

Certificate in Applied Health Informatics Syllabus

Electronic Health Records (EHRs) & Health IT Systems

Course Code: AHI-CCD/DHS - 203

Duration: 4 Weeks

Tracks: Shared Course (CCD + DHS)

Delivery Format: Primarily Asynchronous & Weekly 1-Hour Office Hour

Platform: OpenMRS

Estimated Weekly Commitment: 2 - 4 hours per week

Course Description

This course introduces the principles and practical application of Electronic Health Records (EHRs) and Health IT Systems through healthcare workflow-focused lens. Using OpenMRS as a hands-on learning platform, learners explore how patient information is captured, managed, shared, and used to support clinical care, care coordination, reporting, and decision-making. Through practical exercises, workflow analyses, and real-world implementation case studies, participants gain experience navigating EHR environments while developing an understanding of the people, processes, and technologies that drive digital healthcare transformation in both LMIC and high-resource settings.

Course Philosophy

The goal of this course is to understand how healthcare organizations use EHRs to capture information, support clinical workflows, improve communication, enable reporting, and create the foundation for quality improvement, research, interoperability, and population health management. The goal is not to learn a specific software application.

Learners will leave the course thinking beyond screens and software to understand how EHRs support the delivery of healthcare itself.

Learning Objectives

By the end of this course, learners will be able to:

- Explain the role of EHRs in healthcare delivery.
- Compare paper, hybrid, and electronic workflows.
- Navigate OpenMRS confidently.
- Create and manage patient records.
- Understand clinical documentation workflows.
- Describe EHR architecture and major components.
- Identify common implementation challenges.
- Evaluate EHR adoption barriers in LMIC settings.
- Analyze how EHR data supports reporting and decision-making.
- Develop a realistic EHR implementation roadmap.

Course Structure & Module Timeline

WEEK 1: Introduction to EHRs & OpenMRS

Focus:

- What an EHR is
- Why EHRs exist
- Paper vs electronic workflows
- Benefits and limitations
- OpenMRS introduction

WEEK 2: Clinical Documentation & EHR Workflow

Focus:

- Patient registration
- Clinical encounters
- Orders
- Results
- Documentation & Patient journey inside an EHR

Week 3: EHR Architecture, Implementation & Adoption

Focus:

- EHR components
- User roles
- Security
- Change management
- Training
- Go-live support

Week 4: EHRs, Health Information Systems & Future Directions

Focus:

- OpenMRS ecosystem
- Relationship to DHIS2
- Reporting

Assessment & Grading

Component	Weight
Applied Assignments	40%
EHR Implementation Roadmap	30%
Reflection Activities	20%
Participation & Engagement	10%

There is no final exam. Emphasis is on applied reasoning and realistic system design.