

MGT 421 Management Information System



Course Objectives:

1. To provide the basic knowledge of information and its application
2. To provide the conceptual knowledge of information system especially the use of MIS
3. To provide an application of KDD for knowledge generation
4. To provide the concept of knowledge management with the use of ICT.

This course covers all of today's leading-edge technologies explaining their relationship to organization and management and emphasize, how managers can and should be involved with system planning, development, and implementation. The course also presents several electronic commerce projects to provide students through a deep exploration of Internet-based electronic commerce functions such as ordering products, making travel arrangements, finding investment support unities.

Course Contents:

Unit I: Information and System Concept --- 6 hours

1. Data and Information:
 1. Introduction
 2. Difference between data and Information

3. Types of Information
4. Component/Dimension of Information
5. Quality
6. Cost and Value of Information
7. Organization Dimension of Information (Information Flow and granularity)
2. System:
 1. System Concepts with a general model
 2. Elements of a system
 3. Types of System
 4. Subsystem
 5. Feedback Control
 6. The systems approach to organization
 7. Application of System Concepts
 8. Mini cases related to Feedback Control
3. Introduction of IS:
 1. Components of Information System
 2. Types of Information System:
 1. Office Information System
 2. Transaction Processing System
 3. Management Information System
 4. Decision Support System
 5. Integrated Information System etc.

Unit II: Management Information System - 4 hours

1. Definitions
2. Historical Development of MIS
3. Characteristics of MIS
4. Components of MIS
5. Advantages and Disadvantages of MIS
6. Role of MIS
7. Importance of MIS for Managers
8. Simple Case study

Unit III: Strategic and Competitive Opportunities -

----- **4 hours**

1. Introduction
2. Organizational Horse Power (OHP)
3. The Strategies for Increasing OHP
4. Selecting and Adopting Organizational Horsepower Strategies
5. Simple Case Study

Unit IV: Data Warehouse and Data Mining - 9 hours

1. Preview of Introduction:
 1. Data
 2. Information
 3. Field
 4. Record
 5. Table
 6. File
 7. Database
 8. Data repository
 9. Data warehouse
 10. Database Management system
 11. Types of data
 12. Objectives of the Database approach
 13. Database system and Hierarchy
2. Knowledge discovery in database (KDD)
3. KDD process
4. Need for a data warehouse
5. Building a data warehouse
6. Data warehousing Terminologies:
 1. OLTP and OLAP with differential table
 2. Data Mart
 3. Metadata
 4. Drill-down and Roll-up Analysis

5. ROLAP and MOLAP
6. Star and Snowflake Schemas
7. Data Mining:
 1. Classification of Data Mining Algorithm
 2. Data Mining Techniques
8. Implementation of Data warehouse and Data Mining (Lab.)

Unit V: Decision Support System and Artificial Intelligence ----- 9 hours

1. Concept of Decision Support System (DSS):
2. Components of DSS
3. Phases of the Decision Making Process
4. Types of DSS:
 1. Group Decision Support System (GDSS):
 1. Phases of GDSS process
 2. Components of GDSS
 2. Geographical Information System
 3. Artificial Intelligence and types
 1. Expert System
 1. Components of Expert System:
 2. Neural Networks
 3. Genetic Algorithms
 4. Intelligent Agent
 4. Combining IT Brainpower System
5. Executive Information and Support Systems:
 1. Enterprise & Executive Information System Concept and Definition
 2. Information needs of Executives
 3. Characteristics and benefits of EIS
 4. Comparing and Integrating EIS and DSS
6. Case study

Unit VI: Managing IT System ----- 3 hours

1. Managing Information
2. Managing Information Technology
3. Managing Knowledge

Unit VII: Knowledge Management ----- 3 hours

1. Introduction
2. Managing Knowledge and Knowledge worker
3. Knowledge Management in E-business

Unit VIII: Legal and Ethical Issues ----- 2 hours

1. Ethical and Social Issues
2. Ethics and Moral Dimension
3. Management Challenges

Unit IX: Implementation of Information System -- ----- 3 hours

1. Change Management
2. Critical Success factors
3. Advanced balanced Scored:
 1. Advanced Strategic foundations development
 2. Advanced objective & strategy map development
 3. Advanced performance management
 4. Implementation & Visualization
 5. Strategic initiative prioritization & management
 6. Advanced scorecard alignment and Cascading
 7. Dashboard
4. Business Analytics

Unit X: Future Trends in MIS ----- 3 hours

1. Trend and information
2. Intellectual Computing (Speech Recognition, decision, making)
3. Technology and mobility
4. Technology Challenges

Laboratory:

1. Implementation of Data warehouse and Data Mining
2. Developing SQL Server Data warehouse from foodmart.mdb using DTS package
3. Implement the ETL process and create the OLAP cubes. And also retrieve the data from the OLAP cubes using MDX Sample Application.
4. Implement a K-nearest neighbour technique to demonstrate prediction and analysis under XL Miner/SPSS.
5. Implement the Decision Tree algorithm to demonstrate the concept of classification using XL Miner/SPSS.

Reference Books:

1. Management Information Systems by Stephen Haag, M Cummings, A Phillips, Tata McGraw Hill P. L., 6th Edition
2. Management Information Systems by P.T. Joseph, Sanjay Mohapatra, PHI
3. Management Information Systems by Indrajit Chatterjee, PHI
4. Management Information Systems by C.S.V. Murthy, Himalayan Publishing House
5. Information Technology for Management by Efraim Turban, Linda Volonino, 7th Edition

