

Online Learnership Programme



Red & Yellow has been  
teaching **business**  
**leaders to think**  
**creatively** since 1994

# Occupational Certificate **Data Science Practitioner**

SAQA ID: 118708 | NQF Level 5  
Learnership Reg. No. 32Q320170251855





# Programme Overview

Transform your passion for data into actionable insights with our Data Science Practitioner programme. In this practical and engaging course, we dive into the world of data science and unlock the power of analysis and visualisation, equipping you with the critical skills and knowledge needed to excel in the field of data science.

You'll master foundational concepts in data analysis, computing systems, and basic statistics, while also delving into advanced topics like data visualisation and ethical considerations. Our comprehensive modules will guide you through essential skills such as logical thinking, statistical analysis, and innovative design thinking.

By the end of this programme, you'll be proficient in harnessing data to drive decision-making, design impactful solutions, and navigate the complexities of data governance.

Through practical activities and workplace experience modules, you will put your newly-found knowledge to the test and apply what you have learnt. By the end of the programme, you will be ready to turn raw data into strategic insights and elevate your career with cutting-edge expertise in data science.

# Programme Overview

## Programme outcomes

1. Collect large amounts of structured and unstructured data and extract and transform them into a usable format.
2. Analyse data to uncover patterns and trends in datasets to solve business problems.
3. Prepare and present descriptive analytics reports on patterns and trends using computer programming languages.
4. Explain data patterns and trends through data visualisation and storytelling.
5. Use industry recognised data visualisation tools.

## What do data practitioners do?

Data Science Practitioners transform raw data into a structured, usable format. They collect, 'clean', and analyse data to solve business problems. They prepare powerful data for storage, making it an impactful tool for business success.

## This programme is perfect for

- Aspiring data practitioners
- Anyone who wants to learn how to work with large amounts of data and how to analyse use data visualisation and storytelling to inform and persuade



## Hardware requirements

Intel core 5 laptop with 8 GIG RAM

## Software requirements

- Integrated Development Environment such as Visual Studio (free of charge) (to run python etc, also free.)
- MS Office 365
- MS Power BI
- MS Azure

# The Programme Details



## Entry requirements

NQF 4 qualification



## Duration

18 months



## Time commitment

15 hours / week



## Qualification

Occupational Certificate: Data Science Practitioner  
NQF Level 5 | SAQA Qualification ID: 118708  
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## Price

R59 000 First year  
R29 500 Second year (6 months)

## Assessment strategy

Note that you will complete formative and summative assessments for every module and you will write a final external integrated summative assessment at the end of this programme.

## Programming languages taught

- HTML
- Javascript
- C++
- SQL or NoSQL
- Java, VB, and others



# The Learning Journey

## Introduction to Data Science and Data Analysis

Kick-start your data science journey with these foundational modules. Discover the core principles of data science and analysis, exploring how to gather, process, and interpret data. Build a solid understanding of data workflows, from initial collection to drawing actionable insights. Perfect for beginners eager to dive into the data-driven world and start making sense of the numbers!

## Logical Thinking and Basic Calculations

Refresh your logical thinking and calculation skills with these essential modules. Revisit key concepts in problem-solving and basic math, crucial for data analysis success. Enhance your ability to approach problems methodically and efficiently, laying a strong foundation for more advanced data science tasks. This refresher will sharpen your analytical edge and boost your confidence!

## Computers and Computing Systems

Get to know the nuts and bolts of computers and their systems in these hands-on modules. Explore how computing systems operate, including hardware, software, and networking fundamentals. Understand the technological backbone of data science, equipping yourself with the knowledge to work effectively with various computing environments and tools.

## Computing Theory

Learn the principles that govern computer systems and algorithms, including fundamental concepts of data structures and computational complexity. This theoretical foundation will enhance your understanding of how computing systems process and manage data, essential for effective data analysis.



# The Learning Journey

## Statistics for Data Analytics

Master the basics of statistics with these comprehensive modules. Learn to apply statistical methods to analyse and interpret data, including measures of central tendency, dispersion, and probability. Build your skills in data summarisation and visualisation, setting the stage for more advanced analytical techniques and informed decision-making.

## Statistics Essentials for Data Analytics

Advance your statistical expertise with these essential modules. Dive deeper into statistical concepts and techniques, focusing on their application in data analytics. Explore hypothesis testing, regression analysis, and statistical inference to extract meaningful insights from data. This module is your gateway to mastering advanced statistical methods for robust data analysis.

## Data Science and Data Analysis

Elevate your data science skills with these in-depth modules. Explore advanced techniques in data analysis, including data wrangling, predictive modelling, and machine learning. Apply these techniques to real-world datasets, enhancing your ability to uncover trends and make data-driven decisions. Prepare to tackle complex data challenges with confidence and expertise.

