

Indian Institute of Technology Kanpur

New Course Proposal

1. **Course Number:** MBAxxx
2. **Course Title:** Data Analysis and Business Modelling using MS Excel and PowerBI
3. **Credits:** 3-0-0-1 [10]

Duration of Course: Full Semester

4. **Proposing Department:** Department of Management Sciences
Other Departments/IDPs which may be interested in the proposed course:
Other faculty members interested in teaching the proposed course:

5. **Proposing Instructor(s):** Sourya Joyee De

6. **Course Description:**

This course aims to equip business students with the essential skills to make data-driven decisions by developing proficiency in business modelling, data analysis, and data visualisation using Microsoft Excel and PowerBI. Emphasizing active and experiential learning, the course integrates hands-on sessions, real-world examples, and case studies of varying complexity. Students will gain practical experience in applying analytical tools, interpreting data insights, and building interactive dashboards, enabling them to solve business problems effectively and support strategic decision-making.

A. Contents:

Sl. No.	Topics	No. of Lectures
1.	Introduction to Excel functions and formulae – cell references, syntax of Excel formula, basic and advanced Excel functions (e.g., count/countifs, sum/sumifs, date and time functions, IF function, logical tests, lookup functions, text functions, etc.), formatting, Dynamic Spilled Array Formulae, Array Functions, Table Formulae, other basic Excel features	7
2.	Modelling with Excel – Building an Excel model, base case analysis, what-if analysis (one-way/two-way data tables, scenario manager), break-even analysis (Goal Seek), use of Excel financial functions in models, optimisation using Excel Solver	7
3.	Data Analysis using Excel and PowerBI – PivotTables, related functions such as PivotBy, GroupBy, etc., Sorting, Filtering, Advanced Filter, Flashfill, PowerPivot, PowerQuery, import, clean, transform, load and combine data, introduction to M Code, DAX, Data Model	8
4.	Data Visualization using Excel and PowerBI – Basics of Effective Data Visualisation, Data Visualisation using Tables, Charts, Conditional formatting and Dashboards, PowerBI for Visualization	6

B. Pre-requisites (if any): None

7. **References:**

1. Winston, W. (2024). *Microsoft Excel Data Analysis and Business Modeling (Office 2021 and Microsoft 365)*, 7th Edition. Pearson Education.
2. Brady, J., & Monk, E. (2018). *Problem-solving cases in Microsoft Access and Excel*, 15th Edition. Cengage.

3. Powell, S. G., & Baker, K. R. (2019). *Business analytics: The art of modeling with spreadsheets*. John Wiley & Sons.

Sourya

Dated: 25/02/2026

Proposer: Sourya Joyee De

Dated:

DUGC/DPGC Convener: Vinay Ramani
25/2/2026

This course is approved/not approved.

Chairman, SUGC/SPGC:

Dated: