



## Accredited Africa Training Institute for Capacity Development

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

Tel: +27 12 004 8389 · Mobile: +27 65 077 6310

Email: [apply@aaticd.co.za](mailto:apply@aaticd.co.za) · Website: [www.aaticd.co.za](http://www.aaticd.co.za)

### COURSE BROCHURE

# Advanced Database Tables and Queries with GUI

Physical, Mathematical, Computer and Life Sciences / Information Technology and Computer Sciences

Unit Standard 258881 · NQF Level 4 · 5 Credits · 2 Days

## COURSE OVERVIEW

This course equips learners with the skills to design complex database tables and queries using a graphical user interface (GUI) based database system. Participants will learn to solve real-world problems by applying advanced database design principles, including normalization, relationships, and query optimization. The course bridges theoretical database concepts with practical GUI tools, enabling efficient data management and reporting.

|                 |                                                    |
|-----------------|----------------------------------------------------|
| Category        | Physical, Mathematical, Computer and Life Sciences |
| Subfield        | Information Technology and Computer Sciences       |
| Unit Standard   | 258881                                             |
| Accreditation   | SAQA Accredited · NQF Level 4 · 5 Credits          |
| Duration        | 2 days                                             |
| Training Method | Online, On-Campus, In-House                        |
| Certificate     | Issued via AATICD LMS – verifiable online          |

## LEARNING OUTCOMES

- Design normalized database tables with appropriate relationships using a GUI-based database management system.
- Implement complex queries involving multiple tables, aggregate functions, and subqueries to extract meaningful information.
- Evaluate database designs for efficiency, integrity, and scalability to meet given problem requirements.
- Apply data validation rules and referential integrity constraints to ensure data accuracy and consistency.
- Analyze business problems and translate them into database solutions using advanced table and query design.
- Demonstrate the ability to optimize queries for performance and troubleshoot common database errors.

## WHO SHOULD ATTEND

- This course is ideal for database administrators, data analysts, and IT professionals who need to design and manage complex databases using GUI tools.
- It is also suitable for individuals seeking to advance their skills in database design and querying for business intelligence or operational systems.

## COURSE OUTLINE

### Day 1: Advanced Table Design and SQL Queries

- Review of relational database concepts and normalization.
- Creating tables with primary keys, foreign keys, and indexes.
- Advanced SELECT queries: multi-table JOINS, subqueries, and UNION.
- Aggregate functions and GROUP BY with HAVING clauses.
- Data integrity: CHECK constraints, default values, and cascading actions.
- Introduction to views and stored procedures.
- Hands-on exercise: Design and populate a sample database.

### Day 2: GUI Development and Integration with Databases

- Overview of GUI development tools (e.g., Visual Studio, Lazarus, or web-based).
- Designing forms: data entry fields, buttons, grids, and navigation.
- Database connectivity: connection strings, ODBC/JDBC, or ADO.NET.
- Executing SQL queries from the GUI: SELECT, INSERT, UPDATE, DELETE.
- Displaying query results in data grids or list views.
- Error handling and validation techniques.
- Practical: Build a complete GUI application to manage a database.

## 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 **5 NQF credits** at **NQF Level 4**.

## PRICING (PER DELEGATE, EX-VAT)

| Delegates | Training Method      | Price per Delegate | Total       |
|-----------|----------------------|--------------------|-------------|
| 1         | Online               | R 11,300.00        | R 11,300.00 |
| 1         | In-House             | R 14,700.00        | R 14,700.00 |
| 1         | On-Campus (Pretoria) | R 17,000.00        | R 17,000.00 |

## UPCOMING SESSIONS

No sessions are currently scheduled. Please contact us to arrange a session at a time and location that suits your team.

## HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit [www.aaticd.co.za](http://www.aaticd.co.za), open the page for this course (Unit Standard 258881) 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](mailto: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.

### Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza, 1122 Burnett St, Hatfield 0028, Pretoria, Gauteng, South Africa  
Tel: +27 12 004 8389 · WhatsApp: +27 65 077 6310 · [apply@aaticd.co.za](mailto:apply@aaticd.co.za) · [www.aaticd.co.za](http://www.aaticd.co.za)