

MIS

(Management Information System)

(21-972)

Department of Industrial Engineering
Sharif University of Technology

Session #4

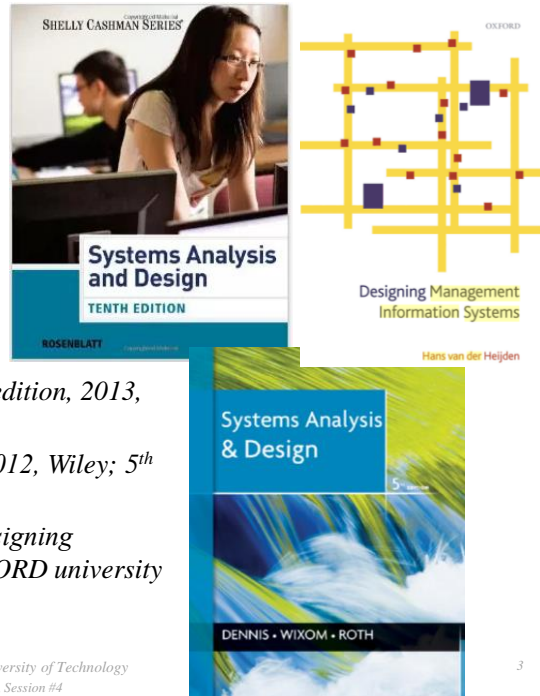


Course Description

- *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:**
 - Rosenbalt, “System Analysis and Design”, 10th edition, 2013, Course Technology
 - Dennis, Lan; “Systems Analysis and Design”, 2012, Wiley; 5th edition
 - Johannes Govardus Maria van der Heijde; “Designing Management Information Systems”, 2009, OXFORD university press

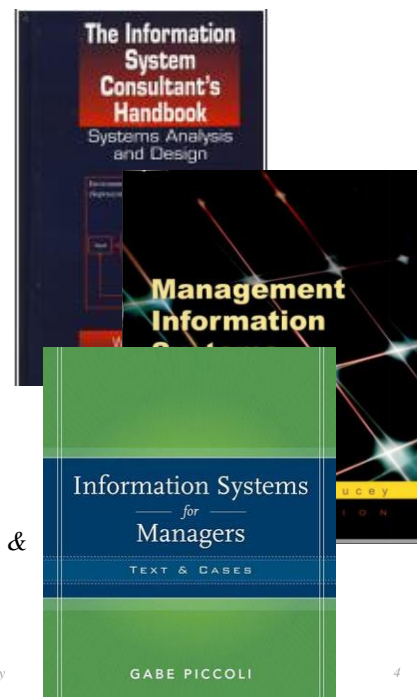


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Course Description (Continued ...)

- **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 21st Century*
 - *Modeling Business Operations*
 - *Business Information Systems*
 - *Systems Development Tools*
 - *Systems Development Methods*
 - *The Information Technology Department*
 - *The system analyst*

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System Analysis & Design

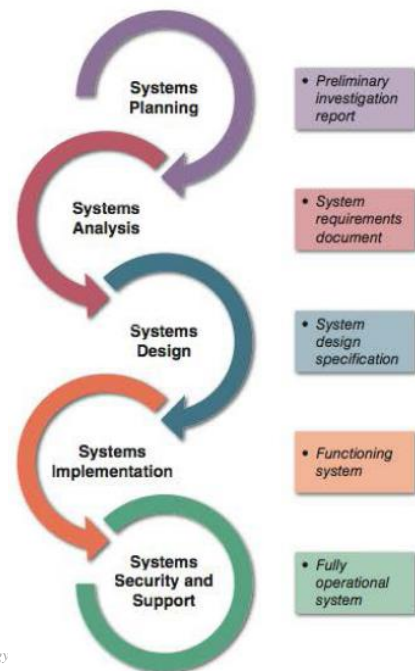
- **Contents:**
 - **Systems Development Methods**
 - **Structured Analysis:**
 - *Structured analysis is a traditional systems development technique that is time-tested and easy to understand.*
 - *Structured analysis uses a series of phases, called the systems development life cycle (SDLC), to plan, analyze, design, implement, and support an information system*
 - *Structured analysis uses a set of process models to describe a system graphically.*
 - *Because it focuses on processes that transform data into useful information, structured analysis is called a process-centered technique.*

