



Course Outline MIS

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| Title: Management Information Systems (MIS) | | |
| Lecturer: M.R. Gholamian Tel: 5067 e-Mail: Gholamian@iust.ac.ir Department: Industrial Engineering | | |
| Prerequisite Principle of Management | | |
| Overview Optional; Bachelor of Industrial Engineering | | |
| Goal Execution of duties by directors to classify and interpret information needed for decision-making in the context of systems and subsystems | | |
| Objectives | | |
| Knowledge or Comprehension Objectives | | |
| <ol style="list-style-type: none"> 1- Introduction to MIS Concepts 2- Introduction to Database 3- Introduction to Enterprise Systems | | |
| Skills Objectives | | |
| <ol style="list-style-type: none"> 1- Data Mining Techniques 2- E-business Modelling 3- Building an E-commerce Presence | | |
| Attitude Objectives | | |
| <ol style="list-style-type: none"> 1- Understand the Role of Information Systems in Organizations 2- Understand the Concept of Business Intelligence (BI) 3- Understand the Concepts Related to E-Commerce | | |
| Materials | | |
| <ul style="list-style-type: none"> - MS Access - Data Mining Software: Clementine, Weka, Rapid Miner, R - Web Page Builder | | |
| Week | Subject | Table of Contents |
| 1 | Basics and Principles of MIS | Theoretical Basics of Information Systems Definitions and Perspectives on Information Systems |
| 2 | Basics and Principles of MIS | Origins of Information Systems Internet Technology Web-based Information Systems |
| 3 | Database Design and Management | Database Concept DBMS Systems |
| 4 | Database Design and Management | Normalization Query with SQL |

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| 5 | Business Intelligence Systems | Data Warehouse & OLAP Knowledge Discovery & Data Mining |
| 6 | Business Intelligence Systems | Data Mining Techniques: - K-means in Clustering - Apriori Algorithm in Association Rules - Decision Tree in Classification |
| 7 | Business Intelligence Systems | <i>Workshop I: Data Mining Software</i> Managing Data Resources |
| 8 | Business Intelligence Systems | The Basics of Business Intelligence Big Data Concept |
| 9 | E-Commerce | Introduction to e-Commerce Types of e-Commerce |
| 10 | E-Commerce | The Concept of Business Model Categorizing B2C & B2B Models |
| 11 | E-Commerce | <i>Workshop II: Business Model Canvas</i> |
| 12 | E-Commerce | Social Commerce Mobile Commerce <i>Workshop III: Building an E-commerce Presence</i> |
| 13 | Enterprise Systems | Enterprise Resource Planning (ERP) - ERP History - ERP Definition - ERP Design |
| 14 | Enterprise Systems | Supply Chain Management (SCM) Systems Customer relationship Management (CRM) Systems Knowledge Management Systems (KMS) |
| 15 | Intelligent Decision Support Systems | Expert Systems Case based Reasoning (CBR) |
| 16 | Intelligent Decision Support Systems | Soft Computing <i>Workshop IV: Introduction to Fuzzy Logic</i> |
| 17 | Intelligent Decision Support Systems | <i>Workshop IV: Introduction to Fuzzy Logic</i> Intelligent Agents |

References

Primary References

- Laudon, K.C. & Laudon, J.P. (2013) Essentials of Management Information System, 10th ed., Prentice Hall.
- Date, C.J. (2012) Database in Depth: Relational Theory for Practitioners, O'Reilly.
- Berry, M. and Linoff, G., (2011) Data Mining Techniques: for Marketing, Sales, and Customer Relationship Management, 3rd Ed., Wiley.
- Sharda, R., Delen D. & Turban, E. (2014) Business Intelligence and Analytics: Systems for Decision Support, 10th ed., Prentice Hall.
- Laudon, K & Traver, C. (2014) E-commerce: Business Technology, Society, 10th ed., Prentice Hall.
- Osterwalder, A., Pigneur, Y. (2010) Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. Wiley.
- Laudon, K.C. & Laudon, J.P. (2013) Management Information Systems: Managing the Digital Firm, 13th ed., Prentice Hall.

Additional References

1. O'Brien, J.A. & Marakas, G.M. (2010) Management Information Systems, 10th ed., McGraw Hill.
2. Turban, E., Volonino, L. Wood, J.R. (2013) Information Technology for Management: Advancing Sustainable, Profitable Business Growth, 9th ed., Wiley.
3. Rainer, R.K., Turban, E. (2006) Introduction to Information Systems: Supporting and Transforming Business, 2nd ed., Wiley.
4. Elmasri, R., & Navathe, S. (2011) Fundamentals of Database Systems, 6th ed., Addison-Wesley.
5. Han, J., Kamber M. & Pei, J. (2011) Data Mining: Concepts and Techniques, 3rd ed., Morgan Kaufmann.
6. Clark. T., Osterwalder, A., Pigneur, Y. (2012) Business Model You: A One-Page Method for Reinventing

Your Career, Wiley.

7. Osterwalder, A., Pigneur, Y., Bernarda, G. & Smith, A. (2014) Value Proposition Design: How to Create Products and Services Customers Want, Wiley.
8. O'Leary, D.E. (2000) Enterprise Resource Planning Systems: Systems, Life Cycle, Electronic Commerce, and Risk, Cambridge University Press.

Classroom Methods (Projects)

- 1- Research on New Trends of Information Systems
- 2- Database Design based on Predefined Problem in the Class using MS Access
- 3- Data Mining on Predefined Dataset using Data Mining Software
- 4- E-Business Design with Canvas
- 5- The Initial Design of an E-commerce Web Site

Evaluation

Final Exam: 60%

Quiz & Take-home: 15%

Projects: 25%