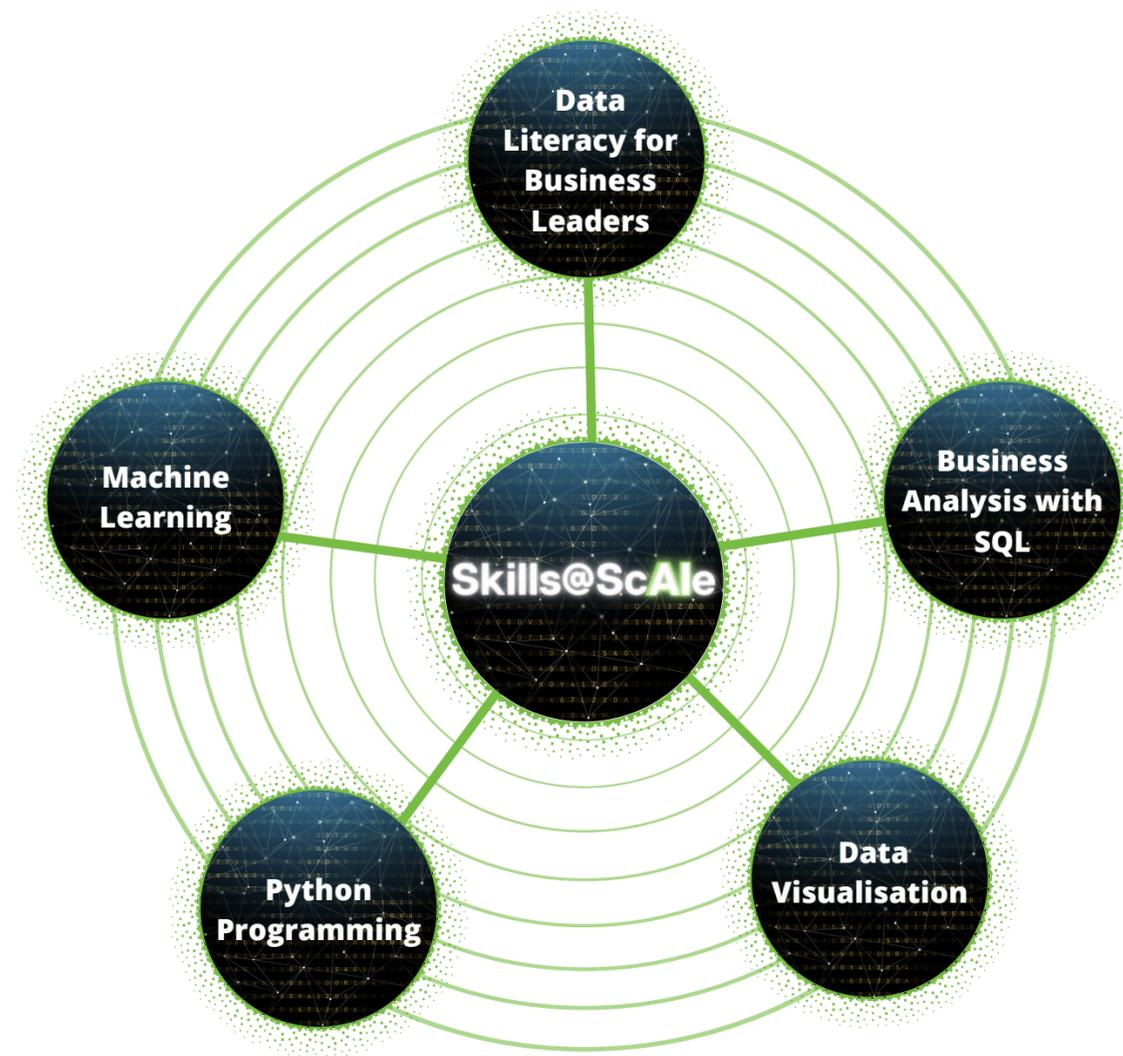


Skills@ScAle

IN TANDEM WITH



**Working in tandem with Irish businesses
to build the AI skills of the future**

What is Skills@ScAle

Skills@ScAle provides ready-to-go skills pathways for business, technology leaders and their teams through “micro-credentials” concentrating on key growth sectors.

