

Liverpool John Moores University

Title: DATA WAREHOUSING AND MINING
Status: Definitive
Code: **5126COMP** (121253)
Version Start Date: 01-08-2021

Owning School/Faculty: Computer Science and Mathematics
Teaching School/Faculty: Computer Science and Mathematics

Team	Leader
Glyn Hughes	Y

Academic Level: FHEQ5
Credit Value: 20
Total Delivered Hours: 55
Total Learning Hours: 200
Private Study: 145

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	33
Practical	22

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Technology	AS1	Developing Tabular Models	40	
Technology	AS2	Developing Multi-Dimensional Models	60	

Aims

To investigate data warehousing in context of business intelligence.
To implement the principle models of data warehousing.
To utilize the process of extract, transform & loading in the construction of data warehousing.
To utilize data mining in the pursuit of effective knowledge discovery and decision making.

Learning Outcomes

After completing the module the student should be able to:

- 1 Evaluate the role of data warehousing in supporting business intelligence.
- 2 Implement effective business intelligence solutions using the principle models of data warehousing.
- 3 Demonstrate the extract, transform & loading process in preparing data.
- 4 Demonstrate effective use of data mining methodologies & technologies.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Tabular Models	1	2	4
Multi-Dimensional Models	2	3	4

Outline Syllabus

Introducing Business Intelligence & Data Warehousing

- *Decision Making*
- *OLTP vs OLAP*

Semantic Models

- *Multi-Dimensional Model*
- *Tabular Model*

Platforms & Tools

Extract, Transform & Loading

Tabular Modelling

- *DAX Statements & Expressions*

Multi-Dimensional Modelling

- *Measures & Dimensions*
- *MDX Scripting & Querying*

Modelling, Visualising & Reporting

- *PowerBI*
- *Reporting Services*

Learning Activities

Learning activities include lectures and tutorials where students are encouraged to ask questions / discuss scenarios and supported labs where students are encouraged to put theory gained through lectures and tutorials into practice. Directed reading against appropriate industry and research sources further reinforces learning.

Notes

This module explores two principle models of data warehousing & mining, the long recognised multi-dimensional model and the more recently recognised tabular model. Beginning with a study into the key factors that characterise and differentiate business intelligence systems from database systems, the module continues by exploring the methodologies and technologies that support these two models. This module thusly represents the logical follow-on to NQF5's Database Systems module.