

Business Intelligence and Data Visualisation

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Business Intelligence and Data Visualisation	2	0	0	2	12th Pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:

- ☐ To understand data and generate insights from it is by visualising it using a range of data visualization tools available.
- ☐ To understand large volume of data, discover trends, communicate effectively with all stakeholders and influence decisions.
- ☐ To develop Business Analytics skillset about how to create effective charts and interactive dashboards is extremely useful.

Learning outcomes

The Learning Outcomes of this course are as follows:

- ☐ After studying this course, students will be able to understand and describe the main concepts of data visualization.
- ☐ After studying this course, students will be able to determine the right type of graph for different types of data available or provided through hands on experience with handling real data sets.
- ☐ After studying this course, students will be able to read reports, charts, graphs, figures, maps and derive meaning from them.
- ☐ After studying this course, students will be able to create reports, data visualizations, and dashboards using Power BI and Tableau.
- ☐ After studying this course, students will be able to understand how to automate tasks, perform ETL, create data models, perform computations, and present insights using data visualization and dashboards.

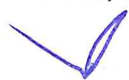
SYLLABUS

Unit-1 (POWER BI)

(5 weeks)

DATA PREPARATION- Connecting to different data sets, Basic data prep and model on Power Query, Drill down and Tooltip, AI visuals (Q&A, Analyze, Decomposition)

DATA VISUALIZATION AND DASHBOARDS- Inbuilt visuals, Custom visuals, Learn from existing reports, Visualization as a Tooltip, Final dashboard – putting it together Filter, slicer, bookmarks, buttons



Unit-2 (POWER BI)**(6 weeks)**

PERFORMING COMPUTATIONS - Combine multiple files and folders, Merge and append, Custom calculations Conditional columns, Column from examples, Advanced Editor.

DAX - Introduction to Measures, Calculated Columns vs Quick Measures, Creating a Date Table, Time Intelligence Functions

POWER BI SERVICE - Publishing to Power BI Service, Power BI dataflows, Dashboards and Cross-Reporting

Unit- 3 (TABLEAU)**(4 weeks)**

VISUALIZATIONS- Introduction to Dimensions and Measures, Bar Chart, Line Chart, Table, Heat Map, Treemap, Packed Bubble, Tooltip

CALCULATIONS- Calculated Fields, Parameters, Introduction to Level of Detail (LOD)

FINAL DASHBOARD- Animations, Tooltips, Dashboard and Stories

Essential/recommended readings

- ☐ The Definitive Guide to DAX – 2nd Edition
Marco Russo Alberto Ferrari
- ☐ M Is for (Data) Monkey: A Guide to the M Language in Excel Power Query
Ken Puls & Miguel Escobar
- ☐ Tableau Your Data! Fast and Easy Visual Analysis with Tableau Software by Daniel G. Murray. 1st Edition, WILEY.
- ☐ Steve Wexler, Jeffrey Shaffer, Andy Cotgreave: The Big Book of Dashboards – visualizing your data using real world business scenarios; Wiley
- ☐ Ryan Sleeper: Practical Tableau
- ☐ Cole Nussabaumer Knaflitz : Storytelling with data- a data visualization guide for business professionals ; Wiley
- ☐ Visualize This: The Flowing Data Guide to Design, Visualization, and Statistics by Nathan Yau. 1st Edition

Useful Weblinks

- <https://docs.microsoft.com/en-us/power-bi/>
- <https://powerbi.microsoft.com/en-us/customer-showcase/>
- <https://powerquery.microsoft.com/en-us/>
- <https://www.sqlbi.com/>

Examination scheme and mode:

Total Marks: 100

Internal Assessment: 25 marks

Practical Exam (Internal): 25 marks

End Semester University Exam: 50 marks

The Internal Assessment for the course may include Class participation, Assignments, Class tests, Projects, Field Work, Presentations, amongst others as decided by the faculty.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.