

Summary Information

Module Code	7010DATSCI
Formal Module Title	Introduction to Data Analytics
Owning School	Astrophysics Research Institute
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Ivan Baldry	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
Sandra Ortega Martorell	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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Teaching Responsibility

LJMU Schools involved in Delivery
Astrophysics Research Institute
Computer Science and Mathematics

Learning Methods

Learning Method Type	Hours
Lecture	20
Practical	40

Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

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.
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Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Critically review the properties, structure and limitations of different data sets.
MLO2	Query, explore and appraise diverse data sets.
MLO3	Construct appropriate data visualisation for diverse data sets.

Module Content

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.

Module Overview
This module aims to provide an introduction to the key concepts of data compilation, management, querying, cleaning and visualisation.

Additional Information

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Report	Written Assignment	30	0	MLO1
Report	Computer Assignment	70	0	MLO2, MLO1, MLO3