

Data Analytics: Excel Stats, Regression & Forecasting

Learn to analyse business data with statistics, probability, regression and forecasting techniques using Microsoft Excel.

3 Days

24 HOURS

12

MODULES

24

TOPICS

COURSE OVERVIEW

This course covers writing and compiling business reports, followed by the fundamentals of business intelligence and data analytics. It addresses performance measurement, process improvement and root cause analysis before introducing probability theory and data distribution concepts. It then examines data-driven decision making, statistical analysis and data visualisation in Microsoft Excel, closing with statistical inference, regression analysis, forecasting, sample size and confidence intervals.

WHO THIS COURSE IS FOR

Business Analysts

Data Analysts

Report Writers

Process Improvement Specialists

Decision Makers

Excel Users

LEARNING OBJECTIVES

- Compile business reports with appropriate content and format
- Explain key terminology and concepts in business intelligence
- Assess performance and identify improvement opportunities in processes
- Apply root cause analysis techniques to process deviations
- Apply probability theory to forecast business outcomes
- Interpret central tendency, variance and normal distributions
- Organise and analyse datasets using Microsoft Excel
- Apply statistical inference and regression to support forecasting

12 Modules, 24 Topics

01

Introduction to Business Reporting

WRITING AND IMPROVING THE QUALITY OF BUSINESS REPORTS

- **Outcome:** Understand how to write structured business reports that are clear, and accurate, and improve decision-making processes

COMPILING REPORTS TO ENSURE CONTENT AND FORMAT ARE APPROPRIATE

- **Outcome:** Learn to organise and compile reports with attention to both content and format, ensuring they meet organizational standards

02

Fundamentals of Business Intelligence and Data Analytics

LEARNING THE TERMS, JARGON, AND IMPACT OF BUSINESS INTELLIGENCE SKILLS

- **Outcome:** Gain familiarity with key terminology and concepts used in business intelligence and understand their impact on decision-making

SCOPE AND APPLICATION OF DATA ANALYSIS

- **Outcome:** Comprehend the breadth and depth of data analysis and its application in solving business challenges

03

Performance Measurement and Process Improvement

TECHNIQUES TO MEASURE PERFORMANCE OF BUSINESS PROCESSES

- **Outcome:** Explore methods to assess and improve the performance of business operations using data-driven techniques

IDENTIFYING IMPROVEMENT OPPORTUNITIES IN BUSINESS PROCESSES

- **Outcome:** Learn how to identify weaknesses and opportunities for efficiency and growth within current business processes

04

Root Cause Analysis in Business

DESCRIBING THE NEED FOR TRACKING AND IDENTIFYING THE ROOT CAUSES OF DEVIATION OR FAILURE

- **Outcome:** Understand the importance of root cause analysis and how to implement tracking mechanisms to prevent process deviations

IMPLEMENTING ROOT CAUSE ANALYSIS TECHNIQUES

- **Outcome:** Gain practical knowledge on tools and methodologies for conducting root cause analysis to improve process reliability

05

Introduction to Probability Theory in Data Analytics

BASIC PRINCIPLES AND PROPERTIES OF PROBABILITY THEORY

- **Outcome:** Learn the fundamental principles of probability theory and its relevance in data analytics

APPLICATION OF PROBABILITY THEORY IN BUSINESS SCENARIOS

- **Outcome:** Develop the ability to apply probability theory to forecast business outcomes and assess risks

06

Understanding Data Distribution

CENTRAL TENDENCY, VARIANCE, AND NORMAL DISTRIBUTION

- **Outcome:** Learn to calculate and interpret key statistical measures, including mean, median, mode, variance, and their significance in normal distributions

NON-NORMAL DISTRIBUTIONS AND THEIR APPLICATION

- **Outcome:** Understand different data distributions beyond normal distribution and how they apply to real-world business data

07

Data-Driven Decision Making

FUNDAMENTALS OF DATA-DRIVEN DECISION MAKING

- **Outcome:** Master the principles of making informed business decisions using data as the primary foundation

IDENTIFYING RESEARCH QUESTIONS FOR DATA ANALYSIS

- **Outcome:** Learn how to frame research questions that drive meaningful data analysis for business problem-solving

08

Microsoft Excel for Statistical Analysis

ORGANIZING DATA IN MICROSOFT EXCEL FOR STATISTICAL ANALYSIS

- **Outcome:** Acquire skills to effectively organize and manage datasets within Excel for statistical evaluation

CONDUCTING STATISTICAL ANALYSIS IN MICROSOFT EXCEL

- **Outcome:** Perform advanced statistical calculations and analyses using built-in Excel functions and tools

09

Data Interpretation and Visualization

INTERPRETATION OF OUTCOMES

- **Outcome:** Develop the ability to analyze and interpret statistical outcomes and derive actionable business insights

DATA PRESENTATION AND VISUALIZATION TECHNIQUES

- **Outcome:** Gain proficiency in presenting data through charts, graphs, and visual aids to support decision-making and stakeholder engagement

10

Introduction to Statistical Inference

UNDERSTANDING STATISTICAL INFERENCE

- **Outcome:** Learn the concepts of statistical inference, including hypothesis testing and drawing conclusions from sample data

DRAWING CONCLUSIONS ABOUT A DATA POPULATION

- **Outcome:** Apply statistical inference to generalize findings from a sample to the broader population, ensuring reliable business conclusions

11

Forecasting and Regression Analysis

INTRODUCTION TO FORECASTING

- **Outcome:** Understand basic forecasting techniques and how they can be applied to predict future business trends

SIMPLE LINEAR REGRESSION ANALYSIS

- **Outcome:** Learn the fundamentals of linear regression and how to use it for predicting business outcomes based on data trends

Sample Size and Confidence Intervals

IMPORTANCE OF SAMPLE SIZES IN DATA ANALYSIS

- **Outcome:** Learn how sample size affects the accuracy and reliability of statistical analyses

CONFIDENCE INTERVALS AND LIMITS: HOW THEY INFLUENCE ACCURACY

- **Outcome:** Understand the role of confidence intervals in estimating population parameters and improving analysis accuracy

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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