



Awarding
Great British
Qualifications



School of
Entrepreneurship
and Learning

UNLOCKING THE POWER OF DATA



Certificated Data Science Courses

DATA SCIENCE IS THE STUDY OF EXTRACTING MEANINGFUL INSIGHTS FROM DATA

It is a forward-looking approach with the focus on analysing the past or current data and predicting the future outcomes with the aim of making informed decisions. Regardless of industry or size, organizations that wish to remain competitive in the age of big data need to efficiently develop and implement data science capabilities.

The course is made up of 4 Stages with each stage covering topics in Statistics, Coding, Modelling and Data Visualisation verticals.

1 Short Course in Data Science: An Introduction

WHO SHOULD ATTEND?

Individuals who are just embarking on the data science journey either as a "STEM" fresh graduate or those looking to upskill into data science. Knowledge of either computer science, programming or strong mathematics background is essential.

LEARNING OBJECTIVES

- Understand computer instructions and data types
- Know how to manage a digital project
- Be able to structure, manipulate and represent data

SYLLABUS

Statistics

- Understand how to solve problems with algorithms, use summary and inferential statistics to inform business decisions

Coding

- Develop and Testing Programme Code, basic Python programming and be able to create a database using SQL

Modelling

- Introduction to modelling (types of models), data preparation for modelling, model evaluation and selection

Data Visualisation

- Basic storytelling and design principles for data visualisation, dashboard design for communication and selecting the right charts and graphs and understanding Data visualisation

2 Short Course in Data Science: Intermediate

WHO SHOULD ATTEND?

Short Course in Data Science: Intermediate is designed to provide individuals who have 2-3 years experience working in a data analytics or analysis discipline such as finance, business planning, marketing or sales who are looking to develop an understanding of data science. Basic practical knowledge of computer science, programming or strong mathematics background is a must. The individual must have attended the Short Course in Data Science: An Introduction or other associated data science course.

LEARNING OBJECTIVES

- Be able to describe the data science process and how its components interact
- Understand database systems concepts, concepts associated with the relational model, use structured & unstructured data
- Develop database system using SQL
- Learn to apply different types of data related questions and analytics patterns

SYLLABUS

Statistics

- Understand probability theory & random variables, concepts of summary statistics and be able to perform linear regression analysis

Coding

- Intermediate level of Python programming, undertake data analysis, familiarise with Python data structures and create visualisation packages for graphics

Modelling

- Introduction to model lifecycle management, predictive analytics, supervised and unsupervised learning, statistical data modelling techniques, time series modelling and applications and demonstrate understanding for data preparation for modelling

Data Visualisation

- Design principles for data visualisation, Exploratory, descriptive & diagnostic analysis, Data story-telling and Dashboard design for communication

OUR LEARNING FRAMEWORK

Produced and delivered by specialists and practitioners in the industry, our data science short courses are for anyone looking to develop their knowledge or learn new skills in this domain.

Knowledge and learning deepens as you move from entry level to specialist or expert level in Data Science			
Short Course in Data Science: An Introduction Up to 80 hours <i>I now have a good understanding of this area and have begun to apply aspects</i>	Short Course in Data Science: Intermediate Up to 80 hours <i>I now have a sound understanding of this area and can apply aspects with confidence</i>	Short Course in Data Science: Advanced Up to 120 hours <i>I now understand this area well and can apply my knowledge to tasks competently</i>	Short Course in Data Science: Expert Up to 120 hours <i>I have a deep understanding of this area and am qualified to lead a team</i>

3 Short Course in Data Science: Advanced

WHO SHOULD ATTEND?

Analytics practitioners who have more than 3 years experience operating in a data analytics or analysis team looking to increase their knowledge in data science. They must have attended the Short Course in Data Science: Intermediate or other associated data science course.

LEARNING OBJECTIVES	SYLLABUS
<ul style="list-style-type: none"> • Be able to extract, transform and load (ETL) data • Be able to explain ETL testing process and types of ELT testing • Be able to create the ETL test case in a given scenario • Setting up the data analytics team structures, roles and responsibilities • Be able to represent unstructured text documents with appropriate format • Be able to classify text to classes or categories (Naïve Bayes, k Nearest Neighbour (kNN), Logistic Regression) • Be able to identify the clustering structure of mass text 	<p>Statistics</p> <ul style="list-style-type: none"> • Understand basic properties of matrix and vectors: scalar multiplication, linear transformation, transpose, conjugate, rank, determinant. Familiarize with inner and outer products, matrix multiplication rule and various algorithms, matrix inverse <p>Coding</p> <ul style="list-style-type: none"> • Undertake advanced data analysis with R and Selecting and using with R data structures with confidence <p>Modelling</p> <ul style="list-style-type: none"> • Using multiple regression models, Advanced model lifecycle management, Analytics scenarios for different industries, Decision Trees and Model evaluation & deployment <p>Data Visualisation</p> <ul style="list-style-type: none"> • Management level advanced story telling - summarising information, results and findings for management, drawing conclusions translating to business decisions

4 Short Course in Data Science: Expert

WHO SHOULD ATTEND?

Data Science team leaders looking to step into senior management role. Must have attended the Short Course in Data Science: Advanced or other associated data science course.

LEARNING OBJECTIVES	SYLLABUS
<ul style="list-style-type: none"> • Be able to explain ethical and privacy issues in data science conduct and apply ethical practices • Understand the life of a data scientist - identify problem, define question, define ideal dataset, obtain and analyse data, and distribute results. • Setting up the data analytics team structures, roles and responsibilities 	<p>Statistics</p> <ul style="list-style-type: none"> • Understand the basics of optimisation and how to formulate the problem and be able to formulate the linear programming and the integer programming <p>Coding</p> <ul style="list-style-type: none"> • Evaluate Big Data concepts, Data collection using web scraping tool and Understand the importance of data mash-ups infrastructure for storing, processing and analysing big data <p>Modelling</p> <ul style="list-style-type: none"> • Advanced model lifecycle management <p>Data Visualisation</p> <ul style="list-style-type: none"> • Board level reporting, drawing inferences, strategic business decisions and conclusions

About NCC EDUCATION

We are a fully accredited UK awarding body and global provider of British education in Business, Computing and University access courses. Our Computing and Business qualifications range from entry level through to Master's degree level qualifications.

NCC Education qualifications have boosted the careers of over 1 million graduates worldwide, having gone on to work for multinational companies, SMEs or setting up their own businesses. The British degree pathways allow students to complete their qualifications at their own pace from anywhere in the world.

Our strong partnerships with over 50 well-established UK and International universities means students have an array of progression options. Accredited Partner Centres have the opportunity to form links with these universities through the NCC Education partnership.

**CONTACT
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TODAY!**

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