

Module Title Business Intelligence	Reference CM4019 SCQF SCQF Level 10 SCQF Points 15 ECTS Points 7.5 Created March 2007
Keywords Data Warehousing, Online Analytical Processing (OLAP), Data Analysis, Data Virtualisation	Approved August 2007 Amended June 2015 Version No. 3

This Version is No Longer Current

The latest version of this module is available [here](#)

Prerequisites for Module

CM2020 Introduction to Databases (or equivalent)

Data Virtualisation (DV): Agile BI, DV for BI, DV Servers.

Corequisite Modules

None.

Indicative Student Workload

<i>Contact Hours</i>	Full Time
Assessment	3
Laboratories	24
Lectures/Tutorials	24

Precluded Modules

None.

Aims of Module

To introduce the main concepts and key components of Business Intelligence (BI) techniques and applications including data warehousing, OLAP and data analysis.

Directed Study

Coursework	12
Preperation	
Directed Reading	35

Private Study

Private Study	52
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Mode of Delivery

Learning Outcomes for Module

On completion of this module,

Key concepts are introduced and illustrated through lectures and directed reading. The

students are expected to be able to:

1. Identify and explain the main concepts and key components of a BI application.
2. Describe, analyse and apply a methodology for designing a BI application.
3. Explain and analyse the key techniques of BI applications.
4. Design, implement and evaluate a BI application.

Indicative Module Content

Data Warehousing: The main concepts and benefits associated with data warehousing.

Architecture of a data warehouse. Methodology for designing data warehouses.

OLAP: The relationship between OLAP and data warehousing. Key features of OLAP applications. Representing multi-dimensional data. OLAP extensions to the SQL standard.

Data Analysis: ETL (Extraction, Transformation and Loading), Data Integration, and Data Analysis.

BI solutions and tools (e.g., Microsoft SQL Server Analysis, Integration and Reporting Services).

understanding of students is tested and further enhanced through interactive tutorials. In the laboratories the students will progress through a sequence of exercises to further their understanding and gain practical experience of BI techniques and applications.

Assessment Plan

	Learning Outcomes Assessed
Component 1	1,2,3
Component 2	4

Component 2 - Coursework.

Component 1 - This is a closed book examination.

Indicative Bibliography

1. CONNOLLY, T., BEGG, C. and STRACHAN, A., 2010. Database Systems - A Practical Approach to Design, Implementation and Management. Addison - Wesley.
2. VAISMAN, A. and ZIMANYI, E., 2014. Data Warehouse Systems: Design and Implementation. Springer.
3. VAN DER LANS, R., 2012. Data Virtualisation for Business Intelligence Systems. Morgan Kaufmann.