

ANL305 Association and Clustering

Level: 3

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JULY

Synopsis:

ANL305 Association and Clustering equips students with the skills and knowledge in applying Association Rule Mining, Clustering, as well as related unsupervised learning techniques. The course covers general approaches to developing analytics solutions when confronted with real-world problems. Students will learn how to address the problems using the techniques taught in this course. Last but not least, students will also be exposed to applying unsupervised data exploration and analysis using cloud services.

Topics:

- Introduction to Association and Clustering
- Basic Unsupervised Learning: Nearest Neighbours and Dimension Reduction
- Data Exploration and Preparation for Rule Mining
- Association Rule Mining: Apriori and CARMA
- Visualization of Association Rules
- Sequence Pattern Mining
- Data Exploration and Preparation for Clustering
- Partitional Clustering
- Hierarchical Clustering
- Self-Organising Map
- Two-Step Clustering
- Applying Unsupervised Learning on Cloud Services

Learning Outcome:

- Discuss various conceptual or practical aspects of applying association and clustering
- Appraise the application of an unsupervised learning method in a given context
- Compare different techniques for association and clustering
- Construct association or clustering models using appropriate software
- Evaluate the performance of unsupervised learning models
- Analyse and interpret the results of association and clustering

Assessment Strategies (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	QUIZ 1	6
	TUTOR-MARKED ASSIGNMENT 1	24
	GROUP BASED ASSIGNMENT 1	20

Overall Examinable Components	Written Exam	50
Total		100

Assessment Strategies (Online Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	PRE-CLASS QUIZ 1	2
	PRE-CLASS QUIZ 2	2
	PRE-COURSE QUIZ 1	2
	DISCUSSION BOARD 1	10
	GROUP BASED ASSIGNMENT 1	10
	PARTICIPATION 1	6
	TUTOR-MARKED ASSIGNMENT 1	18
Overall Examinable Components	Written Exam	50
Total		100