

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus of BBA in Business Analytics (In-house)
(Effective for 2020-2021 Admission Session)
Choice Based Credit System
140 Credit (3-Year UG) MAKAUT Framework
w.e.f 2020-21

Semester-IV

Paper Name: Predictive Analytics

Paper Code: BBA (BA) 401

Total Credit: 6

Total hours of lectures: 60 hours

Course Outcomes:

After the completion of this course the students will be able to

1. Apply specific statistical and predictive analysis methods applicable to real life scenario.
2. Evaluate the appropriateness and validity of models and able to interpret and report the results for a management audience.
3. Apply Univariate, Bivariate and Multivariate predictive analytical techniques to solve problems.
4. Evaluate the effectiveness of various classification problems to gain effective real life and business-related solutions.

Sl.	Topic/Module	Hours
1.	Module 1: Introduction to Analytics: Overview, Definition, Need, Analytics in decision making, Game changer and innovator, Power of analytics, Predictive Analytics.	5
2.	Module 2: Types and techniques of Predictive Analytics, Application of Predictive Analytics in Manufacturing, Health, Telecommunication, Supply Chain, Information Technology etc. Digital Analytics.	5
3.	Module 3: Simple Linear Regression (SLR): Introduction, Overview, Importance, Types, SLR: Model Building, OLS Estimation, Model interpretation, validation.	8
4.	Module 4: Multiple Linear Regression: Multiple Linear Regression, Estimation of Regression Parameters, Model Diagnostics, Introduction to Dummy, Derived & Interaction Variables, Multi-collinearity, Model Deployment, Demo using software.	8

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5.	Module 5: Logistic Regression: Discrete choice models, Logistic Regression, Logistic Model Interpretation, Logistic Model Diagnostics, Logistic Model Deployment, Demo using software.	8
6.	Module 6: Introduction to Decision Trees: Overview, Application, Terminologies, And Model validation, Introduction to Chi-Square Automatic Interaction Detectors (CHAID), Classification and Regression Tree (CART).	10
7.	Module 7: Introduction to Unstructured data analysis and other classifiers: Sentiment Analysis, Naïve Bayes algorithm.	8
8.	Module 8: Introduction to Forecasting and Time series Analysis: Forecasting, Time Series Analysis, Additive & Multiplicative models, Forecasting Accuracy, Moving average models, Exponential smoothing techniques.	8

Suggested Readings:

1. Eric Siegel: Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die, Wiley.
2. Bari: Predictive Analytics for Dummies, Wiley.
3. Dr. Anasse Bari, Mohamed Chaouchi: Predictive Analytics for Dummies , John Wiley & Sons.
4. NamakumR N Prasad , Seema Acharya : Fundamentals of Business Analytics, Wiley.
5. Alvaro Fuentes: Hands-On Predictive Analytics with Python: Master the complete predictive analytics process, from problem definition to model deployment, Ingram short title.
6. Stephen Sorger. Marketing Analytics - Strategic Models and Metrics, Amazon Digital Services.

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Paper Name: Supply Chain Management
Paper Code: BBA(BA) 402

Total Credit: 6

Total hours of lectures: 60 hours

Course Outcomes:

After the completion of this course the students will be able to

1. examine the fundamentals of elements and functions of logistics, supply chain, role of drivers and demand forecasting.
2. assess the various frameworks of the supply chain management.
3. analyze the importance of logistics in the formulation of the business strategy and the conduct of supply chain operations.
4. apply the basics of Supply Chain Analytics and its application in Supply Chain Management.

Sl.	Topic/Module	Hours
1.	Module 1: Concept of logistics: Introduction, Objective, Types, Concept of Logistic Management, Evolution, Role of logistics in economy, Difference between logistics and supply chain, Logistics and Supply Chain Management, Logistic mix, Logistics and competitive advantage.	10
2.	Module 2: Integrated logistics: Introduction, Objective, Concept of Integrated Logistics, Information flow, Inventory flow, Inventory Ownership, Measurement system, Barriers, Logistics Performance Cycle, Procurement Performance Cycle.	10
3.	Module 3: Introduction to Supply Chain: Introduction, Objective, Concept, Defining Value Chain, Organisation Level Activities, Industry level, Value Reference Model, Functions, Contributions, Creating Value, Leveraging Value Chain Partners.	10
4.	Module 4: Framework for Supply Chain Management, Supply Chain Effectiveness, Supply Chain Relationship, Building long-Term Relationship with Vendors.	8

