*Template for Second Level Content Training*

***Course title:*** *Computer Science Level 1 (CS1).****Top-level trainer****: Mr. Akindele Akinyinka Tosin.****Template version:*** *V1****Date****: 11/07/2021*

*Timeline*

1. **Training of Second-level trainers aka Content Trainers / Teachers**

This template is meant to serve as a checklist and general guideline for the development of the trainings by the course leads.

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| **Full course name: Computer Science Level 1 (CS1).** |
| **Course objectives the secondary trainers should know about:**   1. **General objective of DISH:** The objective of DISH is to increase enrolment in pre-university certificate education in order to increase employment possibilities for youth and women. Especially since the outbreak of the COVID-19 pandemic, youth and women face challenges to find employment, while employers struggle to employ people with matching skills in fast-growing sectors in the employment market. The DISH courses bridge the gap to the employment market, self-employment and/or further education opportunities by focusing on low-threshold e-learning courses, which can be used in online and offline digital learning on a variety of devices and settings. 2. **Target audience of CS1:** The targeted trainees are hard-to-reach youth and women in and around 7 key regions: Tigray region (Ethiopia), Garowe and Mogadishu (Somalia), Kassala and Khartoum (Sudan) and Wau and Juba (South Sudan). Target audience includes low-opportunity and marginalised youth, including refugees and displaced persons. Also following group can benefited the course.  * Current Science courses students who are looking to acquire computer related skills. * Fresh undergraduates in Science related areas interested in IT jobs. * High School dropouts with some knowledge of technology seeking IT skills for remote jobs * Marginalised individuals with poor access to schools and teaching resources interested in beginners IT skills on any level.  1. **Course structure:**  |  |  | | --- | --- | | **Week 1**: Horizontal courses (introduction to health, life skills, and peacebuilding diplomacy) | **HORIZONTAL MODULES** | | **Week 2**: Introduction to Digital Technology **AS STUDY UNIT 1**  **Week 3:** Digital Literacy: Offline Tools and Skills Needed **AS STUDY UNIT 2**  **Week 4**: Digital Literacy: Online Tools and Skills Needed **AS STUDY UNIT 3** | INTRODUCTION TO DIGITAL TECHNOLOGY MODULE | | **Week 5:** Introduction to Computer Networks and Layer Architectures **AS STUDY UNIT 4**  **Week 6:** Network hardware, software, protocols, standard and transmission **AS STUDY UNIT 5**  **Week 7:** IP Addressing and Network Topology **AS STUDY UNIT 6** | INTRODUCTION TO COMPUTER NETWORKS MODULE | | **Week 8:** Business Administration (to be designed by Business Administration Course **AS STUDY UNIT 7** |  | | **Week 9:** Introduction to Information Technology Support Management (ITSM) **AS STUDY UNIT 8**  **Week 10**: Information Technology Support Management **AS STUDY UNIT 9** | ITSM MODULE | | **Week 11**: Information Technology Project management **AS STUDY UNIT 10** | ITPM MODULE | | **Week 12:** final assessment |  |   **Curriculum structure:** [Broadly outline the curriculum structure within the 3-month (12-week) course period, including registration, introduction, course content, testing, grading and certification. Divide between the weeks that the students will engage with the content, and the other activities (introduction, grading, etc)]   1. **Credits:** The course workload per student 15 credits (one credit is equal to 25-30 hours of study, preparation and engagement time). The students are expected to spend 375-450 hours on each course. 2. **Computer Science Level 1 Objectives:**  * To impart knowledge on basic computer concepts such as classification, architectures, Operating System, Cloud Computing, Cyber Security, Social Media, Electronic Mails and other simple technology tools used everyday * To equip participants with basic IT skills useful for offline and remote activities. To familiarize them with the probable tools used and the guides towards effective usage of such tools * To train participants with how to set up computer networks and other essential methods involved in the process. * To introduce ITSM processes, tasks and * To produce a competent, committed, knowledgeable and skilled IT personnel equipped with the basic IT skills that can serve as a beginner knowledge towards the acquisition of remote jobs and assists in their transition to more advanced IT knowledge * To prepare participants for the next level of the Data Stewardship Specialization Courses – CS2 and CS3 which are far more advanced than CS1 |
| **Student learning outcomes:**  It is expected that at the end of this course, learners will be able to:   |  |  | | --- | --- | | 1. Describe and Classify Computers 2. Explain Operating System (OS) and what it does 3. Differentiate between Hardware and Software 4. Explain Digital Literacy and technologies involved 5. Use Basic Digital Tools like the Internet, Emails and Social Media 6. Mitigate and Prevent Cyber Threats using preventive measures. 7. Describe Digital Literacy and the skills needed. 8. Create Digital Contents using MS Office and other Apps 9. Create Multimedia using Simple Tools and Apps 10. Use Computer Shortcuts to navigate and perform tasks 11. Identify appropriate digital tools for different online tasks 12. Create, Use, Edit and Share Google Apps or Workspace 13. Create digital contents using G.Docs, G.Form G.Sheet etc. | 1. Use and adhere to effective remote work guidelines Explain the evolution of the internet and the World Wide Web (WWW). 2. Describe computer networks and its types. 3. State the different layer architectures and explain their applications. 4. Compare and contrast between OSI Model and TCP/IP Model 5. Identify network hardware and software applications and state their areas of application. 6. Enumerate different network protocols and their areas of application. 7. Recognize different types of data transmission media and state their differences. 8. Discuss the Application of each Transmission Media 9. Explain the structure of IPv4 and IPv6 addresses. 10. List the classes of IPv4 address and state their uses. 11. Demonstrate how to subnet a network. 12. Discuss network topology and its types. | |  |  | |
