

Course No. 1272

AI in Healthcare Training Course

AI FOR INDUSTRY
ARTIFICIAL INTELLIGENCE & APPLICATIONS

DURATION

5 Days

LOCATION

Madrid, Spain

DELIVERY

Classroom

DATES

4 – 8 Jan 2027



Scheduled Event Details

CITY	Madrid, Spain
DATE	4 – 8 Jan 2027
DELIVERY TYPE	Classroom
COURSE FEE	€6,000

Course Overview

The AI in Healthcare Training Course is an advanced professional program designed to equip healthcare executives, managers, clinical and administrative professionals, technology leaders, data specialists, and decision-makers with the knowledge and practical capabilities required to understand and apply Artificial Intelligence across modern healthcare environments. As healthcare organizations manage growing volumes of clinical, operational, financial, and patient data, AI can support more informed decision-making, improve operational efficiency, enhance patient experiences, and strengthen the delivery of healthcare services.

The course explores practical applications of Artificial Intelligence, Machine Learning, Predictive Analytics, Generative AI, Natural Language Processing, Computer Vision, and intelligent automation across healthcare. Participants will examine applications including clinical decision support, medical imaging analysis, patient risk prediction, hospital operations, demand forecasting, resource planning, patient flow optimization, administrative automation, healthcare documentation, fraud detection, and personalized patient engagement.

A central focus of the program is transforming healthcare data into actionable intelligence while maintaining appropriate standards for privacy, security, governance, and responsible technology use. Participants will learn how to identify valuable data sources, evaluate data quality, understand AI use cases, assess model outputs, and connect AI initiatives with real healthcare challenges. The course also examines the role of AI in hospitals, clinics, laboratories, pharmacies, health insurance organizations, public health institutions, and digital healthcare platforms.

The program also addresses the strategic and organizational considerations involved in AI adoption, including data governance, cybersecurity, privacy, ethical AI, human oversight, regulatory considerations, technology integration, workforce readiness, and change management. Through practical workshops, healthcare case studies, scenario analysis, and implementation exercises,

participants will learn how to evaluate AI opportunities, prioritize initiatives, establish appropriate governance, measure performance, and develop practical implementation roadmaps aligned with patient care, operational excellence, healthcare quality, cost management, and digital transformation.

Objectives

- Analyze healthcare processes and services to identify high-value opportunities for Artificial Intelligence implementation.
- Develop a comprehensive understanding of AI, Machine Learning, Predictive Analytics, Generative AI, and intelligent automation in healthcare.
- Evaluate clinical, patient, operational, and administrative data for AI-supported analysis and decision-making.
- Apply Predictive Analytics concepts to patient risk assessment, demand forecasting, resource planning, and healthcare operations.
- Evaluate AI applications in medical imaging, clinical decision support, patient monitoring, and healthcare diagnostics.
- Design AI-enabled approaches for improving patient experience, healthcare workflows, and administrative efficiency.
- Assess opportunities for Generative AI and Natural Language Processing in healthcare documentation, communication, and information management.
- Strengthen healthcare data governance, privacy, cybersecurity, responsible AI, and risk management practices.
- Evaluate organizational and technological readiness for implementing AI across healthcare environments.
- Align AI initiatives with healthcare quality, patient safety, operational efficiency, cost management, innovation, and digital transformation objectives.
- Develop measurable approaches for evaluating the performance, reliability, risks, and organizational value of healthcare AI initiatives.
- Create a practical AI implementation roadmap aligned with institutional priorities and healthcare requirements.

Who Should Attend

The AI in Healthcare Training Course is designed for healthcare executives, hospital directors, healthcare managers, clinical leaders, medical directors, nursing managers, healthcare operations managers, digital health leaders, health information managers, IT managers, data analysts, healthcare data scientists, AI specialists, clinical informatics professionals, quality managers, patient experience leaders, and professionals responsible for healthcare technology and digital transformation.

The course is particularly relevant for professionals working in hospitals, medical centers, clinics, laboratories, pharmacies, healthcare networks, health insurance organizations, public health institutions, government healthcare entities, pharmaceutical organizations, medical technology companies, and digital healthcare providers. It is also suitable for professionals involved in healthcare analytics, medical records, clinical informatics, patient flow, quality management, healthcare operations, revenue management, and healthcare cybersecurity.

