Module: Database Models 251

Module name:	Database Models 251
Code:	DBM251
NQF level:	5
Type:	Fundamental – Diploma in Information Technology (Software Development stream)
Contact Time:	30 hours
Structured time:	6 hours
Self-directed time:	34 hours
Notional hours:	70 hours
Credits:	7
Prerequisites:	DBD151

Purpose

The course covers the evolution of data models and the building blocks of data models. The course will look at business rules and how they influence database design. Classifying data models by level of abstraction will be introduced. Students will be exposed to different database platforms that support the various data models discussed during the course.

Outcomes

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

- Demonstrate an informed understanding of the core areas of various database models, and an informed understanding of the key terms, concepts, facts, general principles, rules, and theories thereof.
- Select and apply standard methods, procedures, or techniques within a database design, and to plan and manage an implementation process within a well-defined, familiar, and supported environment.
- Identify, evaluate and solve defined, routine, and new problems within a familiar context, and to apply solutions based on relevant evidence and procedures or other forms of explanation appropriate to the selection of a database model, demonstrating an understanding of the consequences.

Assessment

- Continuous evaluation of theoretical work through written assignments, a formative, and a summative test.
- Final assessment through a written examination.

Teaching and Learning

Learning materials

Prescribed Book
Database Modelling, (2018), IT without frontiers.

Additional Material
📖 Taylor, A.G. (2011). *SQL All-In-One for Dummies.* John Wiley & Sons Ltd.(ISBN:9780470929964)

Learning activities
The teaching approach will use a combination of exercises, theory presentations and whole group discussions. It is a collaborative model with a practical approach, with two mandatory assignments which must be completed during the module.

Notional learning hours

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		27.0		13.0
Formative feedback		3.0		
Project				
Assignment	2			6.0
Test	2		4.0	8.0
Exam	1		2.0	7.0
		30.0	**6.0**	**34.0**

Syllabus

- The Importance of Data Models
- Hierarchical Model
- Network Model
- Relational Model
- Entity Relational Model
- Object-Orientated Model
- Document-Orientated Model
- Database Models and the Internet
- Degrees of data abstraction