

Module: Database Administration 261

Module name:	Database Administration 261
Code:	DBA261
NQF level:	6
Type:	Core – Diploma in Information Technology (all stream)
Contact Time:	42 hours
Structured time:	7 hours
Self-directed time:	21 hours
Notional hours:	70 hours
Credits:	7
Prerequisites:	Database Development 262

Purpose

The student will learn the basics of the administration of a relational database system that is used in medium to large enterprises. The course covers the basics of creating a database through various methods, the implication of having multiple users working on a single centralized database system, and the management of these users and connections.

Outcomes

Upon successful completion of this module, the student will be able to demonstrate:

- Produce and analyze an Entity-Relationship model from a realistic problem specification
- Ability to describe the conceptual and physical schemas of a database, including an understanding of, and the ability to apply the key terms, concepts, principles, and theories of database administration, to new but relevant contexts.
- Ability to program a data-intensive application using DBMS APIs and show how that knowledge contributes to the overall effective Data management function of an enterprise.
- The ability to evaluate, select and apply appropriate backup and restore plans in the application processes within a given context.
- The ability to identify, analyze and solve problems in unfamiliar contexts, gathering evidence and applying solutions based on diagnostics and procedures appropriate to the creation and management of database users, roles, and privileges that fit within the given context.
- The ability to present and communicate complex information reliably and coherently using appropriate professional conventions, formats, and technologies for the implementation of a selected database model.
- The ability to make decisions and act appropriately in familiar and new contexts, demonstrating an understanding of how the changes made to the logical and/or physical database model will affect other areas of a system.

Assessment

- Evaluation of theoretical work through a summative test.
- Continuous evaluation of project work, where the student must design, manage and report on the evaluation of testing methodologies and the selection of an appropriate methodology for a given scenario, justifying the choice made with well-formed arguments and evidence.

- Final assessment through a written examination.
- The assignments or projects collectively will count 30% of your class mark.
- All tests will collectively account for 70% of your class mark.
- Your class mark contributes 30% towards your final mark for the subject, while the final assessment accounts for 70% of your final mark.

Teaching and Learning

Learning materials

Prescribed books (EBSCO)

- 📖 **Roebuck, K. (2011). Database Administration. Tebbo. (ISBN:97817430488771)**
- 📖 **Microsoft SQL Server 2012 Security Cookbook by Bruchez, Rudi**
- 📖 **SQL Cookbook: Query Solutions and Techniques for All SQL Users, Second Edition by Anthony Molinaro**

Additional Material

- 📖 **Journal articles**

Learning activities

The teaching style will combine practical and theory elements into the daily activities during this module. It is a collaborative teaching model, with a practical approach, with one mandatory project which must be completed during the module.

Notional learning hours

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		27.0		7.0
Formative feedback		9.0		
Project	1	6.0		6.0
Test	2		4.0	8.0
Exam	1		2.0	6.0
		42.0	6.0	30.0

Syllabus

- Implementation of physical database design
- Security system of the Database engine
- Concurrency Control
- Planning & Implementing Backup & Restore strategy
- Data Replication.