

## Big Data Computing

### Module Information

2022.01, Approved

#### Summary Information

Module Code	7012DATSCI
Formal Module Title	Big Data Computing
Owning School	Astrophysics Research Institute
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

#### Teaching Responsibility

LJMU Schools involved in Delivery
Computer Science and Mathematics

#### Learning Methods

Learning Method Type	Hours
Lecture	20
Practical	40

#### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-CTY	CTY	September	12 Weeks

#### Aims and Outcomes

Aims	The module aims to develop skills in modern computing techniques for high performance analysis of large data sets and an understanding of how to translate an analysis problem to best exploit such techniques.
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**After completing the module the student should be able to:**

### Learning Outcomes

Code	Number	Description
MLO1	1	Analyse the unique features of Big Data analysis, its architectural components and the programming models used.
MLO2	2	Synthesize appropriate data models to suit the characteristics of the data
MLO3	3	Evaluate traditional and Big Data Management Systems and their different implementations.
MLO4	4	Synthesize the skills taught in the module in the context of creation of a big data information system.

### Module Content

Outline Syllabus	1. The Big Data landscape including examples of real world big data problems 2. Architectural components and programming models used for scalable big data analysis 3. Hadoop and MapReduce 4. Suitable data models 5. Techniques to handle streaming data 6. Big Data Management System 7. Big Data Information System
Module Overview	This module aims to develop skills in modern computing techniques for high performance analysis of large data sets. It also provides an understanding of how to translate an analysis problem to best exploit such techniques.
Additional Information	

### Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Exam	In-class test	30	0	MLO2
Report	Design a big data system	70	0	MLO1, MLO2, MLO3, MLO4

### Module Contacts

#### Module Leader

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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