment, assessment criteria etc. are described in a Project Brief.

Learners shall structure the deliverables into at least 4 Milestones, with the guidance of Mentors and complete each Milestone in each Project Implementation Sessions, as per the Session Plan.

Learners can perform the Project either at Lithan Campus or any location from where the Project Environment can be accessed.

On-line Support is available for learners as per defined support schedule, to get assistance while performing the Module Project. Learners can post their queries on Lithan LMS forums and Lithan Mentors shall respond to the queries as per the support schedule shared with the learners.

While performing the Module Project, learners shall get their milestones evaluated by Mentors during Mentoring Sessions as per the Session (explained in the next section).

Learners shall complete the project before appearing for Assessment and submit the Project Report, Project Presentation, Project Prototypes and all other evidences related to the Project as per the submission date defined in the Session Plan.

6. Summative Assessment

During the Summative Assessment **(30 minutes duration),** learners are assessed in knowledge and skills related to the module as stated in the Competency Units.

Before the Summative Assessment, learners should have completed the module project and submit the Project Report and Project Presentation as per the Session Plan.

Summative Assessment is divided into two sessions of 15 minutes each, conducted by an ACTA certified Assessor, individually for each learner.

In the first session, the Learner shall present the Project Presentation, explain the Project Report, demonstrate the Project Prototype and related evidences. The Assessor shall review the Project Presentation and Project Report and shall ask Oral questions during the Project Presentation.

In the second session, the Assessor shall share the feedback about the Learner's performance

Learners must be assessed as COMPETENT in each of the Performance Statements and Underpinning knowledge of the Competency Units to be awarded a SOA (Statement of Attainment).

7. Assessments

Assessment Method	Assessment Details	Duration
Formative Assessments Learners with minimum score of 70% in this Assessments will be qualified for Summative Assessments. Learners can take up to 4 attempts to attain 70% score in Formative Assessments.		
MCQ Tests	Learner shall complete the MCQ tests on LMS during each e-learning session as per Session Plan.	15 mins / MCQ Test
Assignments	Learner shall perform Assignments of each IU as per Session Plan and submit the Assignment work on Lithan LMS, immediately after completion	2-3 sets of Assignments
Summative Assessment (Learners should be assessed COMPETENT in all the UK and PS of the Competency Units of the module)		
Project Report	Learner shall perform the Project as per the Project Brief and prepare a Project Report as per pre-defined templates and submit on Lithan LMS at least 2 days before the Summative Assessment.	Self-paced, but to be submitted 2 days before the Summative Assessment
Project Presentation	While performing the project, the learner shall also prepare a Project Presentation as per pre-defined templates and submit at least 2 days before the Summative Assessment. During Assessment, the learner shall present the project outcomes using the Project Presentation and respond to Assessor's questions.	15 mins
Review & Feedback	The assessor reviews the Project Report and Project Presentation and provides feedback individually to each of the learners. The assessor may ask questions to address any gaps identified in the Project Presentation and Report and record the results in each of the Learner's "Assessment Record" for the module.	15 mins

8. Grade Sets

Learners are assessed and graded as below:

- C – Competent
- NYC – Not Yet Competent

For WSQ courses, when a Learner achieves 'Competent' grade, a Statement of Attainment (SOA) will be given to the Learner.

9. LearningResources

Following learning resources and tools are available for learners to perform their activities related to learning, assignments and projects:

- Instruction Slides on Lithan LMS
- Instructional Videos on Lithan LMS
- MCQs on Lithan LMS
- Lab Exercises on Lithan LMS & Virtual Lab
- Unit guide with Session plan available on Lithan LMS
- Modular Project Brief on Lithan LMS
- Project Presentation Template on Lithan LMS
- Project Report Template on Lithan LMS

10.Recommended Learnings

The Learners can go through the test planning material online.

11.Class Size

The number of Learners at any point of time can be around 25 to 30 per cohort.

