

## Liverpool John Moores University

Title: DATA MODELLING  
Status: Definitive  
Code: **4104COMP** (121202)  
Version Start Date: 01-08-2021

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

Team	Leader
Mark Evans	Y

**Academic Level:** FHEQ4      **Credit Value:** 10      **Total Delivered Hours:** 27.5  
**Total Learning Hours:** 100      **Private Study:** 72.5

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	16.5
Practical	11

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Technology	AS1	Data Modelling Scenario	100	

### Aims

*To introduce the fundamentals of data manipulation and presentation.  
To model and manipulate data using spreadsheet and database based applications.  
To evaluate the advantages and disadvantages of spreadsheet and database based development models.*

### Learning Outcomes

After completing the module the student should be able to:

- 1 Construct spreadsheet based applications from a given set of requirements.
- 2 Create logical and physical entity relationship models from a given set of requirements.
- 3 Construct database based applications from logical and physical entity relationship models.

## **Learning Outcomes of Assessments**

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

Data Modelling Scenario    1    2    3

## **Outline Syllabus**

*Data Domains, Models & Abstraction*

*SpreadSheet Modelling  
Design, Manipulation & Reporting  
Limitations*

*Logical Data Modelling  
Entities  
Relationships, Cardinality & Optionality*

*Physical Data Modelling  
Tables  
Attributes  
Relationships*

*Functional Dependency & Normalisation  
1NF - 2NF - 3NF*

*Database Modelling  
Designers & Query-By-Example*

## **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 delivers to students the ability to model and manipulate data in various differing scenarios. Student will be required to construct and manipulate data in spreadsheet based applications, then to model data using various data modelling techniques leading towards the construction and manipulation of database based applications.