JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
(Established by Govt. of A.P., ACT No.30 of 2008)
ANANTHAPURAMU – 515 002 (A.P) INDIA

MASTER OF BUSINESS ADMINISTRATION
MBA; MBA (General Management); MBA (Business Management)
COMMON COURSE STRUCTURE & SYLLABI

Course Code	Specialization Elective- IV	L	T	P	C
21E00306d	**Data Visualisation & Analytics**	4	0	0	4
	Semester		III		

Course Objectives:

- To explain the significance of data, basic concepts of Data Visualization(DV).
- To give knowledge on dashboard designing, data discovery, exploration, bid data lake and pitfalls of data visualization.
- To familiar with DV techniques and procedure to create, add and edit features for effective visualization of data.
- To impart knowledge on Data Visualization Tools focusing on TABLUE, Power BI and Qlikviews.

Course Outcomes(CO): Student will be able to

- Understand importance of data, analyzing, reasoning about data through visualizations.
- Study more insights of the data for effective decision making.
- List out properties of DV, goals, functions and framework of DV.
- Gain knowledge on dashboard designing, data discovery,exploration,bid data lake and pitfalls of data visualization.
- Acquire knowledge on DV tools TABLEAU, Power BI and Qlikviews to explore meaningful and insightful information in the data.
- Compare and contrast TABLEAU, Power BI and Qlikviews.

UNIT – I		Lecture Hrs: 8

Introduction: Data Visualization Definition, Graphics and Computing, History of Data Visualization, Analyzing Milestone Data, Goals of DV, Functions of Data Visualization, Framework of Data Visualization, Stages of Data Visualization, Properties of Data Visualization

UNIT – II		Lecture Hrs: 12

Dashboard: Design principles, Dashboards, SOC Dashboard, Data Discovery and Exploration, Data requirements for visualization, Big Data Lake, Pitfalls of Data visualization.

UNIT – III		Lecture Hrs:12

Data Visualization Techniques & Visualization data: Creating a Scatterplot, Adding regression line to the scatter plot, plotting categories, Labelling the graph, Legend Layouts, creating a facet, theming, Creating bar charts, Violin plots, density plots, Basic Graphics, the grammar of Graphics & ggplot 2 package (using qplot (), using Geometrics, facets, scaling, Themes and other graphics Transformation), figures with multiple plots.

UNIT – IV		Lecture Hrs:12

Data Visualization Tool: Tableau, Getting started with Tableau, Creating basic charts, Creating common visualizations • Creating dashboard layouts, Using dashboard filters, Creating calculated fields and measures • Using Quick Table calculations.

UNIT – V		Lecture Hrs:12

Data Visualization Tools: Power BI & Qlikview: Getting started with Power Bi- Uploading data to Power BI-Introducing Quick Insights-Introduction to reports- Introducing Visual Interactions- Decorating the report -Saving the report-Pinning a report-Filtering a report – Introduction to Qlikview – difference between Qlik, Power BI & Tableau

Textbooks:

1.Cole Nussbaumer Knaflic, "Storytelling With Data: A Data Visualization Guide for Business Professionals", Wiley publications
2. Kieran Healy , "Data Visualization - A Practical Introduction", Princeton University Press.
3. Scott Berinato , "Good Charts: The HBR Guide to Making Smarter, More Persuasive Data Visualizations", 2016.,
4. Claus O. Wilke, "Fundamentals of Data Visualization", O'Reilly Media, Inc.

Reference Books:

- Anderson, Melissa. 2017. "Data Visualization and the 9 Fundamental Design Principle.
- Alberto Ferrari & Marco Russo, "Introducing Microsoft Power BI", Microsoft press, ISBN: 978-1-5093-0228-4

Online Learning Resources:

https://www.datavis.ca/papers/hbook.pdf
https://cs.stanford.edu/degrees/phd/cs300/jeffrey-heer.pdf
http://byrneslab.net/classes/biol607/readings/Friendly_2008_dataviz_history.pdf
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