

Liverpool John Moores University

Title: Introduction to Data Analytics
Status: Definitive
Code: **7010DATSCI** (125172)
Version Start Date: 01-08-2021

Owning School/Faculty: Astrophysics Research Institute
Teaching School/Faculty: Astrophysics Research Institute

Team	Leader
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Academic Level: FHEQ7 **Credit Value:** 20 **Total Delivered Hours:** 60
Total Learning Hours: 200 **Private Study:** 140

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	20
Practical	40

Grading Basis: 50 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	Essay	Written Assignment	30	
Report	Report	Computer Assignment	70	

Aims

The module aims to provide an introduction to students from differing academic disciplines to the key concepts of data types, compilation, management, querying, cleaning and visualisation.

Learning Outcomes

After completing the module the student should be able to:

- 1 Critically review the properties, structure and limitations of different data sets.
- 2 Query, explore and appraise diverse data sets.
- 3 Construct appropriate data visualisation for diverse data sets.

Learning Outcomes of Assessments

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

Written Assignment	1		
Computer Assignment	1	2	3

Outline Syllabus

1. *What is data? Introduction to sampling theory.*
2. *What is data science? The role of the data scientist.*
3. *Structured vs unstructured data. Relational databases and queries.*
4. *Dimensionality of data. Time series. Images. Multi-attribute data sets.*
5. *Metadata and ontologies.*
6. *Data cleaning.*
7. *Data vs information. Information retrieval.*
8. *Data visualization.*
9. *Presentation of data analysis.*

Learning Activities

Lectures
Directed Reading
Supervised Computer Lab activities
Unsupervised Lab activities
Production of Reports

Notes

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