- Currently there are 11 pathways across 5 categories: Data Literacy, Data Visualisation, Business Analysis with SQL, Machine Learning and Python. These will develop and grow
- The pathways are designed to address growth sectors where artificial intelligence, data analytics and data visualisation are now significantly in demand
- The pathways are built and ready-to-go and will be expanded and enhanced overtime
- When combined with the other programmes within Technology ICT Skillnet, they represent a one-stop-shop for those building a career in AI and Analytics

Why Skills@ScAle

The pathways are evidence based, developed to meet existing demand within business for AI and Analytics skills

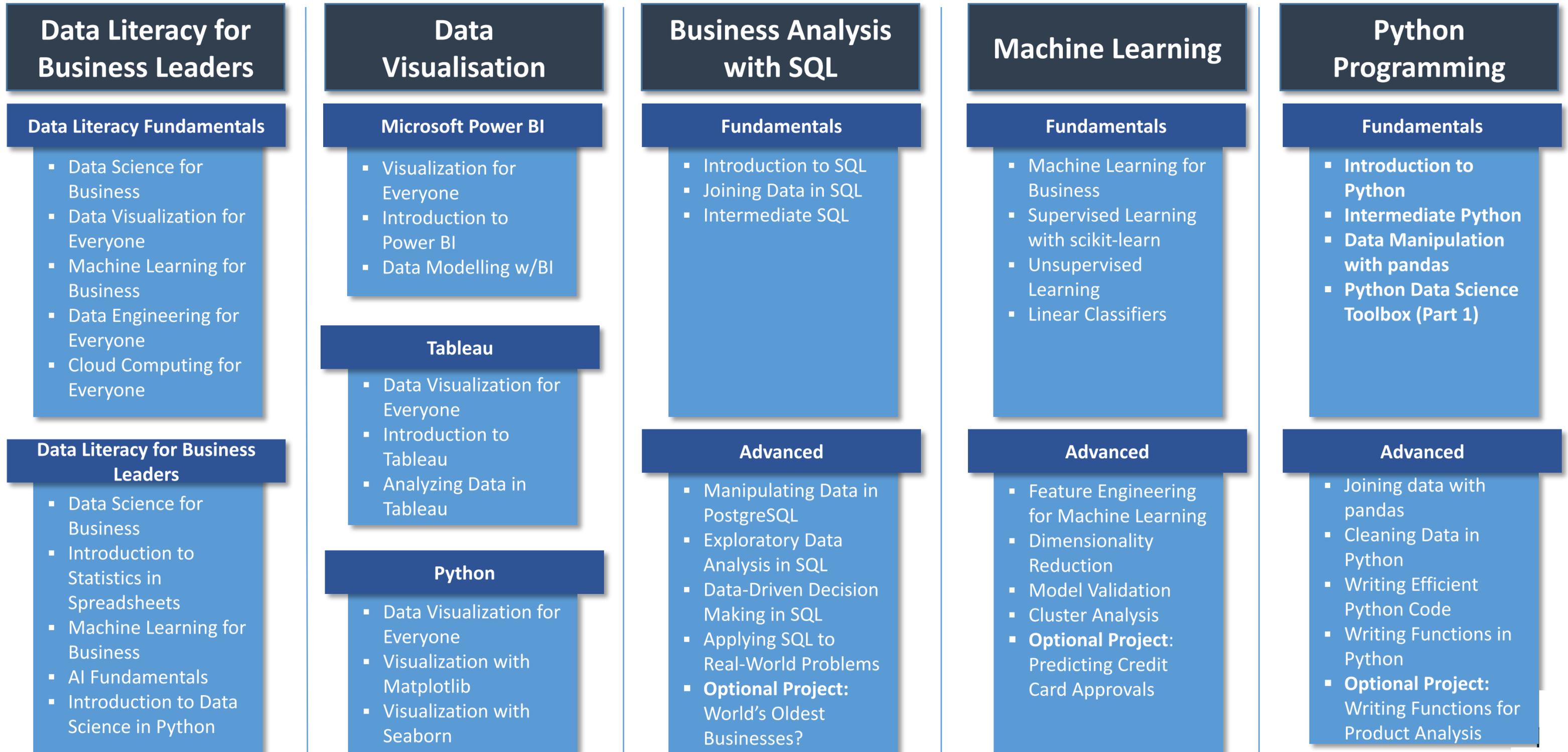
- The pathways are informed by feedback from an industry pilot which tested and validated the pathways with business and technology leaders from across sectors such as technology services, pharma, manufacturing, consultancy and financial services
- The pilot tested the content, the platform and the service delivery model. 92% of those taking part stated they would recommend it to a colleague
- Each pathway is based on a “learning by doing” paradigm design to build skills through direct application of knowledge attained
- The platform used for Skills@ScAle is self contained, there is no need to install any software. You can learn securely anywhere, at any time

