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, 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, 7th, Azar 1394
- Final session:
  - Monday, 28th, Dey 1394
- Reference:

Course Description (Continued ...)

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

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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.

**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.
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
Foundation of Information Systems (IS)