AMRITA VISHWA VIDYAPEETHAM
DEPARTMENT OF MANAGEMENT, KOCHI
MBA PROGRAMME 2016-18
Trimester VI (January-April 2018)

Applied Business Analytics

Course Instructor: Mr Rakesh Pillai

Course Outline and Session Plan

Course Description and Objectives

In this world of marching science and galloping technology, the problems faced by decision makers in today's competitive business environment are often extremely complex.

- Business Analytics guides and helps organizations to use data and glean insights to make sound business decisions in multiple possible interesting ways.
- Evaluating these alternatives and gaining insight from past performance is the essence of business analytics.
- This course is an application of Business Analytics that discusses the benefits of employing the famous/ widely used analytics technique and a structured approach to problem-solving.

Course objectives and Outcomes

LG / CO	Critical and integrative Thinking	Effective written and oral communication	Societal and Environmental Awareness	Ethical Reasoning	Leadership
CO1: Knowledge	3	1	0	1	0
CO2: Skill sets: Analytics Tools	3	1	0	1	0
CO3: Solving problems	3	1	0	1	0

Course contributes mostly to: Employability/ Skill Development/ Value-add

Course Outline

MODULE 1 – Introduction to Data Mining

- Introduction to Data Mining – components, primary goals, tasks, real life case studies, applications
- Supervised Vs Unsupervised Learning – definition, examples
- Overall process flow – industry scenario and example.

MODULE 2 – Clustering (Part I)

- Introduction to Clustering – definition, purpose, goals, real life case studies, examples
- Clustering Algorithms – types, examples
- Distance and similarity – differences, pair wise distances for numeric, distances for binary data, importance of standardization, dataset

Hands on using Excel Miner**.** *Students will also be introduced to R*

MODULE 3 – Clustering (Part II)

- K-means Clustering – introduction, algorithm at high level and in detail, examples
- Hierarchical Clustering – introduction, algorithm at high level and in detail, examples
- Applications and Examples
- Limitations and challenges

Hands on using Excel Miner**.** *Students will also be introduced to R*

MODULE4 – Regression (Part I)

- Regression – An Overview
- Simple linear regression – Assumptions; Model estimations; Goodness of Fit; Residuals; Regression diagnostics; Heteroscedasticity

Hands on using R

MODULE 5 – Regression (Part II)

- Multiple Linear Regression – Complete as well as Step-wise; Goodness of Fit (Adjusted R-square, AIC, BIC); Regression diagnostics; Residuals; Multicollinearity
- Model Validation and Accuracy Measurement - Cross validation, MAPE, RSE

Hands on using R

MODULE6 – Advanced Analytic Techniques and Applications

- An insight into business problems faced by various industries and the possible techniques used.
- Advanced Analytics - Sentiment Analysis, Fraud Analytics, Web Analytics