

Data Analytics Course Outline

Math for Modelers

Techniques for building and interpreting mathematical/statistical models of real-world phenomena in and across multiple disciplines, including matrices, linear programming and probability with an emphasis on applications will be covered.

Introduction to Statistical Methods

Participants will learn to apply statistical techniques to the processing and interpretation of data from various industries and disciplines. Topics covered include probability, descriptive statistics, study design and linear regression.

Data Preparation

In this course, Participants explore the fundamentals of data management and data preparation. Participants acquire hands-on experience with various data file formats, working with quantitative data and text, relational (SQL) database systems, and NoSQL database systems.

Generalised Linear Models

This extends Regression and Multi Analysis by introducing the concept of Generalised Linear Model “GLM”. Reviews the traditional linear regression as a special case of GLM's, and then continues with logistic regression, poisson regression, and survival analysis.

Intro to Advanced and Predictive Analytics - Regression and Multivariate Analysis

This introduces the concept of advanced and predictive analytics, which combines business strategy, information technology, and statistical modeling methods. The course reviews the benefits of analytics, organisational and implementation/ethical issues.

Time Series Analysis and Forecasting

This covers key analytical techniques used in the analysis and forecasting of time series data.

Machine Learning Techniques

The objective of this is to provide a practical survey of modern machine learning techniques that can be applied to make informed business decisions:

- Regression and classification methods
- Resampling methods and model selection
- Tree-based methods
- Support vector machines and kernel methods
- Principal components analysis and
- Clustering methods

Introduction to Data Analytics Tools

Fundamentals of R.

Fundamentals of R. Data analytics tools and mechanism of R. The role of data analytics in business domains, R and RStudio, Data handling in R, Dictionary, markbooks, notebooks in R.

Fundamentals of Power BI

- Introduction to Power BI – Need, Importance, Power BI – Advantages and Scalable Options, History – Power View, Power Query, Power Pivot, Power BI Data Source Library and DW Files
- Cloud Collaboration and Usage Scope, Business Analyst Tools, MS Cloud Tools, Power BI Installation and Cloud Account, Power BI Cloud and Power BI Service, Power BI Architecture and Data Access
- OnPremise Data Access and Microsoft On Drive, Power BI Desktop – Installation, Usage, Sample Reports and Visualization Controls, Power BI Cloud Account Configuration, Understanding Desktop & Mobile Editions
- Report Rendering Options and End User Access, Power View and Power Map. Power BI Licenses, Course Plan – Power BI Online Training