



Health, Safety and Environment

Health Care Data Analysis

Course Introduction

The Healthcare Data Analysis training program provides participants with comprehensive knowledge and practical skills in analyzing healthcare data to support informed decision-making and improve patient outcomes. Throughout the course, participants will learn the essential concepts and techniques of healthcare data analysis, starting from data collection and preprocessing to advanced predictive modeling and machine learning. The training begins with an introduction to healthcare data sources and basic data analysis techniques, gradually progressing to more advanced topics such as predictive modeling, machine learning, and healthcare analytics tools. Participants will engage in hands-on exercises and real-world case studies to reinforce their learning and develop proficiency in applying data analysis techniques to healthcare datasets.

Target Audience

This training is tailored for healthcare professionals and analysts aiming to enhance their proficiency in data analysis techniques specific to the healthcare industry.

Learning Objectives

- Understand the fundamentals of healthcare data analysis, including data sources, collection methods, and preprocessing techniques.
- Gain proficiency in exploratory data analysis (EDA) to identify patterns, trends, and outliers in healthcare datasets.
- Develop skills in predictive modeling and machine learning for healthcare applications, such as disease diagnosis and patient outcome prediction.
- Learn how to leverage healthcare analytics tools and platforms to create interactive dashboards and reports for data-driven decision-making.

- Explore advanced topics in healthcare data analysis, including survival analysis, natural language processing (NLP), and ethical considerations

Course Outline

• DAY 01

Introduction to Healthcare Data Analysis

- Understanding the importance of data analysis in healthcare decision-making
- Overview of healthcare data sources, including electronic health records (EHR), claims data, and clinical trials data
- Introduction to data collection, storage, and management practices in healthcare
- Basics of data preprocessing, cleaning, and quality assurance techniques
- Exploring healthcare datasets and basic data manipulation in statistical software

• Day 02

Exploratory Data Analysis in Healthcare

- Exploring descriptive statistics and data visualization techniques for healthcare data
- Identifying patterns, trends, and outliers in healthcare datasets
- Introduction to statistical hypothesis testing and its applications in healthcare research
- Hands-on exercises: Conducting exploratory data analysis on real-world healthcare datasets using statistical software

• Day 03

Predictive Modeling and Machine Learning in Healthcare

- Introduction to predictive modeling concepts and algorithms in healthcare
- Building predictive models for healthcare outcomes, such as disease diagnosis, patient readmission, and treatment response prediction

- Evaluating model performance and interpreting model results
- Introduction to machine learning techniques, including decision trees, logistic regression, and ensemble methods
- Building and evaluating predictive models using healthcare datasets and machine learning libraries in Python or R

• **Day 04**

Healthcare Analytics and Business Intelligence

- Understanding the role of analytics and business intelligence in healthcare decision support
- Overview of healthcare analytics tools and platforms, such as Tableau, Power BI, and Qlik
- Creating interactive dashboards and reports to communicate healthcare insights effectively
- Introduction to healthcare performance metrics and key performance indicators (KPIs)
- Building healthcare dashboards and reports using analytics software

• **Day 05**

Advanced Topics in Healthcare Data Analysis

- Advanced statistical analysis techniques for healthcare research, including survival analysis, longitudinal data analysis, and causal inference methods
- Introduction to natural language processing (NLP) techniques for analyzing unstructured healthcare data, such as clinical notes and medical literature
- Ethical considerations and regulatory compliance in healthcare data analysis, including patient privacy and data security

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
June 16, 2025	June 20, 2025	5 days	4250.00 \$	UAE - Abu Dhabi

FROM	TO	DURATION	FEES	LOCATION
Aug. 11, 2025	Aug. 15, 2025	5 days	4950.00 \$	Singapore - Singapore
Dec. 22, 2025	Dec. 26, 2025	5 days	4250.00 \$	UAE - Dubai
Dec. 22, 2025	Dec. 26, 2025	5 days	4250.00 \$	UAE - Dubai