

# Database Systems

## Module Information

2022.01, Approved

### Summary Information

Module Code	5502COMECA
Formal Module Title	Database Systems
Owning School	Computer Science and Mathematics
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

### Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

### Partner Teaching Institution

Institution Name
Education Centre of Australia Pty Ltd

### Learning Methods

Learning Method Type	Hours
Online	44

### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-PAR	PAR	September	12 Weeks

### Aims and Outcomes

Aims	To implement relational database designs using a Relational Database Management System (RDBMS) To employ database connectivity technologies in developing data driven applications. To investigate the administration of a RDBMS. To critically evaluate and implement alternative / non-relational database designs using NoSQL.
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**After completing the module the student should be able to:**

### Learning Outcomes

Code	Number	Description
MLO1	1	Implement relational database designs.
MLO2	2	Develop data driven applications.
MLO3	3	Critically evaluate the advantages and disadvantages of NoSQL.
MLO4	4	Implement alternative / non-relational database designs.

### Module Content

Outline Syllabus	Introducing RDBMS SQL-Components & DDL (for Tables)-DML (for SELECT)-DML (for JOINS & INSERT - UPDATE - DELETE)-Views & Indices (DDL & DML)-SPROCs & Triggers (DDL & DML) Connectivity-Client Server vs Embedded DBs -Connectivity APIs Administration of RDBMS-Security & Permissions-Replicating Data -Optimizing Queries NoSQL-Key-Value & Document Store
Module Overview	
Additional Information	The module begins by exploring the operation of database systems through a scrutiny of modern RDBMS (Relational Database Management Systems), the SQL (Structured Query Language) and database connectivity APIs (Application Programming Interfaces). The module continues by exploring some of the managerial considerations of large-scale RDBMS. The module concludes by exploring the operation of emerging NoSQL (Not Only SQL) database systems. This module thusly represents the logical follow-on to NQF4's Data Modelling module.

### Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Technology	SQL Database Development	60	0	MLO1, MLO2
Portfolio	NoSQL Database Development	40	0	MLO3, MLO4

### Module Contacts

#### Module Leader

Contact Name	Applies to all offerings	Offerings
Glyn Hughes	Yes	N/A

#### Partner Module Team

Contact Name	Applies to all offerings	Offerings
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