Available Categories and Pathways

Category	Description
Data Literacy	Provides an introduction to the aspects of the technology driving artificial intelligence. There are two pathways , Data Literacy Fundamentals for those new data science and Data Literacy for Business Leaders which provides a hands-on experience of AI and analytics. The pathways will arm business leaders with the confidence to discuss AI and analytics with their technology teams.
Data Visualisation	Visualisation is extremely popular, with demand for the skill growing exponentially in recent years. The pathways demonstrates how to influence decision making through effective presentation of data. There are three pathways covering popular tools, Microsoft Power BI, Tableau and matplotlib and seaborn, for those with a background in python
Business Analysis with SQL	Structured Query Language remains a very popular tool for analysing data. There are two pathways . The fundamentals pathway builds the key set of skills required to get start with SQL and the Advanced pathway expands on those skills, to enable exploratory data analysis to facilitate data-driven decision making.
Machine Learning	Machine Learning (ML) is very much at the heart of artificial intelligence, these two pathways use python, the programming language of choice for those building AI models. The fundamentals course introduces the core concepts of ML such as supervised and unsupervised models along with linear classifiers. The Advanced pathway addresses the more complex aspects of ML including model validation and cluster analysis
Python Programming	Python is an extremely popular programming language for ML engineers and data scientists. Delivered over two-pathways, the fundamentals course introduces the main aspects of the language including “the Data Science Toolbox” with the Advanced pathway addressing functions and efficient code. We recommend the python pathways as pre-requisites to the ML pathways.

Note: Each of the Advanced models within the Business Analysis with SQL, Machine Learning and Python programming includes a “real-world” project to test your newly developed skills.

Categories and Pathways



Pathways (Detailed)