12.Instructor Background

Instructor who are delivering this course meet the following requirements:

- 5 years of working experience in the same areas as that of this course ***and***
- Academic qualification at least at the same level of the course ***or*** with a level below the level of course with relevant Industry certification ***and***,
- ACTA Qualification

13. Session Plan

Session	Instructional Units	Session Activities	Learning Resources
Session 1: e-learning 1 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:** 3 hours **Faculty: Tutor to provide online support**	IU1: Introduction to Testing (ITSF) IU2: Test Planning (ITSF) IU3: Requirements Specification & Phase Test Plan (ITSF)	Learner should complete e-learning as per the date / time specified in Personalized Schedule. The Learner will LEARN the following: IU1: Introduction to Testing (ITSF) – Levels of Testing – Test Metrics IU2: Test Planning (ITSF) – Test Environment – Optimal scheduling times for different tests – Critical components of a phase test plan – Executing Test Scripts IU3: Requirements Specification & Phase Test Plan (ITSF) – Requirements and specifications of a application/system – Propose relevant tests for application/system – Develop a phase test plan At the end of this session the learner should provide the feedback on LMS system.	**Instructor Slides on EdX** – IU1-Introduction to Testing.pptx – IU2-Test Planning.pptx – IU3-Requirements Specification & Phase Test Plan.pptx **Instructional Videos on EdX** – No Videos for IU1 **MCQ Tests** – Lithan EdX
Session 2: e-learning 2 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:** 3 hours **Faculty: Tutor to provide online support**	IU4: Struts Testing Methods (ITSF)	Learner should complete e-learning as per the date / time specified in Personalized Schedule. The Learner will LEARN the following: IU4: Struts Testing Methods (ITSF) – Struts 2 Unit Testing – User Acceptance Testing – Load Testing Learner can perform this session at any location from where LA LMS and Learning resources can be accessed.	**Instructor Slides on EdX** – IU4-Struts Testing Methods.pptx **Instructional Videos on EdX** – No Videos for IU2 **MCQ Tests**

		Learner can approach Online Support for any queries or guidance. The learner has an option to attend Live Lectures of corresponding IUs if the lectures are scheduled in the Published Schedule. At the end of this session the learner should provide the feedback on LMS system.	– Lithan EdX
Session 3: e-learning 3 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:** 3 hours **Faculty: Tutor to provide online support**	IU5: Problem Management – Part 1 (ITSF) IU6: Problem Management – Part 2 (ITSF)	Learner should complete e-learning as per the date / time specified in Personalized Schedule. The Learner will LEARN the following: IU5: Problem Management – Part 1 (ITSF) – Principles of problem management throughout its lifecycle – Managing the lifecycle of a wide range of problems – Problem Identification, Investigation, Analysis , Resolve and Review – Technologies and processes to enable automated detection of incidents or problems – Root Cause Analysis (RCA) to identify, track and resolve recurring incidents permanently – Problem prioritization, Sizing Techniques, Methodologies and Parameters – Documentation and tracking of problems encountered and resolved IU6: Problem Management – Part 2 (ITSF) – Root Cause Analysis (RCA) to identify, track and resolve recurring incidents permanently – Problem prioritization, Sizing Techniques, Methodologies and Parameters – Documentation and tracking of problems encountered and resolved Learner can perform this session at any location from where LA LMS and Learning resources can be accessed. Learner can approach Online Support for any queries or guidance. The learner has an option to attend Live Lectures of corresponding IUs if the lectures are scheduled in the Published Schedule. At the end of this session the learner should provide the feedback on LMS system.	**Instructor Slides on EdX** – IU5-Problem Management Part 1.pptx – IU6-Problem Management Part 2.pptx **Instructional Videos on EdX** – No Videos for IU2 **MCQ Tests** Lithan EdX

Session 4: e-learning 4 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:** 3 hours **Faculty: Tutor to provide online support**	IU7: Introduction to Project Management (BTEC) IU8: Developing a Project Plan (BTEC) IU9: Executing, Monitoring & Closing a Project (BTEC)	Learner should complete e-learning as per the date / time specified in Personalized Schedule. The Learner will LEARN the following: IU7: Introduction to Project Management (BTEC) – Getting to Know Project Management – Exploring Project Management Knowledge Areas – Project Initiation IU8: Developing a Project Plan (BTEC) – Developing a Project Plan IU9: Executing, Monitoring & Closing a Project (BTEC) – Building a Project Schedule – While You Run the Project – Working with Teams – Monitoring & Controlling Project & Performance – Closing a Project Learner can perform this session at any location from where LA LMS and Learning resources can be accessed. Learner can approach Online Support for any queries or guidance. The learner has an option to attend Live Lectures of corresponding IUs if the lectures are scheduled in the Published Schedule. At the end of this session the learner should provide the feedback on LMS system.	**Instructor Slides on EdX** – Introduction to Project Planning Management.pptx – Project Reflections.pptx – Small Scale Research.pptx **Instructional Videos on EdX** – View Videos for IU7, IU8, IU9 **MCQ Tests** Lithan EdX
Session 5: Mentoring 1 **Location:** On-Campus **Mode:** Live **Duration:** 2 hours **Faculty:** Mentor	CapstoneProject Mentoring1	The Mentor shall conduct a Capstone Project Orientation, explaining the Project Outcomes, Milestones, Implementation Methodology and Project Environment using Project Brief, Project Presentation template, Project Report template and Assessment methodology. Learner can clarify all the doubts related to the Project in this session and propose a Project Plan to complete the Module Project. **Project Name :** 1. Plan, Schedule, Test Community Portal. 2. Problem Manage a Server Outage Scenario & an Issue & Change	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report **Project Environment**