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5.	Module 5: Sourcing strategy: Manufacturing management, Make or buy decision, Capacity management, Materials Management, Choice of sources, Procurement planning.	6
6.	Module 6: Demand Forecasting: Introduction, Objective, Concept and impact of Demand Forecasting, Forecasting Process and Techniques.	8
7.	Module 7: Supply Chain Management from Indian Perspective.	2
8.	Module 8: Introduction to Supply Chain Analytics: Introduction to Tools and Techniques (Inventory Management Decisions-Multi-item, Deterministic Constraint Models & probabilistic Models, AHP Applications, optimization for SCM supported.).	6

Suggested Readings:

7. Sunil Chopra: Supply Chain Management, Pearson Prentice Hall.
8. Sunil Chopra, Peter Meindl, D.V. Kalra: Supply Chain Management, Pearson.
9. Michael Hugos: Essentials of Supply Chain Management, Wiley.
10. Richard B, Ravi Shankar, F. Robert Jacobs: Operations and Supply Chain Management, McGraw Hill Education.
11. James Stevens: Supply Chain Management: Strategy, Operation & Planning for Logistics Management, Createspace Independent Pub.
12. Ashley McDonough: Operations and Supply Chain Management Essentials You Always Wanted to Know, Vibrant Publishers.

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Paper Name: Customer Relationship Management
 Paper Code: BBA(BA) 403

Total Credit: 6

Total hours of lectures: 60 hours

Course Outcomes:

After the completion of this course the students will be able to

1. demonstrate the concepts, terms, benefits of CRM, how CRM creates value for organizations and customers.
2. examine tools and techniques useful in implementing customer relationship management along with how to evaluate the successfulness.
3. interpret CRM Metrics to manage better customer relationship
4. develop customer related database for CRM

Sl.	Topic/Module	Hours
1.	Module 1: Introduction to CRM: Definition, Components, Models, Contexts.	6
2.	Module 2: Understanding Relationship: Relationship, loyalty, Relationship quality, Customer lifetime value, Customer Satisfaction.	8
3.	Module 3: Managing Customer Lifecycle: Customer acquisition, customer retention, Introduction to Customer Life-time Value, calculation.	8
4.	Module 4: Types of CRM: Types, Difference, Subcomponents of each type.	8
5.	Module 5: Strategic CRM: Customer Portfolio Management, Delivering customer-experienced value, CRM metrics.	8
6.	Module 6: Operational CRM: Introduction to Sales Force Automation, Marketing Automation, Service Automation, CRM metrics.	8
7.	Module 7: Analytical CRM: Customer-related databases, Development and managing customer-related databases, CRM metrics.	8
8.	Module 8: Realizing Benefits of CRM and Looking in to future: Implementing CRM, Social CRM, Collaborative CRM, e-CRM.	6

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Suggested Readings:

1. Francis Buttle: Customer Relationship Management: Concepts and Tools, Routledge.
2. [Francis & Stan Maklan Buttle](#): Customer Relationship Management : Concepts and Technologies, T&F India
3. Jagdish N Sheth, Parvatiyar Atul, et al. Customer Relationship Management: Emerging Concepts, Tools and Applications, McGraw Hill Education.
4. Dr. Ruchi Jain and Dr. Ruchika Jeswal: CRM Customer Relationship Management: a conceptual approach, Galgotia Publishing Company.
5. Lars Helgeson: CRM for Dummies, Wiley.
6. Payne : Strategic Customer Management: Integrating Relationship Marketing and CRM, Cambridge University Press.

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Paper Name: Data Analysis using R
Paper Code: BBA BA) 405

Total Credit: 2

Total hours of lectures: 20 hours

Course Outcomes:

After the completion of this course the students will be able to

1. identify variables, syntaxes, operations, and conditional statements.
2. illustrate the data types & data structures, subletting in R, data import, export, control Structures & user defined functions
3. apply appropriate R packages to solve problems.
4. make use of statistical analysis and data mining techniques to solve business problems

Sl.	Topic/Module	Hours
1.	Module 1: What is R?Basic Operations in R.	2
2.	Module 2: Data Types & Data Structures in R. Subsetting in R	2
3.	Module 3:Data Import & Export.	2
4.	Module 4: Introduction to R Packages.	1
5.	Module 5: Control Structures & User Defined Functions.	5
6.	Module 6: Introduction to Statistical Analysis & Data Mining.	8

Suggested Readings:

13. Dr. Mark Gardener: Beginning R: The Statistical Programming Language, Wiley.
14. Jeeva Jose: Beginners Guide for Data Analysis using R Programming, Khanna Publishing.
15. SandipRakshit: Statistics with R Programming, McGraw Hill Education.
16. SandipRakshit: R Programming for Beginners, McGraw Hill Education.
17. Andrie de Vries ,JorisMeys: R Programming for Dummies, Wiley.
18. Jared P. Lander: R for Everyone: Advanced Analytics and Graphics, Pearson Education.