



**YASHASWI EDUCATION SOCIETY'S
INTERNATIONAL INSTITUTE OF MANAGEMENT SCIENCES (IIMS),
CHINCHWAD, PUNE**
in association with
SAVITRIBAI PHULE PUNE UNIVERSITY

VALUE ADDED COURSE: DATA ANALYTICS FOR MANAGERS

YEAR : 2022-23

Course Coordinator

Dr Sachin Misal

Trainer

Mr Harshal Patil

Expert, Business Analytics

Syllabi for the Value-Added Course: Data Analytics for Managers

Semester I		Data Analytics for Managers
2 Credit	LTP: 2:2:1	

CO#	COGNITIVE ABILITIES	COURSE OUTCOMES
CO1	REMEMBERING	REMEMBER the basic concepts of Data and they are able to understand the difference between data and information
CO2	UNDERSTANDING	UNDERSTAND various tools that can be utilized used for analysis as well as the data platforms that can support the analytic process and end-to-end workflow
CO3	APPLYING	APPLY principles of data governance and risk management for data
CO4	ANALYSING	EXAMINE the importance of ethical issues and regulations in managing data within a business
CO5	EVALUATING	PROVIDE managers with foundation of the main concepts of data analytics in order to communicate more effectively with appropriate personnel
CO6	CREATING	CREATE an environments which is legal and focuses on data protection and laws and regulation.

Unit I: Introduction to Data Analytics (6 Hours)

Overview of Data Analytics, Importance for Managers, Case Studies on Successful Implementations, Basics of Data and Information, Types of Data: Structured vs. Unstructured Data Collection Methods, Exploratory Data Analysis (EDA), Descriptive Statistics Data Visualization Techniques, Quick EDA Tools (e.g., Excel), Statistical Foundations, Probability and Distributions, Basics of Hypothesis Testing.



Unit II: Data Collection & Visualization: (6 Hours)

Overview of different data sources, including internal and external data, Importance of data quality and strategies for effective data collection, Examples of effective data visualizations and tools, Understanding Big Data, Strategies for fostering a data-driven culture within the organization, Categorization of data into qualitative and quantitative types, Overview of various data collection methods, including surveys, interviews, observations, and experiments.

Unit III: Data Preparation and Cleaning (6 Hours)

Data Preprocessing Techniques, Handling Missing Data, Data Inspection, Dealing with Duplicates, Detect and address outliers, skew analysis results, Data Transformation, Normalize or standardize numerical variables for consistent scale, Create new features or variables that might enhance analysis. Encoding Categorical Variables, Data Scaling, Data Integration, Time Series Data Handling, Data Quality Assurance, Document of the entire data cleaning and preparation process, version control for datasets.

Unit IV: Analytics Tools and Technologies (6 Hours)

Overview of popular analytics tools and technologies, Methods of selecting the right tools based on business needs and resources, Introduction to tools designed for processing and analyzing large volumes of data, Measuring the return on investment (ROI) of data analytics initiatives, AI, SQL, Six Sigma, Tableau, Power BI, Google Analytics, Excel, SAS, etc. BI tools and their role in reporting and dashboard creation.

Unit V: Legal Consideration in Data Management (6 Hours)

Introduction to Data Governance and Compliance, Data Protection Laws and Regulations, Security and Compliance, Strategies for protecting sensitive data and meeting regulatory requirements, Importance of clear and transparent privacy policies, Guidelines for drafting privacy notices, data collection and processing practices, Data Ownership and Rights, Data Security and Encryption, Data Breach Response and Notification, Vendor and Third-Party Risk Management, Record-keeping and Audits, Industry-Specific Regulations, Intellectual Property and Licensing, Data Ethics and Responsible AI, Legal Consultation and Collaboration.

