



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

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COURSE BROCHURE

Big Data and Data Analytics

Custom Courses / Information Technology (IT) and Digital Skills

Unit Standard AATICD-0090 · NQF Level 5 · 10 Credits · 5 Days

COURSE OVERVIEW

This course equips learners with the skills to collect, process, analyse, and interpret large datasets to drive informed business decisions. Participants will gain practical knowledge of big data technologies, statistical analysis, and data visualisation techniques. The course prepares professionals to leverage data as a strategic asset in a corporate environment.

Category	Custom Courses
Subfield	Information Technology (IT) and Digital Skills
Unit Standard	AATICD-0090
Accreditation	SAQA Accredited · NQF Level 5 · 10 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply big data concepts and tools to collect, store, and process large datasets from diverse sources.
- Analyse structured and unstructured data using statistical methods and machine learning algorithms.
- Evaluate data quality and integrity to ensure reliable and accurate analytics outcomes.
- Design data visualisations and dashboards to communicate insights effectively to stakeholders.
- Implement data-driven strategies to solve business problems and optimise operational efficiency.
- Demonstrate ethical handling of data in compliance with POPIA and other relevant regulations.

WHO SHOULD ATTEND

- This course is designed for data analysts, business intelligence professionals, IT managers, and decision-makers who need to harness big data for organisational success.
- It is also suitable for graduates seeking to enter the data analytics field.

COURSE OUTLINE

Day 1: Foundations of Big Data and Data Analytics

- Introduction to Big Data: definition, history, and 5 V's
- Types of data: structured, semi-structured, unstructured
- Overview of data analytics: descriptive, diagnostic, predictive, prescriptive
- The data analytics lifecycle: data collection, processing, analysis, visualization
- Key roles: data analyst, data scientist, data engineer
- Ethical considerations and data privacy (POPIA)

Day 2: Data Collection, Storage, and Processing Technologies

- Data sources: APIs, logs, sensors, social media, IoT
- Relational vs. NoSQL databases (MongoDB, Cassandra)
- Data warehouses (Amazon Redshift, Google BigQuery) and data lakes
- Batch processing with Hadoop MapReduce
- Real-time processing with Apache Spark
- Introduction to cloud storage (AWS S3, Azure Blob)
- Hands-on: Setting up a simple data pipeline

Day 3: Data Cleaning, Transformation, and Exploration

- Data quality: missing values, duplicates, outliers
- Data cleaning techniques: imputation, filtering, standardization
- Data transformation: normalization, encoding categorical variables
- Exploratory Data Analysis (EDA): summary statistics, distributions
- Data visualization: histograms, scatter plots, box plots
- Introduction to Python for data analysis: Pandas and NumPy
- Hands-on: Cleaning and exploring a sample dataset

Day 4: Advanced Analytics: Machine Learning and Predictive Modeling

- Supervised learning: linear regression, logistic regression, decision trees
- Unsupervised learning: K-means clustering, hierarchical clustering
- Model evaluation: train/test split, cross-validation
- Performance metrics: confusion matrix, ROC curve, MSE
- Feature engineering and selection
- Introduction to scikit-learn
- Hands-on: Building a predictive model for a business case

Day 5: Big Data Analytics in Practice: Tools, Deployment, and Future Trends

- Deploying models: APIs, containerization (Docker)
- Big data platforms: Hadoop ecosystem, Spark streaming
- Data visualization: Tableau, Power BI dashboards
- Case studies: retail analytics, financial fraud detection, healthcare
- Data governance and compliance (POPIA)
- Emerging trends: AI-driven analytics, edge computing, data fabric
- Course wrap-up and assessment

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **10 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 24,200.00	R 24,200.00
1	In-House	R 31,400.00	R 31,400.00
1	On-Campus (Pretoria)	R 36,200.00	R 36,200.00

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	14 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Abu Dhabi, UAE
17 Aug 2026	21 Aug 2026	On-Campus	Harare, Zimbabwe
17 Aug 2026	21 Aug 2026	On-Campus	Shenzhen, China
24 Aug 2026	28 Aug 2026	On-Campus	Bangkok, Thailand
24 Aug 2026	28 Aug 2026	On-Campus	Victoria Falls, Zimbabwe
31 Aug 2026	04 Sep 2026	On-Campus	Lusaka, Zambia
31 Aug 2026	04 Sep 2026	On-Campus	London, UK

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

- 1. Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard AATICD-0090) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
- 2. Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
- 3. Apply by phone or WhatsApp:** call **+27 12 004 8389** or WhatsApp **+27 65 077 6310** and we will prepare your quotation and reserve your seats.
- 4. Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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