		Request Management System **Project Description:**In this assignment, 1. You have to plan, schedule & test Community Portal. 2. Problem manage a server outage scenario & an issue & Change Request Management System	
Session 6: Project Implementation 1 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:**3 hours **Faculty:** Mentor to provide online support	Implement Capstone Project – Milestone 1	The Learner will perform the Capstone Project and ensure that all deliverables related to the Milestone 1 are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report Project Environment
Session 7: Project Implementation 2 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:**3 hours **Faculty:** Mentor to provide online support	Implement Capstone Project – Milestone 1	The Learner will consolidate the Capstone Project and ensure that all deliverables related to the Milestone 1 are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report **Project Environment**
Session 8: Project Implementation 3 **Location:** On-Campus / Off-campus	Implement Capstone Project – Milestone 1	The Learner will consolidate the Capstone Project and ensure that all deliverables related to the Milestone 1 are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation

Mode: Online **Duration:**3 hours **Faculty:** Mentor to provide online support			Template – Project Report **Project Environment**
Session 9: Mentoring 2 **Location:** On-Campus **Mode:** Live **Duration:** 2 hours **Faculty:** Mentor	Capstone Project Mentoring - 2	Learner shall present the project status of Milestone 1 using Project Presentation and Project Report. Mentor shall review the Project and share the improvement Areas in the following: – Project Outcomes / Milestone Outcome – Project Presentation – Project Report Learner shall incorporate all the feedback and submit to the Mentor for review.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report **Project Environment**
Session 10: Project Implementation 4 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:**3 hours **Faculty:** Mentor to provide online support	Implement Capstone Project – Milestone 2	The Learner will perform the Capstone Project and ensure that all deliverables related to the Milestone 2are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report Project Environment
Session 11: Project Implementation 5 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:**3 hours **Faculty:** Mentor to provide online support	Implement Capstone Project – Milestone 2	The Learner will perform the Capstone Project and ensure that all deliverables related to the Milestone 2are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report Project Environment

Session 12: Project Implementation 6 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:**3 hours **Faculty:** Mentor to provide online support	Implement Capstone Project – Milestone 2	The Learner will perform the Capstone Project and ensure that all deliverables related to the Milestone 2are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report Project Environment
Session 13: Project Implementation 7 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:**3 hours **Faculty:** Mentor to provide online support	Implement Capstone Project – Milestone 2	The Learner will perform the Capstone Project and ensure that all deliverables related to the Milestone 2are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report Project Environment
Session 14: Mentoring 3 **Location:** On-Campus **Mode:** Live **Duration:** 2 hours **Faculty:** Mentor	Capstone Project Mentoring - 3	Learner shall present the project status of Milestone 2 using Project Presentation and Project Report. Mentor shall review the Project and share the improvement Areas in the following: – Project Outcomes / Milestone Outcome – Project Presentation – Project Report Learner shall incorporate all the feedback and submit to the Mentor for review.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report **Project Environment**
Session 15: Project Implementation 8 **Location:** On-Campus / Off-campus **Mode:** Online	Implement Capstone Project – Milestone 3	The Learner will perform the Capstone Project and ensure that all deliverables related to the Milestone 3are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation Template

Duration:3 hours **Faculty:** Mentor to provide online support			– Project Report Project Environment
Session 16: Project Implementation 9 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:**3 hours **Faculty:** Mentor to provide online support	Implement Capstone Project – Milestone 3	The Learner will perform the Capstone Project and ensure that all deliverables related to the Milestone 3are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report Project Environment
Session 17: Project Implementation 10 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:**3 hours **Faculty:** Mentor to provide online support	Implement Capstone Project – Milestone 3	The Learner will perform the Capstone Project and ensure that all deliverables related to the Milestone 3are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report Project Environment
Session 18: Project Implementation 11 **Location:** On-Campus / Off-campus **Mode:** Online **Duration:**3 hours **Faculty:** Mentor to provide online support	Implement Capstone Project – Consolidate all milestones	The Learner will consolidate the Capstone Project and ensure that all deliverables related to the Milestone 1, 2, and 3 are achieved.	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report **Project Environment**

