Introduction to Data Science

Module Information

2022.01, Approved

Summary Information

Module Code	6107STATS
Formal Module Title	Introduction to Data Science
Owning School	Computer Science and Mathematics
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 6
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Computer Science and Mathematics

Learning Methods

Learning Method Type	Hours
Lecture	25
Practical	30

Module Offering(s)

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

Aims and Outcomes

Aims	The Introduction to Data Science module aims to introduce students to the Data Science field, providing them with a wide range of methods and state-of-the-art technologies that are on demand in the job market.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Conceptually understand the theoretical basis of key data science methods.
MLO2	2	Apply state-of-the-art data science technologies to develop rigorous and creative solutions.
MLO3	3	Critically evaluate the quality and suitability of the solution provided.
MLO4	4	Create effective data visualisations and data transformations.
MLO5	5	Demonstrate effective written and oral communication skills and an ability to confidently present data science solutions to a variety of audiences.

Module Content

Outline Syllabus	Introduction to the Data Science area and its context, challenges and the opportunities it brings.Theoretical basis of key data science methods for exploratory and predictive analysis.Application and evaluation of data science models.State-of-the-art data science technologies.Effective data visualisations and data transformations.How to structure a Data Science project.
Module Overview	
Additional Information	This module will start by introducing the theoretical basis of key data science methods using previously learnt programming languages and tools, while gradually moving on to introduce other state-of-the-art data science technologies. The delivery will be supported by a wide range of examples and practical activities.The portfolio assessment is composed of two activities: 1) an in-class test (part A) and 2) a data science project (part B). Both activities will be individual and tutor assessed. Part A will assess the student comprehension of the module topics via solving quick practical data science problems; while part B will assess the student ability of producing an integrated solution to a closer-to real-world data science project. Introduction to Data Science will provide an opportunity to learn the full cycle of a data science project solution.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Portfolio	Portfolio	100	0	MLO1, MLO2, MLO3, MLO4, MLO5

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