



DATA SCIENCE UPSKILLING COURSES

IN PARTNERSHIP WITH BPP





UNLEASH THE POTENTIAL OF DATA SCIENCE

The manufacturing industry is currently experiencing a data science skills gap and a shortage of qualified individuals to fill future positions. To help plug that gap quickly, MTC Training have collaborated with a team of leading data scientists at BPP to develop a series of 5 commercially relevant training modules focused on data science. They cover all the key skills you need to future-proof your business, from thinking like a data scientist to machine learning and predictive modelling.

All 5 courses include a blend of online and face-to-face sessions with a combination of guided, instructor-led and self-study learning. They offer a variety of eLearning, online and offline activities, case studies, videos and podcasts, all supported by regular knowledge checks and assessments to ensure maximum engagement and the ability to actively apply knowledge in the workplace straight away.

The suite of courses are delivered out of our state-of-the-art training centre in Oxford, OAS.



WHY UPSKILL IN DATA SCIENCE?

- Future proof your workforce and remain competitive
- Collect, analyse, and interpret data to make informed decisions that can positively impact your organisation
- Meet the ever-changing demand for data and technology skills in professional roles, creating teams that can use data and systems effectively and intelligently

We also partner with BPP to offer their Level 6 and Level 7 apprenticeships. Completing these short courses allows participants to progress to these apprenticeships and develop their newfound skills even further.

THE PATHWAYS

The short courses do not run in succession and are targeted towards different learning pathways, either data intelligence or data science. We recommend the following order of development.

Data Analytics for Decision Makers [3 Days]		Entry Course	
Business Intelligence Pathway 		Data Science Pathway 	
Building and Evaluating Business Experiments [2 Days]	Business Intelligence Dashboards [3 Days]	Demand and Price Forecasting [3 Days]	Predicting Maintenance [3 Days]
Each course is a blend of online and face-to-face sessions with a combination of guided, instructor-led and self-study learning.			

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For more information, just email MTCEnquiries@bpp.com





DATA ANALYTICS FOR DECISION MAKERS



LEVEL

Intermediate



DURATION

3 Days

AIM

This course aims to take you on a journey to understand the steps needed to act and build the business case for how data can be used for quality enhancement within your organisation.

IS THIS COURSE FOR YOU?

- Would you like to better understand the work of your data specialist team so you can better relate to them?
- Would you like to know how to analyse data better and interpret what is being said?
- Would you like to know how to communicate the results of data in a way that people can relate to?
- Would you like to learn to tell a good story with the data that you have?

If you've answered 'yes' to any of the above, then this course is for you.

LEARNING OBJECTIVES

By the end of this course you will be able to identify 3 ways that your company data can be used to help inform decision enabling you to optimise your business strategies, identify growth opportunities, and minimise risks, ultimately driving higher success rates and profitability.

COURSE CONTENTS

Day 1 - Understanding your data

- Building a Data Driven Culture
- Cost/Benefit Analysis
- Data Sources Within Manufacturing
- Ineffective Use of Data
- Data Quality
- Data Mining Methods

Day 2 – Analysing Data

- Descriptive Statistics
- Sampling Bias
- Performing A/B tests
- Segmentations
- Time Series
- Linear Regression

Day 3 – Data storytelling

- Knowing Your Audience
- Knowing Your Message
- Selecting Your Metric
- Communication Channels
- Structuring Insight



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BUILDING AND EVALUATING BUSINESS EXPERIMENTS



LEVEL

Intermediate



DURATION

2 Days

AIM

The aim of this course is to help you to think like a data scientist, create hypotheses, validate your findings and show you how to use business experiments to optimise operations. You will be able to scope and implement effective A/B tests, accurately interpret the statistical results, and determine if a particular hypothesis is true.

IS THIS COURSE FOR YOU?

- Would you like to be able to think like a data scientist?
- Would you like to take a hypothesis led approach to business?
- Would you like to know how to sell a Business Experiment internally?
- Would you like to implement A/B tests in your organisation?

If you've answered 'yes' to any of the above, then this course is for you.

LEARNING OBJECTIVES

By the end of this course you will be able to build and evaluate a business experiment. By conducting business experiments, it will allow you to systematically test changes in operations and measure the impact of those changes on key performance indicators. This approach helps identify the most effective strategies, processes, or interventions, enabling you to make informed decisions and implement optimisations that drive efficiency, productivity, and overall operational excellence.

