

MODULE DESCRIPTOR

Module Title

Database Management

Reference	CB4231	Version	1
Created	June 2021	SCQF Level	SCQF 11
Approved	July 2018	SCQF Points	15
Amended	June 2020	ECTS Points	7.5

Aims of Module

To provide the student with the ability to explain the key concepts of database design and manipulation, using the relational model. To develop the student's skill in the practical implementation of database applications in a relational database management system (RDBMS). To enable the student to explore the main features of a DBMS and different models of database architecture (relational, graph, NoSQL).

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Demonstrate an advanced understanding of different data types and structures
- 2 Design relational and non-relational databases
- 3 Evaluate the most appropriate database platform for a given data management task
- 4 Design, implement and query a database

Indicative Module Content

Introduction to database programming. Conceptual modelling: an introduction to simple entity-relationship modelling. The relational database model: tables, relationships, keys, joins and normalisation; creating tables using SQL. Database queries: an introduction to SQL queries, including the use of sub-queries. DBMS principles and structure. Relational, graph, and NoSQL databases and use cases. Deciding and applying selection criteria. Practical exercises in database development.

Module Delivery

The module is delivered via workshops, industry speakers, case studies, lab tutorials and online exercises.

Indicative Student Workload	Full Time	Part Time
Contact Hours	36	N/A
Non-Contact Hours	114	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4
Description:	Individual Portfolio Assessment comprising of a database and a reflective report				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 100% weighting of C1. An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	The student needs to achieve an A in C1.
B	The student needs to achieve a B in C1.
C	The student needs to achieve a C in C1.
D	The student needs to achieve a D in C1.
E	The student needs to achieve an E in C1.
F	The student needs to achieve an F in C1.
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 HARRINGTON, J. L. (2016) *Relational database design and implementation*. Fourth edition. Amsterdam; Boston: Morgan Kaufmann/Elsevier
- 2 KEMPER, C. (2015). *Beginning Neo4j*. New York: Springer
- 3 LAKE, P. and CROWTHER, P. (2013). *Concise Guide to Databases*. London: Springer
- 4 PLUGGE, E., MEMBREY, P. and HAWKINS, T. (2013). *The definitive guide to MongoDB*. Second edition. New York: Apress
- 5 ROCHKIND, M. (2013). *Expert PHP and MySQL*. New York: Springer