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Level 4

Advanced Data Analytics for Business

Programme Overview

- Phase 1 Onboarding
- Phase 2 Training, Tutor Support Sessions & Quarterly Reviews
 - The Business Domain
 - Requirements and Data Architecture
 - Data Collection and Manipulation
 - Data Analysis and Visualisation
 - Statistical & Predictive Analysis
 - Time Series Analysis & Sharing the results
 - AI and Machine Learning
 - Certified Entry-Level Python Programmer (Opt)
- Phase 3 Assessment Gateway
- Phase 4 End Point Assessment



Tutor support sessions every six weeks

Programme Delivery

All modules are either trainer-led remote training session or self-paced distance learning on our dedicated virtual learning environment (VLE).

All trainer-led training days are delivered across three online sessions at the following times:
9am - 10:30am
11am - 12:30pm
1:30pm - 4pm

Phase	Month	Training Modules	Length
Phase 1		Introduction & Onboarding	1-2 days
Phase 2	1	The Business Domain	1 day
	2	Requirements and Data architecture	1 day
	3	Data Collection and Manipulation (1)	3 days
	4	Data Collection and Manipulation (2)	2 days
	5	Data Analysis and Visualisation (1)	2 days
	6	Data Analysis and Visualisation (2)	2 days
	7	Statistical & Predictive Analysis (1)	3 days
	8	Statistical & Predictive Analysis (2)	3 days
	9	Time Series Analysis & Sharing the results (1)	2 days
	10	Time Series Analysis & Sharing the results (2)	2 days
	11	AI and Machine Learning (1)	2 days
	12	AI and Machine Learning (2)	2 days
	13	Certified Entry-Level Python Programmer (Opt)	VLE
Phase 3	14	Assessment Gateway & EPA Preparation	
Phase 4		End Point Assessment	3-4 months



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Programme Details

The Business Domain

- Overview of how knowledge of the domain enables effective analysis
- Explicit and Tacit knowledge
- Principles of UX
- Introduction to creating reports and how to present them

Requirements and Data architecture

- Data Lifecycle
- Data Analysis requirements and the requirement elicitation process
- Quality of data
- Common sources of errors
- Data roles and responsibilities within projects
- Legislation and how it applies in data analysis

Data Collection and Manipulation

- Types of data and files
- Data filtering and profiling
- Quantitative and Qualitative data
- Extract, Transform and Load process
- Data Validation and Verification
- Data structures in R
- Applying exploratory data methods in R

Data Analysis and Visualisation

- Data modelling
- Databases – Theory and how to collect and manipulate data to be used for analysis using SQL
- Transform data sets using Power Query Editor
- Clean data
- Create new data sets using joins
- Using PowerBI to create interactive dashboards
- Using DAX to create measures

Statistical & Predictive Analysis

- Statistics – measure of centre and spread
- Normal distribution, outliers
- Descriptive analytics numerical and categorical data
- Quantitative and Qualitative analysis
- Clustering and text mining algorithms
- Hypothesis testing
- Linear and Logistic regression

Time Series Analysis & Sharing the results

- Time Series Analysis
- Forecasting
- Summarising and presenting the results
- Classification methods
- Interpret the results and make recommendations
- Techniques and methods to present data

AI and Machine Learning

- Introduction to Artificial Intelligence and Machine Learning
- The importance of AI and machine learning in data analysis
- Neural Networks
- Typical algorithms used in clustering analysis
- Fuzzy logic
- Evolutionary Computation

Certified Entry-Level Python Programmer (Opt)

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|--------------------------|----------------------|
| • Logic and structure | • Operators |
| • Control Flow | • Functions |
| • Literals and variables | • Data types |
| • Data collections | • Exception handling |
| | • I/O operations |

Assessment Gateway & EPA

- EPA Preparation
Dedicated one-to-one sessions to support the learner as they head towards assessment, putting them in the best possible position for achievement
- Assessment Phase
EPA can take up to 3 months to complete. This involves a Project with presentation and questioning and a Professional discussion with portfolio