

## **Curriculum MB-511 (Data Science for Managerial Decisions) Graded Curriculum**

### Units

- Introduction to Data Science
- Information Technology: An Overview
- MIS and Control Systems
- Data Collection and Data Pre-Processing
- Building Information Systems
- Support Systems for Management Decisions
- AI For Managers

### Sub-Units

- Introduction to Data Science
  - Overview of Data Science and its Importance
    - Data Science and its applications.
    - Role of data scientists in various industries.
    - Historical context and evolution of data science.
  - Key Concepts in Data Science
    - Fundamental concepts: data, information, knowledge, and wisdom.
    - Data lifecycle: collection, cleaning, analysis, and visualization.
  - Importance of Data in Decision Making
    - Impact of data-driven decision-making on businesses and society.
    - Case studies demonstrating successful data-driven strategies.
- Information Technology: An Overview
  - Foundations of Information Technology
  - Information Systems and Management
  - Cybersecurity and IT Governance
  - Future Trends in Information Technology

- MIS and Control Systems
  - Introduction to MIS and Control Systems
  - Design and Implementation of MIS
  - Control Systems in Action
  - Challenges and Future Trends
- Data Collection and Data Pre-Processing
  - Introduction to Data Collection
  - Methods of Data Collection in Management
  - Designing Data Collection Instruments
  - Sampling Techniques
  - Data Collection Planning and Management
  - Understanding Data Pre-Processing
  - Data Cleaning Techniques
  - Quality Assurance in Data Pre-Processing
- Building Information Systems
  - Introduction to Information Systems in Management
  - Planning and Designing Information Systems
  - Implementation and Integration of Information Systems
  - Managing and Evaluating Information Systems
- Support Systems for Management Decisions
  - Introduction to Decision Support Systems (DSS)
  - Design and Implementation of Decision Support Systems
  - Enhancing Decision-Making with Advanced DSS Features
  - Implementation Challenges and Future Trends in DSS
- AI For Managers
  - Machine Learning & Deep Learning for Managers
  - Cloud Computing for Managers
  - Generative AI for Managers
  - Building AI Solutions