

IT SKILLS PROGRAMMES

# ADVANCE SPATIAL INTELLIGENCE DATA SCIENTIST

QUALIFICATION TYPE:  
SKILLS PROGRAMME ID (SP-210603)

TRAINING DAYS: 40

*Designed to support your  
Workplace Skills Plan and  
build job-ready IT capability*

## Build data capability that supports smarter decisions and planning

As organisations invest in data-driven decision-making, the ability to analyse and apply geospatial data is becoming increasingly valuable.

This Advanced Spatial Intelligence Data Scientist skills programme builds practical capability to work with complex datasets and generate insights that support planning, development, and operational decisions. Learners develop skills to apply data science techniques in real-world contexts.

On successful completion of this skills programme and successful FISA (Final Integrated Summative Assessment), learners will be awarded: **QCTO Certificate: Advance Spatial Intelligence Data Scientist** (An accredited, credit-bearing Skills Programme certificate)

We work closely with you to understand your objectives, guide you through the requirements, and support the implementation of skills programmes that deliver real impact.



NCF LEVEL **5**



CREDITS **40**



### WHO SHOULD ENROL?

- Organisations building advanced data and analytics capability, or looking to strengthen insight-driven decision-making
- Teams working with spatial, environmental, or planning data
- Individuals with a background in data analytics looking to specialise in geospatial data or strengthening their data science and spatial analysis skills

### WHAT MAKES THIS COURSE DIFFERENT?

This skills programme is designed to move you from learning to doing

- Build advanced skills in data science, geospatial intelligence and analytics
- Apply your skills to real-world datasets and problem-solving scenarios
- Gain experience using data to inform decisions and support development

### WHAT IS THE ENTRY CRITERIA?

- NCF Level 4

# ADVANCE SPATIAL INTELLIGENCE DATA SCIENTIST

SKILLS PROGRAMME

Strengthening digital skills in South Africa is key to improving service delivery, supporting economic growth, and driving innovation. Geospatial intelligence plays an important role in digital transformation, particularly in enabling the Fourth Industrial Revolution (4IR). The establishment of a Presidential Commission on 4IR shows a strong national commitment to digital adoption. However, closing the gap between the public and private sectors requires focused investment in digital skills development.

This structured skills programme focuses on data science, geospatial intelligence and analytics. It equips learners, including those without prior digital literacy, with essential technical knowledge. By building capability and supporting innovation, this initiative contributes to economic growth, improves service delivery, and aligns with national priorities such as the National Development Plan and District Development Model.

## Skills your teams will build

These exit level outcomes show the skills you'll have built:

- Demonstrate knowledge and understanding of the impact of spatial intelligence activities on society, the economy, the industrial environment, and the physical environment, as well as how to address issues
- To solve problems related to big data in a geospatial context, use a spatial approach to predictive analysis

## Assessment designed to show what you can do

Learners are assessed throughout the programme using a variety of methods, which may include practical tasks, written assignments, short projects, demonstrations, and presentations. Evidence of learning is collected and recorded for monitoring, feedback, and quality assurance. Where the curriculum is delivered in modules, internal summative assessments are conducted at the end of each module and results are recorded. After completing all modules, learners must complete a Final Integrated Supervised Assessment (FISA) that integrates the key outcomes of the skills programme. The FISA is implemented through one assessment process, which may be conducted using either of the following supervised methods:

### Face-to-face Assessment

The FISA is conducted in person under direct supervision, using approved assessment instruments and a rubric and/or checklist to confirm that all required competencies have been demonstrated

### Virtual delivery via e-assessment

The FISA may be conducted virtually via our secure e-assessment platform (Questionmark). This assessment is conducted under supervised conditions and is further strengthened through the use of proctoring, which provides real-time monitoring and verification of learner identity and assessment conditions. Proctoring enhances the integrity, credibility, and reliability of the FISA by reducing the risk of malpractice, ensuring compliance with assessment rules, and confirming that the assessment is conducted fairly, consistently, and in line with approved assessment requirements

The FISA is supervised, with a pass mark set at 75%

## Let's partner for impact!

Our approach combines a deep understanding of your objectives with expert guidance on QCTO skills programmes, ensuring smooth implementation and meaningful impact in the workplace.

### *We'll help you get clear on the holistic implementation process*

From first conversation to final assessment, you'll be supported by a team that understands how to make QCTO programmes work in practice.

### Delivered your way

- Classroom | Johannesburg
- Virtual | Instructor-led
- On-site | Nationwide

## Take the next step with us!

[impactful@lrmg.co.za](mailto:impactful@lrmg.co.za)  
[impactful.co.za](https://www.impactful.co.za)

# ADVANCE SPATIAL INTELLIGENCE DATA SCIENTIST

QUALIFICATION TYPE:  
SKILLS PROGRAMME ID (SP-230374)

*This detailed overview outlines how the skills programme is structured to develop capability progressively, from foundational knowledge, through applied practical skills, to integrated workplace experience. Each module is aligned to the credit requirements of the nationally recognised skills programme*

## The Skills Rationale

This skills program is designed to provide learners in the geospatial sector with data science skills and tools which will enable them to solve problems applicable in the digital economy or age.

This skills programme is geared towards an individual with a background in Data analytics and wants to grow into advanced spatial analytical methods in Data Science.

By applying methodical and procedural analytics to understand causes, inform policy and address critical, policy-relevant questions in human geography, economic geography, planning, environment, and development.

## KNOWLEDGE COMPONENTS

- Module 1: Big Data Analytics in Spatial Intelligence
- Module 2: Geospatial Artificial Intelligence
- Module 3: Spatial Intelligence Augmented and Virtual Reality

## APPLICATION COMPONENTS

- Module 1: Application Development for Spatial Intelligence
- Module 2: Programming for Geospatial Intelligence