MODULE DESCRIPTOR

Module Title

Data Warehousing For Business Analytics

Reference	CB4015	Version	2
Created	February 2024	SCQF Level	SCQF 10
Approved	January 2024	SCQF Points	15
Amended	April 2024	ECTS Points	7.5

Aims of Module

This module aims to equip students to conceptualise and develop data warehouses for business intelligence, covering dimensional modelling, ETL processes, and advanced query skills using OLAP tools. Students will gain practical exposure to on-premise and cloud-based data warehouses, enabling them to design, implement, and optimise data solutions for analytics.

Learning Outcomes for Module

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

1	Develop an understanding of data warehousing and its architecture and distinguish a data warehouse from traditional databases, data marts, and data lakes.
2	Conceptualise a data warehouse using dimensional modelling techniques, including star and snowflake schemas.
3	Execute an ETL process, demonstrating an understanding of data extraction, transformation, and loading techniques and ensuring data accuracy, consistency, and efficient storage within the data warehouse.
4	Develop complex analytical queries and reports using multidimensional data models and OLAP tools.
5	Illustrate the differences between on-premise and cloud-based data warehouses, utilising hands-on experiments.

Indicative Module Content

Introduction to Data Warehousing; Dimensional Modelling Techniques; ETL Processes and Data Quality; Advanced Analytical Queries utilising OLAP; On-Premise vs. Cloud-Based Data Warehouses. The module engages students with UNESCO's Education for Sustainable Development Strategic, Critical Thinking, and Integrated Problem-solving competencies to recognise, understand, and evaluate existing data pipelines and develop appropriate strategies for fostering sustainable data culture and analytics in a business environment.

Module Delivery

The module is delivered via lectures, 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
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:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	Individual Portfolio Assessment				

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 of 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. INMON, W.H., LINSTEDT, D., LEVINS, M. and INMON, W.H.H. (2019) Data architecture: a primer for the data scientist: a primer for the data scientist. 2nd edn. San Diego: Elsevier Science.

2. NAMBIAR, A. and MUNDRA, D. (2022) 'An overview of data warehouse and data lake in modern enterprise data management', Big Data and Cognitive Computing, 6(4), p. 132. doi:10.3390/bdcc6040132.

3. PONNIAH, P. (2010) Data warehousing fundamentals for IT professionals. 2nd edn. Hoboken, NJ: John Wiley & Sons.

4. VAISMAN, A. and ZIMANYI, E. (2014) Data warehouse systems: design and implementation. Berlin: Springer.