



Data Science Overview

13 months (20–30 hrs / week)

What is Data Science?

- Data scientists are the architects of data. They can not only build the infrastructure needed to interpret data, but they can also implement data-driven methods of analysis and decision-making using insights from that data.
- This 13-month immersive learning programme will transform you into a skillful practitioner of data analysis and interpretation, regardless of your prior experience.
- You will receive hands-on training in Python programming, SQL databases, and data tools like Power BI in order to solve real-world problems and make data-driven decisions.

Why Data Science?

There is a growing need across industries for skilled data professionals who understand how to use data-driven methods of analysis to inform decision-making. The Data Science programme is tailored towards moulding emerging data scientists for the real world with practical projects that develop real-world problem-solving skills.

Programme Objectives

- Prepare learners for entry-level roles in data science and related fields by equipping them with essential skills.
- Ensure learners are capable of working with unstructured datasets to extract meaningful insights.
- Offer expert mentorship and a supportive learning environment for successful completion.

What makes this programme unique?

Future-Ready Training

This programme is built to help total beginners and data pros alike navigate through the dynamic tech landscape. By engaging with relevant stakeholders in the digital economy, it focuses on teaching in-demand, foundational skills that are adaptable enough to take into the future.

Real-World Application

Practical, hands-on projects are a priority, as real-world application is the cornerstone of this programme. Learners get the opportunity to directly apply their new skills to solve genuine data-related problems and learn essential problem-solving skills.

Guided Learning Environment

Learners receive expert mentorship and guidance from experienced professionals, enhancing their learning journey and overall programme experience.

Weekly Foundations Schedule

08 Weeks (20-30hrs / week)

What is ALX Foundations?

- A career-readiness training module to kick-start your ALX learning journey before moving on to your chosen specialisation.
- Learn exceptional communication, teamwork, and leadership skills that make ALX graduates top picks in the job market.
- Be ready for a real-world career with soft skills that keep you ahead in the rapidly changing tech industry.

8 Key Meta Skills

1. **Leading Self**
2. **Leading Others**
3. **Communicating for Impact**
4. **Quantitative Reasoning**
5. **Entrepreneurial Thinking**
6. **Critical Thinking**
7. **Managing Complex Tasks**
8. **Tech Skills**

Weekly Content

Week 01

- Getting Started
- Daily 3
- Onboarding & Programme Overview
- The ROOM Fellowship
- Values & Community
- GCGOs for Africa

Week 02

- Daily 3
- Karibu Lessons
- Values & Empathy
- Exploring African GCGOs
- Self Awareness & Emotional Intelligence
- Growth Mindset & Grit
- Self Regulation & Improvement
- Time Management

Week 03

- Daily 3
- Habit Formation
- Goal Setting
- Defining Problems & User Stories
- Problem Solving
- Asking the Right Questions
- Research Methodology & Ethics

Week 04

- Daily 3
- Goal Setting
- Communication for Impact
- Creating Presentations & Technical Writing
- Communication in Tech Teams
- Design Thinking
- Work Planning

Week 05

- Daily 3
- Problem Definition
- Teamwork Best Practices
- Agile Technology Teams: Roles & Processes
- Research & Data Gathering
- Data Cleaning & Preparation
- Data Visualization
- Identifying Opportunities
- Generating Solutions
- Understanding the Market

Week 06

- Daily 3
- Understanding the User
- User Interviews
- Wireframes & Prototype
- Human Centered Design

Week 06 (Cont)

- Teamwork & Team Communication
- Conflict Management & Negotiation

Week 07

- Daily 3
- Improving on Your Solution
- Product Requirements
- Design Handover Process
- Pitch Preparation
- Powerful Presentations
- Identifying Opportunities
- Personal Brand & Bio
- Career Skills

Week 08

- Daily 3 Reflection & Commitment
- Elevator Pitch
- Exploring Tech Tracks
- Resume Writing
- LinkedIn Profiles
- Cover Letters
- Interview Skills

Weekly Specialisation Schedule

Weekly

Weekly Assignment submissions due every Monday

Learning Webinars

Every Tuesday & Thursday

Monthly

- ALX Foundations Milestone submission
- ALX Foundations Sessions (Office Hours, Speaker Series)
- Self-Placement Reporting

End of Programme

- Selections Phase 3 Interviews
- Data Science Integrated Exam

Weekly Content

Fundamentals (23 weeks)

Week 01 – 02 : Explore 101

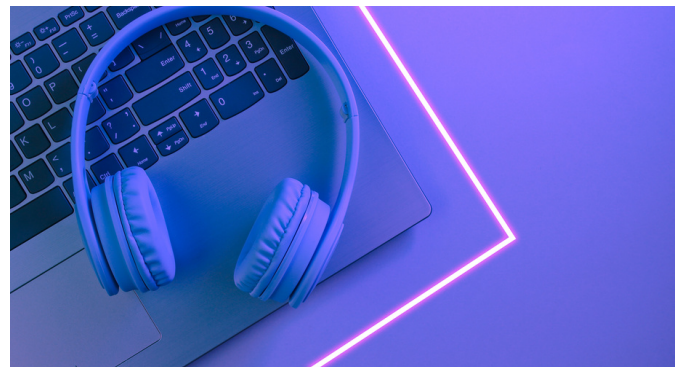
Week 03 – 04 : Preparing Data

Week 05 – 09 : SQL

Week 10 – 13 : Data Visualisation & Storytelling

Week 14 – 15 : Consolidation

Week 16 – 23 : Python



Machine Learning (14 weeks)

Week 24 – 27 : Regression

Week 28 – 32 : Natural Language processing and classification

Week 33 – 37 : Unsupervised Learning

Cloud Practioner (5 weeks)

Week 38 – 42 : AWS Foundations

Consolidation (2 weeks)

Week 43 : Integrated Exams

Week 44 : Consolidation

