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## MODULE DESCRIPTOR

### Module Title

Advanced Data Management

Reference	CMM524	Version	1
Created	April 2017	SCQF Level	SCQF 11
Approved	August 2017	SCQF Points	15
Amended		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. To introduce key concepts in handling and managing large volumes of structured and unstructured data.

### Learning Outcomes for Module

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

- 1 Identify, handle and manipulate structured and unstructured data using modern databases.
- 2 Efficiently handle and manipulate large datasets.
- 3 Identify and implement appropriate data management techniques.
- 4 Apply analysis techniques to extract knowledge from data.

### Indicative Module Content

Data Base Management System (DBMS), ER Modelling, Database creation and manipulation. Data Management Standards. Three V's (volume, velocity, veracity). Parsing structured and unstructured data. NoSQL databases. Big Data Eco systems.

### Module Delivery

Key concepts are introduced and illustrated through lectures and directed reading. Laboratory sessions provide a series of exercises designed to develop proficiency in techniques essential to the development of applications.

### Indicative Student Workload

	Full Time	Part Time
Contact Hours	44	N/A
Non-Contact Hours	106	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: Coursework worth 100% of total module assessment.

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

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

Module Grade	Minimum Requirements to achieve Module Grade:
<b>A</b>	The student needs to achieve an A in C1.
<b>B</b>	The student needs to achieve an B in C1.
<b>C</b>	The student needs to achieve an C in C1.
<b>D</b>	The student needs to achieve an D in C1.
<b>E</b>	The student needs to achieve an E in C1.
<b>F</b>	The student needs to achieve an F in C1.
<b>NS</b>	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 VASIH, G.,2013 Getting started with NoSQL. Packt Publishing LTD, ISBN:978-1-84969-4-988
- 3 ELMASRI, R and NAVATHE, S.,2011. Fundamentals of Database Systems. Addison Wesley.
- 4 Lars George, HBase: The Definite Guide , 2011