Module Description

This module is designed as an introduction to Database Design and Development techniques.

Learning Outcomes

On completion of this module the learner will/should be able to:

1. Design a relational database schema for a software application
2. Devise a set of relational tables and develop a relational database.
3. Query a relational database using SQL
4. Evaluate the use of non-relational data storage technologies
5. Prototype a non-relational database model

Indicative Syllabus

Relational Database Design (45%): Relational Database design - Primary Keys, Foreign Keys. Mapping ERD to a relational schema, data normalisation, relational integrity, keys, indexes; database transactions, ACID properties

SQL (35%): Schema definition: Create, Drop, Alter tables, views, sequences and indexes. Data manipulation in SQL: Insert, update and Delete tables and rows. SQL queries: basic queries, grouping, ordering, built-in SQL functions, joins, subqueries.

Non-relational storage (20%): Schema-less storage (no SQL): XML, Key Value and Document Store

Teaching and Learning Strategy

- Video Lectures.
- Problem based learning.
- Data Modelling Exercises
- Forum Discussions

Assessment Strategy

- Multiple Choice Quizzes
- Case Studies (Data Modelling Problems)
- Project

Repeat Assessment Strategies

- Multiple Choice Quizzes
- Case Studies (Data Modelling Problems)
### Project

**Indicative Coursework and Continuous Assessment:** 100 %

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<th>Percent</th>
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**Full Time Delivery Mode Average Weekly Workload:** 4.00 Hours

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**Online Learning Delivery Mode Average Weekly Workload:** 4.00 Hours

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**Required Reading Book List**


**Literary Resources**

Modern Database Management, Jeffrey A. Hoffer, Mary B. Prescott, Fred R. McFadden, 8th Ed

**Journal Resources**

N/A

**Online Resources**

www.w3schools.com

**Other Resources**

MySQL
XAMPP

**Additional Information**

None

**Programme Membership**

GA_KSOFG_L08 201700 Higher Diploma in Science in Software Development
GA_BANAG_S08 201800 Certificate in Business Analytics