

**LEARNING PLAN**

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| **DEPARTMENT: ICT** | | | | **NAME OF TRAINER: DUNCAN NDEGWA** | | | **NUMBER OF TRAINEES:** | | |
| **UNIT CODE: IT/OS/ICT/CR/10/6** | | | | **TERM: I** | **DATE OF PREPARATION: 20/08/2025** | | **CLASS: DICT S23** | | |
| **COURSE: ICT TECHNICIAN** | | | | | | | **LEVEL: 6** | | |
| UNIT OF COMPETENCE:   **DEVELOP COMPUTER PROGRAM** | | | | | | | **DATE OF REVISION: 3/9/2025** | | |
| **SCHEDULE** | | | | | | | | | |
| **Week** | **Hours** | **Learning Outcome / Element** | **Sub-Topic / Content** | **Specific Objectives / Performance Criteria** | | **Activities** | | **Resources / References** | **Remarks** |
|  | **REPORTING AND REGISTRATION** | | | | | | | | |
|  | 4 | Identify Java Environment | * Java Language, JVM & Libraries | * Describe JVM, JDK, and core libraries | | * Demo, Notes | | Oracle Java docs |  |
|  | 4 | Write Basic Java Programs | * Program Structure & Output | * Write a simple “Hello World” program in Java | | Coding exercise | | IDE (NetBeans/Eclipse/IntelliJ) |  |
|  | 4 | Apply Java Syntax | * Variables, Expressions & Data Types | * Declare variables, expressions, and apply operators | | Lab coding, Q&A | | IDE |  |
|  | 4 | Implement OOP | * Classes & Objects | * Define classes and instantiate objects | | Coding practice | | IDE |  |
|  | 4 | Control Program Flow | * Boolean Statements & Loops | * Use if/else, switch, for, while, do-while | | Practical coding | | IDE |  |
|  | 4 | Work with Data Structures | * Arrays | * Create, traverse, and manipulate arrays | | Lab session | | IDE |  |
|  | 4 | Strengthen OOP | * Exception Handling | * Use try, catch, finally, and throw | | Debugging exercise | | IDE, Java Docs |  |
|  | 4 | Introduce Debugging | * Concepts of Debugging | * Explain types of errors (syntax, runtime, logic) | | Lecture, Q&A, Examples | | Debugging guides |  |
|  | 4 | Apply Debugging Tools | * Debugging in IDE | * Use breakpoints, watches, and step execution | | Hands-on Lab | | IDE (debug mode) |  |
|  | 4 | Perform Program Testing | * Testing Fundamentals (Unit testing, Test cases) | * Write JUnit tests for Java classes | | Practical coding | | JUnit, IDE |  |
|  | **REVISION AND EXAMS** | | | | | | | | |

CHECKED BY VERIFIED BY:

NAME: NAME:

DESIGNATION DESIGNATION