Session 19: Summative Assessment **Location:** On-Campus **Mode:** Live **Duration:** 30 minutes **Session type:** Published Schedule **Faculty:** Assessor	Summative Assessment	Project Presentation (15 minutes)	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report **Project Environment**
Session 19: Summative Assessment **Location:** On-Campus **Mode:** Live **Duration:** 30 minutes **Session type:** Published Schedule **Faculty:** Assessor	Summative Assessment	Review and Feedback (15 mins)	**Project Documents on LMS** – Project Brief – Project Presentation Template – Project Report **Project Environment**

14.Cross Reference Matrix

Applicant	Lithan Academy
Competency Standard (s):	– Test Planning
Competency Unit Code (s):	– ICT-DIT-3017-1.1
CU: Competency Unit PS: Performance Statement	LG: Learner's Guide PS : Power point Slides

Abilities	Knowledge	Range and Contexts	Assessment Criteria (State what is expected and required from the student)	Proposed Assessment Methods	Coverage of Course Content for a specific PS item
ICT-OUS-4011-1.1 - Problem Management					
A1: Determine the requirements and specifications of applications or systems to be tested		Requirements Specifications	Learner must demonstrate ability to create Requirements specification for the Software being tested.	Project Report	IU3
	K1: Different types or levels of testing over product life stages	Levels of Testing	Learner must have knowledge of various levels of testing and explain them.	Project Presentation	IU1
A2: Propose relevant tests for applications or systems to achieve the testing objectives	K2: Range of tests, testware and their applications	Load Testing, Unit Testing, UAT testing	Learner must demonstrate ability to propose suitable testing methds	Project Presentation	IU1, IU4
A3: Identify points across the different product life stages for optimal scheduling of tests and verification of different requirements	K3: Optimal scheduling times for different tests	Schedule Testing	Learner must be able to schedule testing and do it optimally. Provide a Testing schedule.	Project Presentation	IU2
A4: Develop a phase test plan	K4: Critical components of a phase test plan	Phase Test Plan	Learner must demonstrate ability to create a phase test plan for conducting testing	Project Report	IU3
A5: Assess appropriate way for executing test scripts through manual, automated or mixed	K5: Different means for executing test scripts	Test Execution (Example: Unit Testing)	Student must demonstrate ability to execute unit tests and provide screen capture.	Project Presentation	IU4

Applicant	Lithan Academy
Competency Standard (s):	– Problem Management
Competency Unit Code (s):	– ICT-OUS-4011-1.1
CU: Competency Unit PS: Performance Statement	LG: Learner's Guide PS : Power point Slides

Abilities	Knowledge	Range and Contexts	Assessment Criteria (State what is expected and required from the student)	Proposed Assessment Methods	Coverage of Course Content for a specific PS item
ICT-OUS-4011-1.1 - Problem Management					
A1: Manage the lifecycle of a wide range of problems	K1: Principles of problem management throughout its lifecycle	Explain principles of problem management.	Learner must be able to explain industry best practices in documentation related to problem management	Project Presentation	IU1
A2: Introduce technologies and processes to enable automated detection of incidents or problems	K2: Relevant tools, processes and technologies to facilitate problem identification, investigation, analysis and resolution	Tools, process & technologies	Learner must briefly explain various tools, process & technologies to facilitate problem identification, investigation, analysis & resolution	Project Presentation	IU1
A3: Perform investigations and deep analysis of a problem to fully understand its root causes	K3: Problem investigation and diagnosis techniques and methodologies	Problem investigation & diagnosis	Learner must be able to briefly explain various steps they will take to investigate & diagnose the problem.	Project Report	IU1

A4: Develop guidelines and methods for prioritisation and categorisation of problems according to their severity, frequency or potential implications	K4: Problem prioritisation and sizing techniques, methodologies and parameters	Problem prioritization and sizing techniques.	Learner must be able to prioritize, categorize incident & change requests for the application according to their severity, frequency or potential implication	Project Presentation	IU2
A5: Recommend solutions to address the root cause of problems and minimise the reoccurrences of similar problems		Solutions to server outage	Learner must be able to provide solution to address the root cause of the problem.	Project Presentation	IU2
A6: Monitor documentation and tracking of problems encountered and resolved		Problem documentation	Learner must be able to demonstrate how to document the problems and monitor the same.	Project Presentation	IU2
	K5: Best practices and industry standards in documentation related to problem management	Industry best practices in documentation and monitoring in problem management	Learner must be able to explain industry best practices in documentation related to problem management	Project Report	IU2