The program is also valuable for senior decision-makers, innovation leaders, enterprise architects, healthcare transformation teams, risk and compliance professionals, and strategic planning professionals who need to understand how Artificial Intelligence can be responsibly integrated into healthcare services, clinical workflows, administrative operations, patient engagement, data platforms, and enterprise technology environments.

Learning Outcomes

- By the end of the AI in Healthcare Training Course, participants will be able to:
- Explain the strategic role of Artificial Intelligence in modern healthcare organizations.
- Identify and prioritize AI use cases across clinical, operational, administrative, and patient-facing functions.
- Analyze healthcare data sources and assess their suitability for AI-supported applications.
- Apply Predictive Analytics concepts to patient risk, healthcare demand, resource planning, and operational forecasting.
- Evaluate AI applications in medical imaging, clinical decision support, patient monitoring, and diagnostic support.
- Assess the use of Generative AI and Natural Language Processing for healthcare documentation, communication, and information management.

- Design AI-supported approaches for improving patient experience, workflow efficiency, and service delivery.
- Evaluate AI opportunities in hospital operations, scheduling, resource utilization, patient flow, and capacity management.
- Apply principles of healthcare data governance, privacy, cybersecurity, responsible AI, and human oversight.
- Assess the organizational, technological, and operational readiness required for healthcare AI implementation.
- Develop performance indicators for evaluating AI initiatives in terms of quality, efficiency, safety, user adoption, and organizational value.
- Prepare a structured AI implementation roadmap aligned with healthcare transformation and institutional priorities.

Course Outline

DAY 01

Foundations of AI in Healthcare

- Artificial Intelligence and its strategic role in modern healthcare
- Fundamentals of AI, Machine Learning, Predictive Analytics, Generative AI, and intelligent automation
- Healthcare data ecosystems and major sources of clinical and operational data
- AI applications across hospitals, clinics, laboratories, pharmacies, insurance, and digital health

PRACTICAL APPLICATION

Assessing organizational AI readiness and identifying high-value healthcare AI opportunities

DAY 02

AI for Clinical Intelligence and Patient Care

- Predictive Analytics for patient risk assessment and clinical decision support
- AI applications in medical imaging and Computer Vision
- Patient monitoring, early risk identification, and predictive healthcare models

DAY 02 — CONTINUED

- AI-supported diagnostics and clinical workflow enhancement

PRACTICAL APPLICATION

Developing an AI use case for patient risk prediction, clinical support, or medical imaging

DAY 03

AI for Healthcare Operations and Patient Experience

- AI for hospital operations, capacity planning, and resource optimization
- Patient flow, appointment scheduling, and demand forecasting
- AI applications in healthcare administration and workflow automation
- Generative AI and Natural Language Processing for documentation and patient communication

PRACTICAL APPLICATION

Designing an AI-enabled solution to improve patient experience or healthcare operational efficiency

DAY 04

Healthcare Data, Governance, Security, and Responsible AI

- Healthcare data quality, interoperability, and AI-ready data strategies
- Data privacy, confidentiality, cybersecurity, and protection of sensitive healthcare information
- AI governance, model risk management, bias, transparency, and explainability
- Human oversight, responsible AI, ethical considerations, and regulatory requirements

PRACTICAL APPLICATION

Developing a healthcare AI governance and risk management framework

DAY 05

AI Strategy and Implementation in Healthcare

- Developing an enterprise AI strategy for healthcare organizations
- Prioritizing AI initiatives according to patient value, feasibility, risk, cost, and operational impact
- Measuring AI performance through healthcare quality, patient experience, operational, financial, and adoption KPIs
- Future trends in healthcare AI, digital health, intelligent hospitals, virtual care, and Generative AI

FINAL WORKSHOP

Developing a comprehensive AI in Healthcare implementation roadmap, including prioritized use cases, data requirements, technology and integration considerations, governance framework, privacy and cybersecurity controls, implementation phases, workforce readiness, stakeholder engagement, performance indicators, risk management, and an organizational action plan to improve healthcare quality, patient experience, operational efficiency, resource utilization, and digital transformation.

Register or Request More Information

Course page: <https://quest-training.com/courses/ai-in-healthcare-training-course>

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