

Summary Information

Module Code	5124COMP
Formal Module Title	Data Science and Analytics
Owning School	Computer Science and Mathematics
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Computer Science and Mathematics

Learning Methods

Learning Method Type	Hours
Lecture	33
Practical	22

Module Offering(s)

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

Aims and Outcomes

Aims	To contextualize the place of data science and the data analysis process in the organization To introduce the hierarchy and uses of different analytical approaches
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Distinguish between the component parts of enterprise information management systems and the place and purpose of data analytics and data science within those systems.
MLO2	2	Identify and differentiate the component parts of the data analysis process.
MLO3	3	Differentiate between the types of analytic approaches available and what each can produce

Module Content

Outline Syllabus	Enterprise information management systems Enterprise Information Management (EIM) Enterprise Data Analytics (EDA) Enterprise Data Science (EDS) Enterprise Architecture (EA) Enterprise solutions (ES) Data Analysis Process Data Analytics Types Descriptive Analytics – summarize “historical” data Decision Analytics – distil data into manageable sets to optimise decision-making Predictive Analytics – forecast future outcomes Prescriptive Analytics – identify possible future actions and their effects Detailed examples of descriptive and decision analytics in practice The data science process Raw data collection Data cleansing Exploratory data analysis Machine learning, algorithms, statistical models Communicate, Visualization, Report findings Build data product Cases studies in data analytics/science
Module Overview	
Additional Information	This module contextualises the roles of data science and data analytics in organisations to demonstrate their differing contributions to those organisations. In doing so, a hierarchy differing type of analytics are introduced and differentiated from data science in terms of purpose. This module lays the groundwork for the development of these areas in future modules, although descriptive and decision analytics are covered in detail here.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Report	Data Analytic/Science Exercise	60	0	MLO2
Centralised Exam	Examination	40	1.5	MLO1, MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings

Partner Module Team

Contact Name	Applies to all offerings	Offerings