

Liverpool John Moores University

Title: INNOVATIONS IN SOFTWARE DEVELOPMENT
Status: Definitive
Code: **6128COMP** (121305)
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: FHEQ6
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
Report	AS1	Investigation Concerning ETL	40	
Technology	AS2	BI DashBoard Development	60	

Aims

To investigate the role and functionality of data warehouses in support of business intelligence.

To evaluate the process of extract, transform & loading in the construction of data warehouses.

To investigate the differing platforms available for business intelligence reporting.

To develop service oriented applications that support business intelligence dashboards.

Learning Outcomes

After completing the module the student should be able to:

- 1 Investigate the construction of data warehouses in support of business intelligence.
- 2 Design reporting solutions for business intelligence.
- 3 Develop business intelligence dashboards through service oriented applications.

Learning Outcomes of Assessments

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

Investigation concerning ETL	1	
BI Dashboard Dev	2	3

Outline Syllabus

Analytical Limitations of Relational Databases Systems

Business Intelligence & Analytical Database

*Multi-Dimensional Modelling
Star & Snow Flake Schemas.
Cubes
Aggregations
MOLAP, ROLAP & HOLAP*

Analytical Extensions to SQL

Extract Transform & Loading

*Reporting Platforms
Web Based Reporting Services*

Thin/Fat Clients & Servers

*Platforms for Business Intelligence Dashboards
Web Services
Object Relationship Mapping
Object Oriented Programming
Presentation of Data*

Learning Activities

Learning activities include lectures and practical sessions 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 a growing area of database systems, that of the analytical database. It explores the rapid growth of business intelligence data and the complex data models that are needed to support it. The module continues by exploring the platforms and processes that report such data through both web based and service oriented platforms.