## Data Analysis and Visualisation

Transform data into compelling visuals. Learn to analyse and present data effectively using advanced visualisation tools and techniques. Create informative charts, graphs, and dashboards that communicate insights clearly and persuasively. Master the art of data storytelling to make your findings accessible and impactful.



# The Learning Journey

## Introduction to Governance, Legislation and Ethics

Navigate the landscape of data governance. Understand the principles of data protection, privacy laws, and ethical considerations in data handling. Learn to apply legal and ethical frameworks to your data practices, ensuring compliance and fostering trust in your data-driven decisions.

## Fundamentals of Design Thinking and Innovation

Unlock your creative potential. Explore the fundamentals of problem-solving through a user-centered approach, applying design thinking principles to drive innovation. Learn techniques for brainstorming, prototyping, and testing ideas, equipping yourself to tackle challenges with creativity and insight.

## 4IR and Future Skills

Get ready for the Fourth Industrial Revolution (4IR). Explore emerging technologies and their impact on the data science field, including AI, automation, and data-driven innovations. Develop skills essential for navigating and thriving in a rapidly evolving digital landscape, preparing you for future challenges and opportunities.



# High-Impact Learning Tools

Why Red & Yellow has a reputation for producing graduates that can “hit the ground running”

## Applicable and practical assignments

- Designed to test your ability to translate the theory into practical implementation for successful outcomes.
- Geared so that you can apply what you're learning to your everyday work life, and your specific business challenges.
- Providing an incredible opportunity to prove your value, improve your performance, and impress your colleagues

### Engaging content in digestible modules

Enriched with infographics, videos, useful links to valuable resources, case studies and fun activities to deepen and entrench your learning

### Personalised Feedback

Recommendations and suggestions from subject-matter experts, tailored to your individual strengths and opportunities for personal improvement

### A dedicated team

Available on email, phone and the online forum to support, encourage and assist you. Think of them as your “virtual” support crew whose only focus is to help get you over the finish-line



# Our Human Touch

Learning you won't get anywhere else!



The reality is that AI and robots will replace many of the jobs we know today. The likes of NASA and Google are already ahead of the game in their early recognition of the importance of “soft” skills.

Our courses and programmes are designed to prepare humans for this unknown world, by combining topic-specific knowledge and know-how, as well as a selection of the 10 uniquely human skills we've identified that will set us apart from “robots”

Conflict  
Resolution

Social  
Intelligence

Creative  
Thinking

Critical  
Thinking

Adaptability

Persuasion

Leadership

Mindfulness

Empathy

Negotiation



# The Red & Yellow Difference

Online learning and the “human touch” you’ll get from us

## Real-world insights from experts

You’ll get “insider” access to exclusive videos from industry leaders and subject-matter experts - giving you tips, techniques and learnings invaluable to bringing your online learning to the real world. Our connection to industry is something we’re incredibly proud of, and it’s what sets us apart from the other institutions.

## A team of humans dedicated to your success

A team of real, live people (not bots) is allocated to every course. The Course Coordinators’ mandate is to cheer you over the finish line, keep you motivated, and ensure you have the best, most value-adding learning experience. And our knowledgeable team of Instructional Designers and subject matter experts are on standby for topic-specific questions.



Courses and programmes designed to prepare humans for this unknown world, by combining topic-specific knowledge and skills, with the most critical 10 uniquely human skills.

While online learning offers time-flexibility and the ability to study anywhere in the world; it can also feel a little lonely at times.

Red & Yellow is obsessive about offering a 'virtual classroom' learning experience you won't get anywhere else – combining human interactions, input from our academic team and industry gurus, with all the convenience you need.

# The Red & Yellow Difference

Online learning and the “human touch” you’ll get from us

## A trusted signal on your CV

We take our role – in equipping you with everything needed to grow your career – seriously. Our online courses are intended to put you through your paces, stretch your mind, and equip you with fundamental skills. It's the reason business leaders regard a qualification from Red & Yellow as the mark of a competent, capable individual, able to add value from day one – with the theoretical knowledge, the practical know-how and the human skills essential for future success.

## Original, carefully curated and relevant content

Rather than opting for the easier option of reselling content (created by others), we develop our courses internally – often roping in industry experts who run successful organisations – to ensure what you learn is both current and relevant to the South-African context. Courses are designed in response to market demand or skills gaps as they arise in this rapidly changing world.

# Have questions?

Give one of our amazing Business Relationship Managers a call at [087 227 3283](tel:0872273283) or pop us an email [corporatetraining@redandyellow.co.za](mailto:corporatetraining@redandyellow.co.za)

**Red & Yellow**  
CREATIVE SCHOOL OF BUSINESS  
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