Health Informatics and Clinical Data Analytics Training Course

Professional Development Training Course Outline

Category	Research and Data Analysis	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Health Informatics and Clinical Data Analytics Training Course equips healthcare professionals, data analysts, and IT specialists with the cutting-edge skills to harness digital health technologies and transform clinical data into actionable insights. As the healthcare industry becomes increasingly data-driven, the demand for skilled professionals who can interpret, analyze, and manage health information systems has skyrocketed. This course blends theory and real-world applications to ensure participants are job-ready for roles in clinical data analysis, electronic health records (EHR) systems, and healthcare information management.

By mastering predictive analytics, health data governance, AI in healthcare, and regulatory compliance, learners will gain a competitive edge in today's dynamic healthcare environment. Whether you're looking to optimize care delivery, improve patient outcomes, or enhance health IT systems, this course offers the right blend of skills and tools using platforms such as Python, R, Hadoop, and Tableau, while reinforcing critical thinking in health policy and quality improvement frameworks.

Programme Curriculum

Health Informatics and Clinical Data Analytics Training Course

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Course Objectives

By the end of this training, participants will be able to:

1. Understand the fundamentals of health informatics and clinical data science.
2. Analyze and interpret clinical data using data visualization tools.
3. Apply machine learning and AI techniques in healthcare analytics.
4. Ensure compliance with HIPAA, GDPR, and other health data privacy laws.
5. Manage and evaluate electronic health records (EHR) systems.
6. Integrate health information exchanges (HIEs) for better interoperability.
7. Implement predictive analytics to forecast patient outcomes.
8. Conduct population health analysis for decision-making.
9. Design and use data dashboards and reports for clinical leadership.
10. Understand big data platforms (Hadoop, Spark) in healthcare settings.
11. Apply quality improvement metrics through data tracking.
12. Evaluate and mitigate data security risks in healthcare IT.
13. Interpret ethical, legal, and professional issues in health data analytics.

Target Audiences

1. Healthcare professionals (nurses, doctors, pharmacists)
2. Health IT specialists
3. Clinical research coordinators
4. Public health analysts
5. Data analysts and scientists
6. Health information managers
7. Medical coding and billing professionals
8. Policy makers and administrators

Course Duration: 5 days

Course Modules

Module 1: Introduction to Health Informatics

- Overview of digital health evolution
- Key components of health informatics systems
- EHR and EMR differences
- Data lifecycle in clinical settings
- Emerging trends in informatics
- **Case Study: Implementation of EHR in a rural hospital**

Module 2: Clinical Data Sources and Standards

- Understanding structured vs. unstructured data
- HL7, FHIR, SNOMED, LOINC standards
- Interoperability frameworks
- Clinical coding systems
- Data quality assessment
- **Case Study: FHIR-based system integration in a multispecialty clinic**

Module 3: Data Analytics in Healthcare

- Basics of descriptive, diagnostic, predictive, and prescriptive analytics
- Using Excel, R, and Python for clinical data
- Real-time analytics vs. batch analytics
- KPI development in healthcare
- Data storytelling and visualization
- **Case Study: Predictive modeling for hospital readmissions**

Module 4: AI and Machine Learning in Healthcare

- Supervised vs. unsupervised learning
- NLP for clinical notes
- Deep learning applications in radiology
- Ethics and bias in AI models
- Model evaluation techniques
- **Case Study: AI-assisted diagnosis in radiology**

Module 5: Health Information Systems and EHR Management

- EHR architecture and modules
- Vendor systems comparison (Epic, Cerner, etc.)
- Workflow optimization with HIS
- Patient portals and telehealth systems
- Data migration and interoperability
- **Case Study: Transition from legacy system to cloud EHR**

Module 6: Health Data Governance and Compliance

- Privacy and security frameworks (HIPAA, GDPR)
- Data stewardship roles
- Risk assessment and mitigation
- Data ethics in healthcare
- Consent and patient rights
- **Case Study: HIPAA breach response protocol in a healthcare network**

Module 7: Population Health and Quality Improvement

- Social determinants of health (SDoH) data use
- Identifying population risk groups
- Care coordination through data
- Quality metrics and benchmarking
- Outcome tracking systems
- **Case Study: Population health dashboard in Medicaid program**

Module 8: Big Data Platforms and Emerging Technologies

- Introduction to Hadoop and Spark
- IoT and wearable devices in healthcare
- Blockchain in health records
- Cloud vs. on-premise health data systems
- Real-world evidence (RWE) for research
- **Case Study: Using Spark for genomics data processing**

Training Methodology

- Hands-on lab sessions using real-world datasets

- Live instructor-led online classes
- Interactive case study analysis and discussions
- Peer learning and group activities
- Capstone project to demonstrate practical skills
- Ongoing assessments and feedback loops for skill mastery

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com