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**LEARNING PLAN**

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| **Unit of Competency:** Develop Computer Program | **Unit Code:** ICT/CU/IT/CR/10/6 |
| **Name of Trainer: DUNCAN NDEGWA** | **TRAINER Number:** |
| **Institution: LAIKIPIA EAST TVC** | **Level:** LEVEL 6 |
| **Date of Preparation: 22/4/2024** | **Date of Revision:** |
| **Number of Trainees: 3** | **Class: DICT/J24** |
| **TOTAL UNIT HOURS: HOURS: 300HRS** | **NUMBER OF SESIONS: 10 OF 4HRS** |
| **Skill or Job Task:**  The individual needs to demonstrate the following skills: Identifying program and programming concepts, identifying phases of program development, perform program design and Analysis, develop a computer program, Perform Program testing and debugging, Perform User training and Program Maintenance | |
| * Identified types of programming languages and concepts * Identified Approaches of program development * Identified Phases of program development * Identified Program design and Analysis tools * Identified Format of a computer program * Adopted well written and readable programs using disciplined coding styles and standards * Developed Maintenance schedule * Determined Maintenance tools and techniques | |

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| **Week** | **Session No.** | **Session Title** | **Session Learning Outcome** | **Trainer**  **Activities** | **Trainee**  **Activities** | **Resources & Refs** | **Learning Checks/ Assessments** | **Reflections & Date** |
| 1 | 1(4hrs) | Introduction to structured programming | By the end of the lesson the leaner should be able to:   * Discuss C concepts * Describe C programming language environments * Explain the format of a C program | *Trainer*   * Give notes * Poses questions on terms applied | *Trainee*   * give responses to questions posed * Poses questions on terms applied | **Refs:**  1. OS/Curriculum  2.Learning guides  Etc  3. Computer Programming: Learn It, Try It!, authored by Brad Edelman published by Capstone Global Library Ltd., 2017  **Training Aids:**  Projectors  Desktops | **Knowledge**  1. oral questioning  2. written questions    **Skills**  1. observation  **Attitudes**  1. observation |  |
| 2 | 2(4hrs) | Fundamentals of C programming | By the end of the lesson the leaner should be able to:   * Explain the fundamentals of C programming * Input output statements * C keywords * Data types | * Give notes * Poses questions on terms applied | * give responses to questions posed * Participate in a Practical session | 1. OS/Curriculum  2.Learning guides  etc  3. Computer Programming: Learn It, Try It!, authored by Brad Edelman published by Capstone Global Library Ltd., 2017  **Training Aids:**  Projector | **Knowledge**  1. oral questioning  2. written questions    **Skills**  1. observation  **Attitudes**  1. observation  2. third party reports  3. external assessors |  |
| 3 | 3(4hrs) | Fundamentals of C programming | By the end of the lesson the leaner should be able to:   * Describe control structures in C | * Give notes * Poses questions on terms applied | * give responses to questions posed * Participate in a Practical session | 1. OS/Curriculum  2.Learning guides  Etc  **Training Aids:**  Projector | **Knowledge**   * 1. Practical exercises * 2. written questions     **Skills**  1. observation |  |
| 4 | 4(4hrs) | control structures in C | By the end of the lesson the leaner should be able to:   * Describe control structures in C * Sequence * Selection * Iteration | * Give notes * Poses questions on terms applied | * give responses to questions posed * Participate in a Practical session | 1. OS/Curriculum  2.Learning guides  Etc  **Training Aids:**  Projector | **Knowledge**   * 1. Practical exercises * 2. written questions     **Skills**  1. observation |  |
| 5 | 5(4hrs) | concepts of sub-program | By the end of the lesson the leaner should be able to:   * Explain the concepts of sub-program * Scope of variables * Parameter passing | * Give notes * Poses questions on terms applied | * give responses to questions posed * Participate in a Practical session | 1. OS/Curriculum  2.Learning guides  etc  3. Computer Programming: Learn It, Try It!, authored by Brad Edelman published by Capstone Global Library Ltd., 2017  **Training Aids:**  Projector | **Knowledge**   * Practical exercises     **Skills**  1. observation  **Attitudes**  1. observation |  |
| 6 | 6(4hrs) | Pointers | By the end of the lesson the leaner should be able to:   * Describe pointers | * Give notes * Poses questions on terms applied | * give responses to questions posed * Participate in group discussion * Participate in a Practical session   ***Assignment*** | 1. OS/Curriculum  2.Learning guides  Etc  **Training Aids:**  Projector  Desktops | **Knowledge**   * Practical exercises     **Skills**  1. observation  **Attitudes**  1. observation |  |
| 7 | 7(4hrs) | Data structures | By the end of the lesson the leaner should be able to:   * Describe data structures * Arrays * Structures * Queues * Stacks | * Give notes * Pose questions on definitions | * give responses to questions posed * Participate in a Practical session | 1. OS/Curriculum  2.Learning guides  Etc  3. Computer Programming and Computer Systems, authored by Anthony Hassitt, Anthony Ralston published by Academic Press, 2014  **Training Aids:**  Projector  Desktops | **Knowledge**   * Practical exercises * Written test   **Skills**  1. observation  **Attitudes**  1. observation |  |
| 8 | 8(4hrs) | Searching and sorting | By the end of the lesson the leaner should be able to:   * Explain sorting techniques * Explain searching techniques | * Give notes * Pose questions on definitions | * give responses to questions posed * Participate in a Practical session | 1. OS/Curriculum  2.Learning guides  Etc  3. Computer Programming and Computer Systems, authored by Anthony Hassitt, Anthony Ralston published by Academic Press, 2014  **Training Aids:**  Projector  Desktops | **Knowledge**   * Practical exercises * Written test   **Skills**  1. observation  **Attitudes**  1. observation |  |
| 9 | 9(4hrs) | Files | By the end of the lesson the leaner should be able to:   * Open a file * Read from a file * Write to a file * Append data * Delete a file in C | * Give notes * Pose questions on definitions | * give responses to questions posed * Participate in group discussion * Participate in a Practical session   ***Assignment*** | 1. OS/Curriculum  2.Learning guides  Etc  **Training Aids:**  Projector  Desktops | **Knowledge**   * Practical exercises * Oral questioning   **Skills**  1. observation  **Attitudes**  1. observation |  |
| 10 | 10(4hrs) | Exception handing | By the end of the lesson the leaner should be able to:   * Handle error in c programming | * Give notes * Pose questions on definitions | * give responses to questions posed * Participate in group discussion   ***Assignment*** | 1. OS/Curriculum  2.Learning guides  Etc  3. Computer Programming and Computer Systems, authored by Anthony Hassitt, Anthony Ralston published by Academic Press, 2014  **Training Aids:**  Laptops  Desktops  Projector | **Knowledge**   * Practical exercises * Oral questioning   **Skills**  1. observation  **Attitudes**  1. observation |  |
| 11 | ***Revision and Examinations*** | | | | | | | |

PREPARED BY……………………………..DATE…………………………SIGN……………

VERIFIED BY………………………………..DATE…………………………..SIGN……….

APPROVED BY……………………………...DATE…………………………...SIGN…………