COURSE CONTENTS

Day 1 – Building Business Experiments

- Thinking Like a Data Scientist
- Principles of Business Experiments
- Hypothesis Generation
- The Null Hypothesis
- Selling a Business Experiment
- Product Design Case Study

Day 2 – Evaluating Business Experiments

- A/B Testing
- Statistical Hypothesis Testing
- Statistical Power



BUSINESS INTELLIGENCE DASHBOARDS



LEVEL

Intermediate



DURATION

3 Days

AIM

This course is designed to enable you to take Business Intelligence [BI] to the next level. You will be able to apply design principles to communicate your data for maximum impact and you will be able to create dashboards using Power BI to enable a wide range of business users to access your data and insights.

IS THIS COURSE FOR YOU?

- Would you like to know how businesses use BI to make smarter decisions?
- Would you like to be able to build dashboard with Power BI?
- Would you like to know how to more effectively gather requirements from your users?
- Would you like to apply chart design principles and communicate with more impact?

If you've answered 'yes' to any of the above, then this course is for you.

LEARNING OBJECTIVES

By the end of this course you will be able to effectively analyse chart designs and use Power BI to design and create a dashboard. This visualisation capability makes it easier to understand complex data sets, identify trends, patterns, and outliers, and gain valuable insights quickly to ensure your business stays agile, responsive and can be proactive in decision making processes.

COURSE CONTENTS

Day 1 – Designing Charts

- Identifying the Right Chart
- Getting the Best from Charts
- Excel Charts
- Excel Pivot Charts
- Good and Bad Visuals
- Data Sources Within Manufacturing

Day 2 – Using Power BI

- Getting the Most Out of Your Data
- Using PowerQuery in Power BI
- Creating a Binned or Grouped Histogram in Power BI
- Interactivity: Slicers and Filters
- Mapping Your Visuals

Day 3 – Gathering requirements and dashboard design

- Dashboards For Manufacturing
- Dashboard Design Process
- Engaging Stakeholders
- Transparency vs Curation
- Types of Dashboards
- Understanding Data LimitationsDashboard Design

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DEMAND AND PRICE FORECASTING



LEVEL

Intermediate



DURATION

3 Days

AIM

The aim of this course is to understand how to produce forecasts using Time Series analysis and similar techniques. The course is designed to provide you with the skills to work with any Time Series data – to analyse patterns and forecast trends – and demonstrate how to apply these skills to make informed decision around demand and price.

IS THIS COURSE FOR YOU?

- Would you like to know how to analyse Time Series data?
- Would you like to robustly identify trends, seasonality, and other patterns?
- Would you like to understand the statistics behind Time Series analysis?
- Would you like to make accurate forecasts for demand and price?

If you've answered 'yes' to any of the above, then this course is for you.

LEARNING OBJECTIVES

By the end of this course you will be able to apply time series analysis to make predictions from time series data, identify trends, seasonal effects and make forecasts. This can reduce reactive decision-making which can result in higher costs, inefficiencies, and reduced competitiveness.

COURSE CONTENTS

Day 1 – Components of a Time Series

- Time Series
- Establishing Trendlines
- Finding Seasonality
- Identify Seasonal Trends
- Residuals, Cycles and Stationarity

Day 2 – Predicting Time Series

- Forecasting Performance Analysis
- Validating a Time Series



PREDICTING MAINTENANCE



LEVEL

Intermediate



DURATION

3 Days

AIM

The aim of this course is to learn how to develop data science and machine learning based applications for predictive maintenance. The benefit of which is to reduce unplanned downtime and optimise maintenance activities by predicting equipment failures before they occur.

IS THIS COURSE FOR YOU?

- Would you like to understand Machine Learning (ML) and predictive modelling?
- Would you like to be able to identify the best Machine Learning (ML) technique for the situation?
- Would you like to develop your Exploratory Data Analysis (EDA) skills?
- Would you like to know how to build a Logistic Regression model?
- Would you like to know how to evaluate a Classification model?

If you've answered 'yes' to any of the above, then this course is for you.

LEARNING OBJECTIVES

By the end of the course you will learn how to reduce machinery downtime through the use of logistic regression technique to predict maintenance; this could improve the performance of your operations, reducing disruption, reducing need for overtime, increasing productivity and positively impact the budgets for those teams.

COURSE CONTENTS

Day 1 – Exploratory Data Analytics (EDA)

- Business Problem
- Sourcing Data
- Basic Data Hygiene
- Exploring Relationships Between Variables

Day 2 – Building a logistic regression model

- Constructing the Model
- Evaluating the Model
- Choosing the Best Model

Day 3 – Productionising a model

- Operationalising
- Evaluating Processes
- Does the Model Generalise

COURSE PRE-REQUISITES

- Knowledge of or experience with Python is needed in order to complete this module



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