Category	Pathway	Description	Pre-requisites
Data Literacy	Fundamentals	You'll gain the fundamental skills you need to speak the language of data. There's no prior knowledge or coding skills required. Through hands-on exercises, you'll learn how to understand data, whether it's a bar plot on the news or as a statistic shared during a work meeting. You'll expand your knowledge of key data topics, including data science, machine learning, data visualization, and even data engineering and cloud computing. You'll also learn about the many roles, technologies, and frameworks in data science. By the end of this track, you'll have the skills you need to confidently interpret data and incorporate it into your daily life.	None
	Business Leaders	This track will help you sharpen your data skills and identify when data can be used to solve business challenges. You'll learn indispensable data terminology, tools, and questions that you can ask to communicate more effectively with your team. You'll be introduced to statistics in spreadsheets, Python, machine learning, and AI to help you better lead your team. By the end of this track you will be a more informed, critical, and data-driven decision-maker.	Data Literacy Fundamentals
Data Visualisation	Data Visualisation for Everyone (common to Power BI, Tableau and Python Pathway)	In this course, you'll learn how to choose the best visualization for your dataset, and how to interpret common plot types like histograms, scatter plots, line plots and bar plots. You'll also learn about best practices for using colors and shapes in your plots, and how to avoid common pitfalls.	None
	Power BI	Explore and use Power BI to build impactful reports. You'll Learn how to load and transform data using Power Query and the importance of data models, before diving into creating visualizations using Power BI's drag-and-drop functionality. You'll also learn how to drill-down into reports and make your reports fully interactive. Lastly, you'll level-up your skills using DAX formulas	None
	Tableau	Learn how to create detail-rich map visualizations, configure date and time fields to show trends over time, and extend your data using Calculated Fields. Through hands-on activities, you'll learn how to create bins, customize filters and interactions, and apply quick table calculations. Finally, you'll learn power user techniques, including how to slice and dice data and apply dynamic sets and groups. You'll also apply your new skills to complete a customer analytics case study.	None
	Python	Matplotlib provides the building blocks to create rich visualizations of many different kinds of datasets. You will learn how to create visualizations for different kinds of data and how to customize, automate, and share these visualizations. Seaborn is a powerful Python library that makes it easy to create informative and attractive visualizations. This course provides an introduction to Seaborn and teaches you how to visualize your data using plots such as scatter plots, box plots, and bar plots.	None

Pathways (Detailed)

Category	Pathway	Description	Pre-requisites
Machine Learning	Fundamentals	Machine learning is the field that teaches machines and computers to learn from existing data to make predictions on new data: In this course, you'll learn the business imperative for ML and how to use Python to perform supervised learning, an essential component of machine learning. You'll learn how to build supervised predictive models, tune their parameters, and determine how well they will perform with unseen data—all while using real world datasets. You'll learn the fundamentals of unsupervised learning and implement the essential algorithms using scikit-learn and scipy.	Python Fundamentals Python Advanced
	Advanced	Take your machine learning to the next level by learning about Feature Engineering for Machine Learning, Dimensionality Reduction Model Validation, Cluster Analysis and then apply your new skills with by Predicting Credit Card Approvals	Fundamentals of Machine Learning
Structured Query Language	Fundamentals	Gain the fundamental skills you need to interact with and query your data in SQL—a powerful language used by data-driven businesses large and small to explore and manipulate their data to extract meaningful insights.	None
	Advanced	Learn how to quickly explore and analyze data to help you make smarter business decisions covering data manipulation, exploratory data analysis and data driven decision making providing you with the skills you need to excel and overcome real-world business challenges.	Fundamentals Pathway
Python	Fundamentals	Learn the Python basics you need to start on your programming journey, including how to clean real-world data ready for analysis, use data visualization libraries, and even how to write your own Python functions. Through hands-on coding exercises you'll then learn how to store, manipulate, and explore data using NumPy. Then it's time to level-up as you learn how to visualize your data using Matplotlib, manipulate DataFrames and dictionaries using pandas, and write your own functions and list comprehension.	None
	Advanced	Extend your Python knowledge by understanding how to Join data with pandas, clean ata in Python, write efficient Python code, write functions in then then apply your skills by writing functions for Product Analysis	Fundamentals of Python

Who can apply?

This programme is grant-aided at **€249** for those working in private or commercial semi state businesses registered in the Republic of Ireland.

Each pathway consists of a series of courses targeting the development of specific skills. A pathway can be completed by dedicating just **2 hours a week over a 12 week period** although the pathways have previously been completed in 6-8 weeks.

You can complete as many of our pathways as you wish within your licensed period.

How to apply?

- 1- Fill out our application form located [HERE](#)
- 2- Applications will be assessed for eligibility
- 3- Successful applicants will receive an invitation email to join and enrol on our custom pathways.

CLOSE OF APPLICATIONS TBC - PROGRAMME START DATE - AS PER YOUR INVITATION

Please contact gillian.ogrady@ictskillnet.ie if you would like to be advised about future iterations