



# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal - 500 043, Hyderabad, Telangana

## COURSE CONTENT

| MARKETING ANALYTICS LABORATORY                                                                              |                       |                       |   |   |                   |               |     |       |
|-------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|---|---|-------------------|---------------|-----|-------|
| IV Semester: MBA                                                                                            |                       |                       |   |   |                   |               |     |       |
| Course Code                                                                                                 | Category              | Hours / Week          |   |   | Credits           | Maximum Marks |     |       |
| CMBE51                                                                                                      | Elective              | L                     | T | P | C                 | CIA           | SEE | Total |
|                                                                                                             |                       | -                     | - | 4 | 2                 | 40            | 60  | 100   |
| Contact Classes: Nil                                                                                        | Tutorial Classes: Nil | Practical Classes: 40 |   |   | Total Classes: 40 |               |     |       |
| Prerequisite: Marketing Management                                                                          |                       |                       |   |   |                   |               |     |       |
| SDGs Mapped: SDG 9 (Industry, Innovation and Infrastructure), SDG 12 (Responsible Consumption & Production) |                       |                       |   |   |                   |               |     |       |

### I. COURSE OVERVIEW:

This course provides a comprehensive understanding of Marketing Analytics, emphasizing the use of data-driven insights to optimize marketing strategies. Students learn to organize, summarize, and analyze marketing data using MS Excel, pivot tables, slicers, and other analytical techniques. The course covers customer, pricing, segmentation, promotion, and media analytics, allowing students to make informed marketing decisions and measure campaign effectiveness. Practical exercises enhance hands-on experience with real-world datasets.

### II. COURSE OBJECTIVES:

The students will try to learn:

- I. The scope, need, and application of marketing analytics in business decision-making.
- II. The Organize, summarize, and visualize marketing data using MS Excel tools, pivot tables, and crosstabs.
- III. The customer behavior, build personas, map customer journeys, and calculate Customer Lifetime Value (CLV).
- IV. Pricing analytics, including demand estimation, price optimization, and bundling strategies.
- V. Conduct segmentation and promotion analytics to optimize marketing strategies and evaluate campaign effectiveness.

### III. COURSE OUTCOMES:

At the end of the course students should be able to:

- CO1 Recall the definitions, scope, and differences between marketing analytics and marketing research.
- CO2 Organize, summarize, and visualize marketing data using Excel tools, pivot tables, and slicers.
- CO3 Analyze customer data to build personas, track customer behavior, and compute Customer Lifetime Value.
- CO4 Apply pricing analytics techniques to optimize product pricing, bundles, and assess price elasticity.
- CO5 Perform market segmentation using cluster analysis, decision trees, and conjoint analysis.
- CO6 Evaluate promotion and media effectiveness using ad stock models, media allocation models, and simulations.

#### **IV.COURSE CONTENT:**

##### **EXPERIMENT – 1: INTRODUCTION TO MARKETING ANALYTICS**

MS Excel: Introduction, uses, and functions of Excel for marketing data organization. Definition, need, scope, levels, adoption, and application of Marketing Analytics.

##### **EXPERIMENT – 2: MARKETING ANALYTICS VS MARKETING RESEARCH**

Comparison of Marketing Analytics and Marketing Research using sample datasets. Visualizing differences in objectives and outcomes with Excel charts.

##### **EXPERIMENT – 3: DATA ORGANIZATION IN EXCEL**

Organizing marketing datasets, creating tables, applying data validation, sorting, and filtering.

##### **EXPERIMENT – 4: PIVOT TABLES FOR MARKETING DATA**

Creation of Pivot Tables to summarize revenue data month-wise and product-wise. Using Pivot Charts for visualization.

##### **EXPERIMENT – 5: SLICING & DICING DATA**

Applying Report Filters and Slicers, using Pareto Principle to identify top-performing products/customers.

##### **EXPERIMENT – 6: DEMOGRAPHIC ANALYSIS**

Analyzing sales data by Age, Gender, Income, and Location. Constructing crosstabs of two demographic variables using Excel Pivot Tables.

##### **EXPERIMENT – 7: SEGMENTATION ANALYTICS – I**

Cluster Analysis and its applications, location-wise clustering, using Solver to find optimal clusters.

##### **EXPERIMENT – 8: SEGMENTATION ANALYTICS – II**

Using Conjoint Analysis and Decision Trees to segment a market. Introduction to perceptual mapping and identification of white spaces.

##### **EXPERIMENT – 9: POSITIONING ANALYTICS**

Perceptual mapping, umbrella brands, and multidimensional scaling to visualize product positioning.

##### **EXPERIMENT – 10: PRICING ANALYTICS – I**

Pricing goals, price elasticity, estimating linear and power demand curves, using Excel Solver to optimize price for a single product.

##### **EXPERIMENT – 11: PRICING ANALYTICS – II**

Pricing multiple products, incorporating complementary products, using Solver Table. Price bundling, mixed bundling, and evolutionary Solver for optimal bundle pricing.

##### **EXPERIMENT – 12: PROMOTION ANALYTICS**

Promotions and discounting types, measuring effectiveness of advertising using the Adstock Model.

##### **EXPERIMENT – 13: MEDIA SELECTION MODELS**

Linear media allocation, quantity discounts, Monte Carlo media allocation simulation, and Pay-per-Click advertising using Excel simulation.

##### **EXPERIMENT – 14: CUSTOMER ANALYTICS**

Customer journey mapping, building customer personas, conjoint analysis for product choices, calculating Customer Lifetime Value (CLV), sensitivity analysis with two-way tables, and estimating probability of active customers.

#### **V. SOFTWARE / SPREADSHEET TOOLS:**

1. **Microsoft Excel:** <https://www.microsoft.com/en-us/microsoft-365/excel>
2. **Google Sheets:** <https://www.google.com/sheets/about/>

3. **R (for advanced segmentation/analytics):** <https://www.r-project.org/>
4. **Python (for simulations and advanced analytics):** <https://www.python.org/>
5. **Tableau (for dashboards and visualization):** <https://www.tableau.com/>
6. **Power BI:** <https://powerbi.microsoft.com/>

#### **VI. TEXTBOOKS:**

1. Winston, W. L., Marketing Analytics: Data-Driven Techniques with Excel, Wiley, 1st edition, 2014.
2. Malhotra, N., Marketing Research: An Applied Orientation, Pearson, 7th edition, 2019.
3. Sauro, J., Customer Analytics with Excel, Wiley, 1st edition, 2015.

#### **VII. REFERENCE BOOKS:**

1. Venkatesan, R., Marketing Analytics: Strategic Models and Metrics, Springer, 1st edition, 2017.
2. Berry, M. J. A., Data Mining Techniques for Marketing and CRM, Wiley, 3rd edition, 2011.
3. Hart Davis, G., How to Do Everything with Microsoft Excel, Tata McGraw Hill, Revised 1st edition, 2010.

#### **VIII. WEB REFERENCES:**

1. <https://www.analyticsvidhya.com>
2. <https://www.excel-easy.com>
3. <https://www.coursera.org/courses?query=marketing%20analytics>

#### **IX. E-TEXT BOOKS:**

1. <https://www.chegg.com/textbooks/marketing-analytics>
2. <https://www.cengage.com/product/title/marketing-analytics>
3. <https://books.google.com> › Marketing Analytics