

# *MIS*

## *(Management Information System)*

### *(21-972)*

*Department of Industrial Engineering*  
*Sharif University of Technology*

*Session # 1*



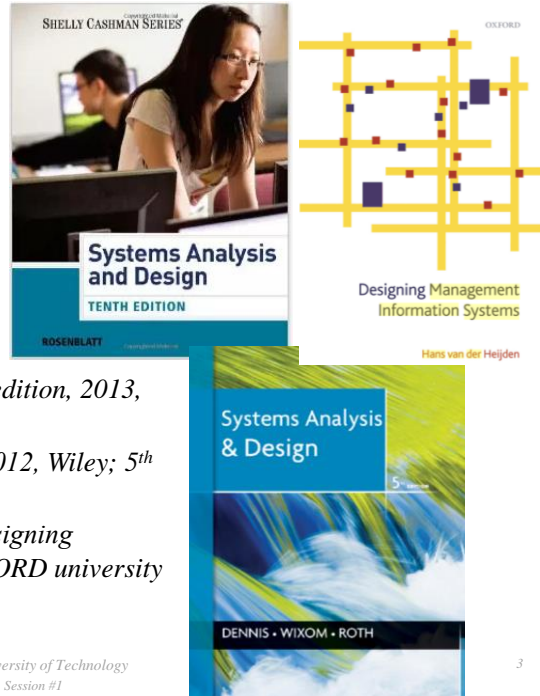
## *Course Description*

- *Instructor*
  - *Omid Fatahi Valilai, Ph.D. Industrial Engineering Department, Sharif University of Technology*
  - *Email: [Fvalilai@sharif.edu](mailto:Fvalilai@sharif.edu), Tel: 021-6616-5706*
  - *Website: <http://sharif.edu/~fvalilai>*
- *Class time*
  - *Saturday-Monday*                      *10:30~12:00*
- *Course evaluation*
  - *Mid-term*                                      *(20%)*
  - *Final exam*                                    *(20%)*
  - *Quiz*    *(10%)*
  - *Exercise-Projects*                          *(30%)*



## Course Description (Continued ...)

- **Mid-term session:**
  - Saturday, 7<sup>th</sup>, Azar 1394
- **Final session:**
  - Monday, 28<sup>th</sup>, Dey 1394
- **Reference:**
  - Rosenbalt, “System Analysis and Design”, 10<sup>th</sup> edition, 2013, Course Technology
  - Dennis, Lan; “Systems Analysis and Design”, 2012, Wiley; 5<sup>th</sup> edition
  - Johannes Govardus Maria van der Heijde; “Designing Management Information Systems”, 2009, OXFORD university press

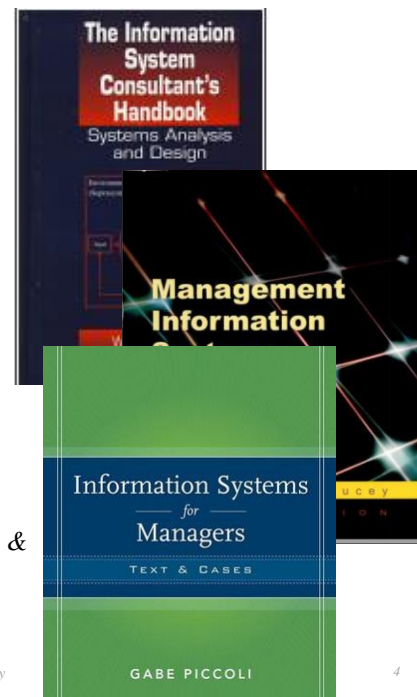


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## Course Description (Continued ...)

- **Reference:**
  - William S. Davis, David C. Yen, “The information system consultant’s handbook: system analysis and design”, 2010, Taylor and Francis
  - Terence Lucey; “Management Information Systems”, 2004, Cengage Learning EMEA
  - Gabriele Piccoli; “Information systems for managers: texts & cases”, 2007, John Wiley & Sons Inc



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## Course Description (Continued..)

- *Contents:*
  - *Introduction to Systems Analysis and Design*
  - *Analyzing the Business Case*
  - *Managing Systems Projects*
  - *Requirements Modeling*
  - *Data and Process Modeling*
  - *Object Modeling*
  - *Development Strategies*
  - *User Interface Design*
  - *Data Design*
  - *System Architecture*
  - *Managing Systems Implementation*

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## Course Description (Continued..)

- *Contents:*
  - *Introduction to Systems Analysis and Design*
    - *What Is Information Technology?*
    - *Information System Components*
    - *Business in the 21<sup>st</sup> Century*
    - *Modeling Business Operations*
    - *Business Information Systems*
    - *Systems Development Tools*
    - *Systems Development Methods*
    - *The Information Technology Department*
    - *The system analyst*

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## *Course Description (Continued..)*

- *Contents:*
  - *Analyzing the Business Case*
    - *A Framework for IT Systems Development*
    - *What Is a Business Case?*
    - *Information Systems Projects*
    - *Evaluation of Systems Requests*
    - *Overview of Feasibility*
    - *Preliminary Investigation Overview*

## *Course Description (Continued..)*

- *Contents:*
  - *Managing Systems Projects*
    - *Overview of Project Management*
    - *Create a Work Breakdown Structure*
    - *Identify Task Patterns*
    - *Calculate the Critical Path*
    - *What Is a Critical Path*
    - *Monitoring and Control Techniques*
    - *Reporting*
    - *Project Management Software*
    - *Risk Management*
    - *Risk Management Software*

