Data Mining Knowledge Acquisition

Module Information

2022.01, Approved

Summary Information

Module Code	5557NCCG
Formal Module Title	Data Mining Knowledge Acquisition
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
LJMU Partner Taught

Partner Teaching Institution

Institution Name
Nelson and Colne College Group

Learning Methods

Learning Method Type	Hours
Lecture	60

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-PAR	PAR	January	12 Weeks
SEP-PAR	PAR	September	12 Weeks

SEP_NS-PAR	PAR	September (Non-standard start date)	12 Weeks

Aims and Outcomes

Aims	This module will introduce the theoretical foundation of data mining and knowledge acquisition together with practical experience of a range of related processes and techniques.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Discuss the historical and theoretical foundation of data mining, its scope, techniques, and processes
MLO2	2	Investigate a range of data mining techniques to discover patterns and relationships in large data sets
MLO3	3	Illustrate how a data mining algorithm performs text mining to identify relationships within text.
MLO4	4	Evaluate a range of graph data mining techniques that recognise patterns and relationships in graph-based technologies.

Module Content

Outline Syllabus	Data mining terminologies.Scope of data mining: Classification, regression and clustering. Data mining algorithms: Classification algorithms, regression algorithms and clustering algorithmsText mining. Overview to natural language processing. Document preparation and similarities. Clustering methods. Topic Modelling. Presentation methods of textPatterns and relationships in data. Unstructured data and graph-based technologies. Networks and network analysis. Graph algorithms: graph pattern mining, graph classification, graph clustering, and so forth. Content mining, structure mining and usage mining. Graph data mining toolsKnowledge acquisition from data. Construction of knowledge-based systems.
Module Overview	
Additional Information	

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Technology	Data Mining Exercise	30	0	MLO2
Report	Assignment	70	0	MLO1, MLO3, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings

| Silvester Czanner | Yes | N/A |

Partner Module Team

Contact Name	Applies to all offerings	Offerings