MODULE DESCRIPTOR

Module Title

Data Management

Reference	CMM022	Version	6
Created	April 2018	SCQF Level	SCQF 11
Approved	January 2013	SCQF Points	15
Amended	June 2018	ECTS Points	7.5

Aims of Module

To introduce the key concepts and practical skills in database design and implementation. To explore the main features of a DBMS and key data management concepts and standards.

Learning Outcomes for Module

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

1	Explain the main features of a DBMS and the principles used in database design, including security management.
2	Explain and apply relational database concepts.
3	Compare and contrast the main types of modern database.
4	Design, implement and critically evaluate a database.

Indicative Module Content

The relational database model: tables, relationships, keys, constraints and joins. Database design: E-R modelling and logical modelling. Structured Query Language (SQL): table creation, queries, sub-queries, triggers, functions and procedures. Physical database design: designing indexes, user views and security mechanisms. Data management standards in industry: data management challenges for industry; big data and data streams; tools, standards and techniques for the management, storage, querying and transfer of data. Database types: relational, object, noSQL, databases for the internet.

Module Delivery

Key concepts are introduced and illustrated through lectures and directed reading. The understanding of students is tested and further enhanced through interactive labs. In particular students will progress through a sequence of exercises to develop sufficient knowledge of a relational DBMS environment to enable them to complete the practical implementation of a relational database application.

Indicative Student Workload	Full Time	Part Time
Contact Hours	44	44
Non-Contact Hours	106	106
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	150
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

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

Component 1

Type:	Practical Exam	Weighting:	50%	Outcomes Assessed:	1, 2, 3
Description:	Written examination.				

Component 2

Type:	Practical Exam	Weighting:	50%	Outcomes Assessed:	4
Description:	Practical assessment.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

Component C1 exam grade and Component C2 practical exam combined using following grading grid. An overall grade D is required to pass the module.

		Examination:						
		A	**B**	**C**	**D**	**E**	**F**	**NS**
	A	A	A	B	B	C	E	
	B	A	B	B	C	C	E	
	C	B	B	C	C	D	E	
Coursework:	**D**	B	C	C	D	D	E	
	E	C	C	D	D	E	E	
	F	E	E	E	E	E	F	
	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	CONNOLLY,T and BEGG,C., 2015. Database Systems: A Practical Approach to Design, Implementation and Management. Pearsons.
2	ELMASRI, R and NAVATHE, S.,2015. Fundamentals of Database Systems. 7th Ed. Addison Wesley
3	GORDON, K., 2013. Principles of Data Management: Facilitating Information Sharing. 2nd ed. British Computer Society.
4	VAISH, G.,2013 Getting started with NoSQL. Packt Publishing LTD, ISBN:978-1-84969-4-988
5	HARRISON, G., 2015. Next Generation Databases: NoSQL, NewSQL, and Big Data. Apress.