| **Course development team:**  Course lead: Professor Francisca Oladipo.  E-Module developers:   |  |  |  |  | | --- | --- | --- | --- | | **Name** | **Modules Developed** | **Study Unit in CS1** | **Weeks** | | 1. Mr. Akindele Akinyinka Tosin | Introduction to Digital Technology | Study Units 1 to 3 | Weeks 2, 3, 4 | | 1. Mr. Osigwe Obinna 2. & 3. Dr. Ibrahim Abdullahi | Introduction to Computer Networks | Study Units 4 to 6 | Weeks 5, 6, 7 | | 1. Dr. Abdullahi Kawu | Information Technology Service Management (ITSM) | Study Units 8 and 9 | Weeks 9 & 10 | | 1. Mr Getu Tadele | Information Technology Project Management | Study Unit 10 | Week 11 | |
| **Training structure and content:**   |  |  |  | | --- | --- | --- | | **Day** | **Content** | **Additional materials** | | 19/07/2021 | Presentation on General objective of DISH, Target audience of CS1, Course structure, Credits, Course objectives, Assessment structure.  Overview of LMS platform and how it is designed. |  | |  | |  | Presentation/Course Content Training (study units 1 to 3) |  | | 20/07/2021 | Presentation/Course Content Training (study units 4 to 6) |  | | 21/07/2021 | Presentation/Course Content Training (study units 8 to 10) |  |  |  |  |  |  | | --- | --- | --- | --- | | **Computer Science level 1 - second level trainers list** | | | | | **Partner institution** | **Name** | **Email** | **Telephone number** | | East Africa University | Ahmed Mohamud Abdisalam | [saajac142@gmail.com](mailto:saajac142@gmail.com) | 907617034 | | Eastern College | Martin Marara | [munyuamartin6@gmail.com](mailto:munyuamartin6@gmail.com) | +252614292637 | | Mekelle University | Samson Yohannes | [Samson.yohannes@mu.edu.et](mailto:Samson.yohannes@mu.edu.et) | +251921926720 | | SORD |  |  |  | | CEPO |  |  |  | | Addis Ababa University | Tigist Habtamu | [tigist12@yahoo.com](mailto:tigist12@yahoo.com) | +251 91 165 4092 |  |  | | --- | |  | |
| **Required preparation from second-level trainers ahead of the training:**  [Note down any required/recommended reading or viewing]   1. LSM platform to be ready and prepared. 2. Teachers to have an account in LMS. 3. Teachers and mentors to review the course contents. |
| **Qualifications for teachers and mentors on the ground:**   * + - A minimum of Master’s degree in either Computer Science, Information Science or any other related disciplines.     - At least 2 years’ higher education teaching/lecturing experience in a similar role.     - Previous experience in teaching, mentorship on Computer Science & related subjects     - Expertise in use of technology and use of Computer Appreciation Packages \* MS Suite (needed for Digital Technology module)     - Expertise in Computer Networks Design, Configuration and Maintenance (needed for Computer Network module)     - Familiar with IT Services; Hardware Installation and Maintenance; Project Management and the activities involved therein (needed for ITSM and ITPM modules)     - Ability to support and encourage while building the capacities of learners.     - Ability to provide learners with critical thinking and analytical skills     - Excellent skills in monitoring implementation of project activities     - Excellent oral and written communication skills. |
| **Assessment structure:**   * After each content week: Formative assessment * After each content block/module: Summative assessment * End of the course: Final examination plus grading   **Tests and other formative/final assessment tools:**  Generally there are two types of assessment: formative assessments and summative assessments.   * formative assessment, they are of four (4) basic forms: In-Text Questions (ITQ), Self-Review Questions (SAQ) and Tutor-Marked Assignments (TMA) and Quizzes. * ITQs and SAQs will not graded, however TMAs and Quizzes are graded and they constitute 50% of the final course earning. Feedbacks to TMAs and Quizzes will be provided by your tutor in not more than 2 weeks expected duration. * Summative Assessment is final examination. This exam is a Computer Based Test (CBT), however, the question types will be of different format – Multiple Choice Questions, Essay Questions, Short Answer Questions, True/False Questions etc. * Final Exam carries 50% of your total course earning.   **Breakdown of course modules and content.**  Finally, and most important part is to learn the course content  Regulatory Bodies and Frameworks |
| **Student assessment and outcome criteria:**  *Pass marks: 70%.*  *Skills attained by the students:*  *Student will attain the following skills.*   1. *Critical thinking skills* 2. *Communication skills* 3. *Analytical and Problem solving skills.* 4. *Soft Skills* |
| **Checklist for training:**   * Record the training * Keep an attendance list. * Course material are shared. * Teachers and mentors has a valid account and access to the LSM. * Trainers should have needed packages installed on their PC   [Supply any further items you wish to add to the checklist] |
| **Further comments:** |