IIT Mandi
Proposal for a New Course

Course number	: MB579
Course Name	: Marketing Analytics
Credit Distribution	: 2-0-0-2 (L-T-P-C)
Intended for	: MBA
Prerequisite	: A basic course is Marketing
Mutual Exclusion	: None

1. Preamble:

This course intends to impart knowledge and skills, and confidence to understand marketing data for improved decision-making. Students will get an opportunity to think like a data scientist, build their problem-solving skills, and discover how to look at data in new ways to deliver business insights and make intelligent data-driven decisions. They will also learn how to clean, explore, and visualize data, implement machine learning algorithms and build models to make predictions. In this course, students will work with relevant datasets that simulate real-world market analysis projects.

2. Course Modules with quantitative lecture hours:

Unit 1: Marketing Analytics Introduction (5 hours)

Data Science and Marketing: Technical requirements; Trends in marketing; Applications of data science in marketing; Setting up the Python environment; Setting up the R environment

Data Preparation and Cleaning: Introduction; Data Models and Structured Data; Data Manipulation

Data Exploration and Visualization: Introduction; Identifying and Focusing on the Right Attributes; Fine Tuning Generated Insights; Visualizing Data

Unit 2: Descriptive and Explanatory Analysis (8 Hours)

Key Performance Indicators and Visualizations: KPIs to measure performances of different marketing effortsComputing and visualizing KPIs using Python; Computing and visualizing KPIs using R

Drivers behind Marketing Engagement: Using regression analysis for explanatory analysis; Regression analysis

Engagement to Conversion: Decision Trees and their interpretation

Segmentation: Approaches to Segmentation; Choosing Relevant Attributes (Segmentation Criteria); K-Means Clustering; Evaluating and Choosing the Best Segmentation Approach

Predicting Customer Revenue Using Linear Regression: Introduction; Regression Problems; Feature Engineering for Regression; Performing and Interpreting Linear Regression

Unit 3: Product Marketing and visibility (4 Hours)

Product Analytics; The importance of product analytics; Product analytics using Python; Product analytics using R

Recommending the Right Products: Collaborative filtering and product recommendation; Building a product recommendation algorithm

Unit 4: Personalized Marketing (8 Hours)

Exploratory Analysis for Customer Behavior: Customer analytics – understanding customer behavior; Conducting customer analytics, market basket analysis

Predicting the Likelihood of Marketing Engagement: Predictive analytics in marketing; Evaluating classification models; Predicting the likelihood of marketing engagement

Customer Lifetime Value: CLV; Evaluating regression models; Predicting the 3 month CLV

Predicting Customer Churn and retention: Introduction; Classification Problems; Logistic Regression; Creating a Data Science Pipeline, cohort analysis

Unit 5: Social Media and Text analysis (3 Hours)

Value to marketing; background, methods; scraping from websites; visualizing text analysis

References:

Laboratory/practical/tutorial Modules:

Not Applicable

3. Text books:

Yoon Hyup Hwang (2019) Hands-On Data Science for Marketing: Improve your marketing strategies with machine learning using Python and R. Packt Publishing Limited, ISBN-13 : 978-1789346343

4. References:

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Mirza Rahim Baig, Gururajan Govindan, Vishwesh Ravi Shrimali (2021) Data Science for Marketing Analytics: A practical guide to forming a killer marketing strategy through data analysis with Python, 2nd Edition, Packt Publishing Limited, ISBN-13 : 978-1800560475

Chapman, Chris and Elea McDonnell Feit (2019) R for Marketing Research and Analytics, Springer. ISBN: 978-3030143152

5. Similarity with the existing courses: None
(Similarity content is declared as per the number of lecture hours on similar topics)

S. No.		Course Code	Similarity Content	Approx. % of Content
1.	Marketing Management		10%	

6. Justification of new course proposal if cumulative similarity content is >30%:

Not Applicable

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