

Course Instructor: Dr Chiranjib Sur

Course Webpage: <https://chiranjibsuf.github.io/courses/da332.html>

Email: chiranjib@iitg.ac.in

Objectives: Data visualization turns raw data into clear stories, so you can spot patterns, explain insights, and make confident decisions faster. It's a must-have skill for modern careers because the best ideas win only when you can communicate them visually and convincingly.

Prerequisites: Introduction to Statistics, Introduction to Data Science, Basic Programming, Machine Learning, Deep Learning, Data Mining.

Course Code: DA332

Course Name: Data Visualization

Credits: 1-0-3-5

Syllabus: Introduction to data visualization: Definition, Various forms of data visualization; Grammar of graphics: Designing graphs or plots layer-by-layer; Grouping and Faceting; Design Principles; Different chart families: Category, Hierarchical, Relation, Temporal and Spatial (CHRTS); Real time data visualization. Lab assignments and mini projects will be given as per the theory discussed in lectures.

Textbooks:

- K Healy, Data Visualization: A Practical Introduction, 1st Edition, Princeton University Press, 2019.
- Claus Wilke, Fundamentals of Data Visualization: A primer on making informative and compelling figures, 1st Edition, O'Reilly Publications, 2019.

References:

- A Kirk, Data Visualization: A Handbook for Data Driven Design, 2nd Edition, 2019.
- L Wilkinson, The Grammar of Graphics, 2nd Edition, Springer, 2013.