## *Course Description (Continued..)*

- *Contents:*
  - *Requirements Modeling*
    - *Joint Application Development*
    - *Rapid Application Development*
    - *Agile Methods*
    - *Modeling Tools and Techniques*
    - *System Requirements Checklist*
    - *Fact-Finding*
    - *Interviews*
    - *Documentation*

## *Course Description (Continued..)*

- *Contents:*
  - *Data and Process Modeling*
    - *Data Flow Diagrams*
    - *Creating a Set of DFDs*
    - *Data Dictionary*
    - *Using CASE Tools for Documentation*
    - *Process Description Tools*
    - *Logical versus Physical Models*

## *Course Description (Continued..)*

- *Contents:*
  - *Object Modeling*
    - *Relationships Among Objects and Classes*
    - *Object Modeling with the Unified Modeling Language*
    - *Organizing the Object Model*

## *Course Description (Continued..)*

- *Contents:*
  - *Development Strategies*
    - *Outsourcing*
    - *In-House Software Development Options*
    - *The Systems Analyst's Role*
    - *Analyzing Cost and Benefits*
    - *Cost-Benefit Analysis Checklist*
    - *The Software Acquisition Process*
    - *Transition to Systems Design*

## *Course Description (Continued..)*

- *Contents:*
  - *User Interface Design*
    - *What Is a User Interface?*
    - *Seven Habits of Successful Interface Designers*
    - *A Handbook for User Interface Design*
    - *Source Document and Form Design*
    - *Printed Output*
    - *Technology Issues*
    - *Security and Control Issues*

## *Course Description (Continued..)*

- *Contents:*
  - *Data Design*
    - *Data Design Concepts*
    - *DBMS Components*
    - *Web-Based Data Design*
    - *Data Design Terms*
    - *Entity Relationship Diagrams*
    - *Data Normalization*
    - *Working with a Relational Database*
    - *Data Storage and Access*

## *Course Description (Continued..)*

- *Contents:*
  - *System Architecture*
    - *Architecture Checklist*
    - *Client/Server Designs*
    - *E-Commerce Architecture*
    - *Processing Methods*
    - *Network Models*
    - *Wireless Networks*

## *Course Description (Continued..)*

- *Contents:*
  - *Managing Systems Implementation*
    - *Structured Application Development*
    - *Object-Oriented Application Development*
    - *Agile Application Development*
    - *Coding*
    - *Documentation*



## Foundation of Information Systems (IS)

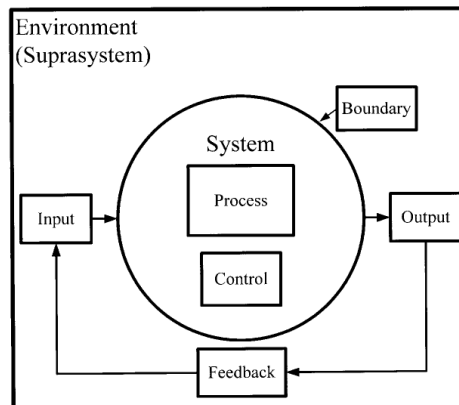
- **Data & Information:**
  - Data is a raw fact and can take the form of a number or statement such as date or a measurement .
  - Information is the data which have been processed so that they are meaningful.
    - Information needs the process(es) which collect(s) data and subject them to transformation process.

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## Foundation of Information Systems (IS)

- **Information system (IS):**
  - is a set of hardware, software, data, human, and procedural components intended to provide the right data and information to the right person at the right time.



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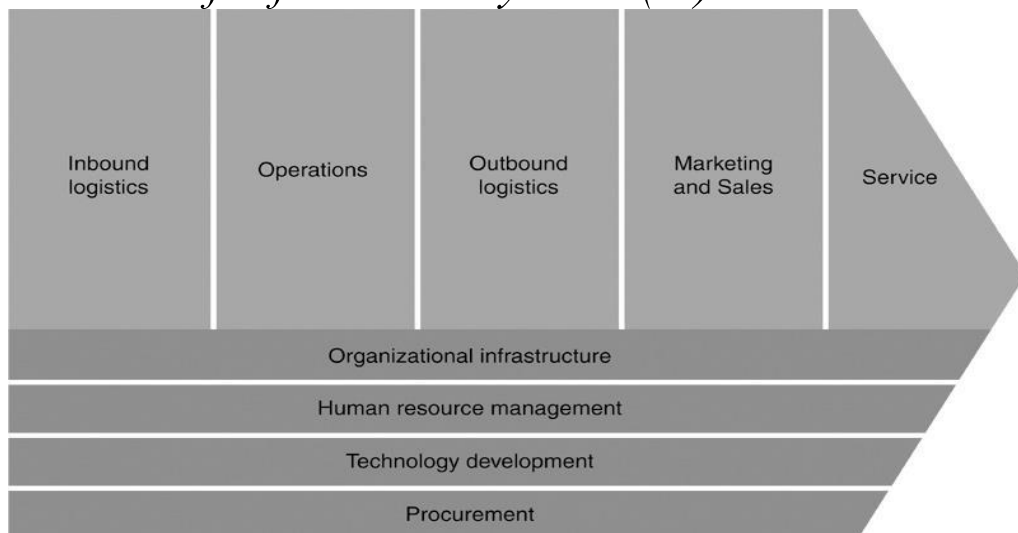
## Foundation of Information Systems (IS)

- *Information system (IS):*
  - *Of the most important role of the Information systems is to provide information for management*
  - *This management enables decision making process which ensure that the organization is controlled*
  - *The organization will be in control if it is meeting the needs of the environment*

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## Foundation of Information Systems (IS)



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## Foundation of Information Systems (IS)