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System Analysis & Design

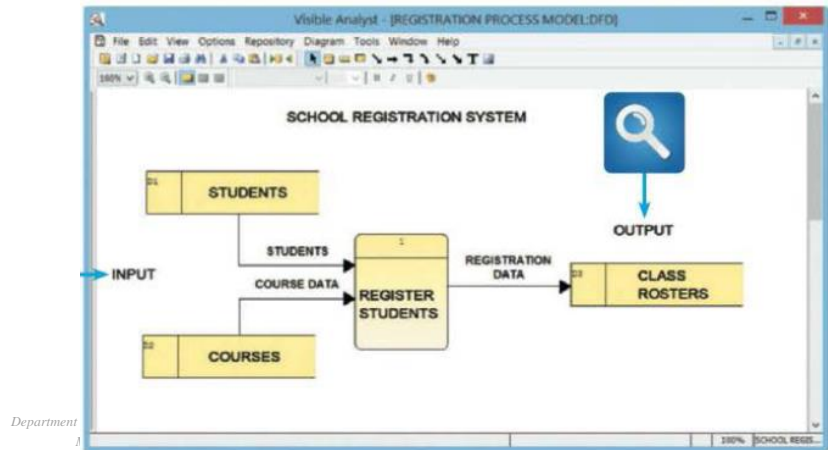
- **Contents:**
 - **Systems Development Methods**
 - **Structured Analysis:**



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System Analysis & Design

- *Contents:*
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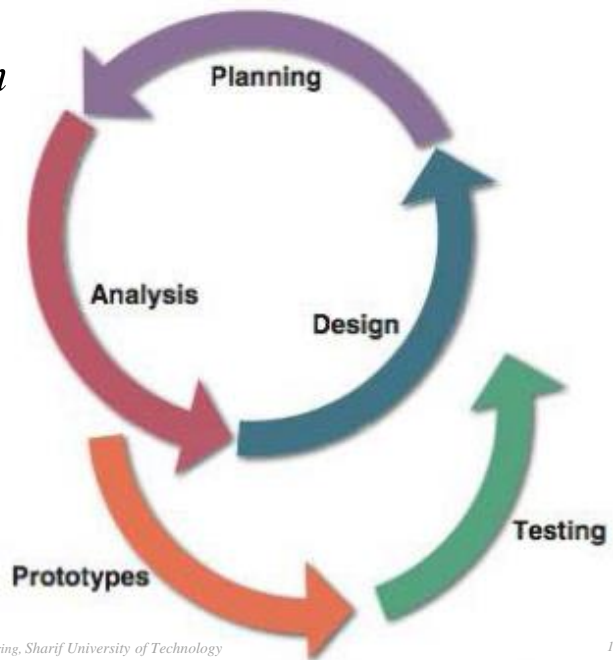


System Analysis & Design

- *Contents:*
 - *Systems Development Methods*
 - *Object Oriented (O-O):*
 - *Whereas structured analysis treats processes and data as separate components, object oriented analysis combines data and the processes that act on the data into things called objects.*
 - *Systems analysts use O-O to model real-world business processes and operations.*
 - *The result is a set of software objects that represent actual people, things, transactions, and events.*
 - *Using an O-O programming language, a programmer then writes the code that creates the objects.*

System Analysis & Design

- *Contents:*
 - *Systems Development Methods*
 - *Structured Analysis:*

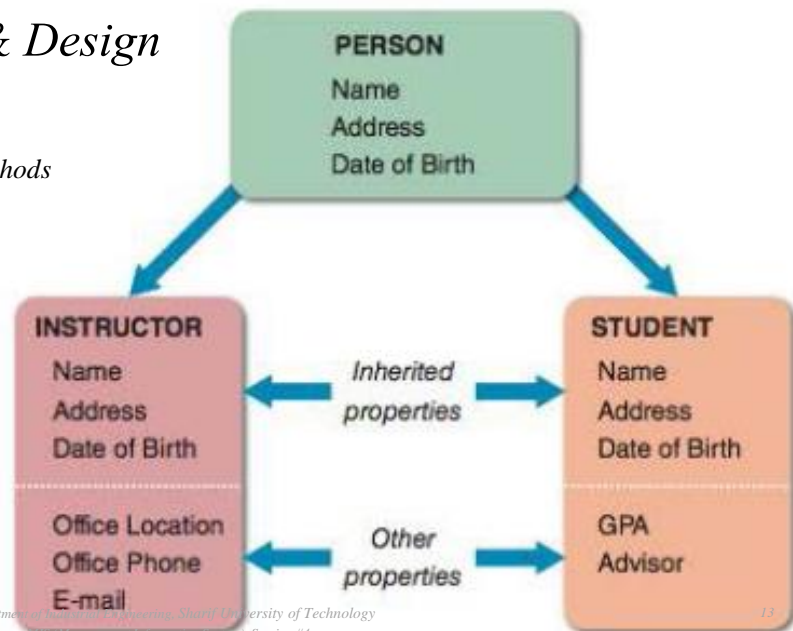


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System Analysis & Design

- *Contents:*
 - *Systems Development Methods*
 - *Structured Analysis:*



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System Analysis & Design

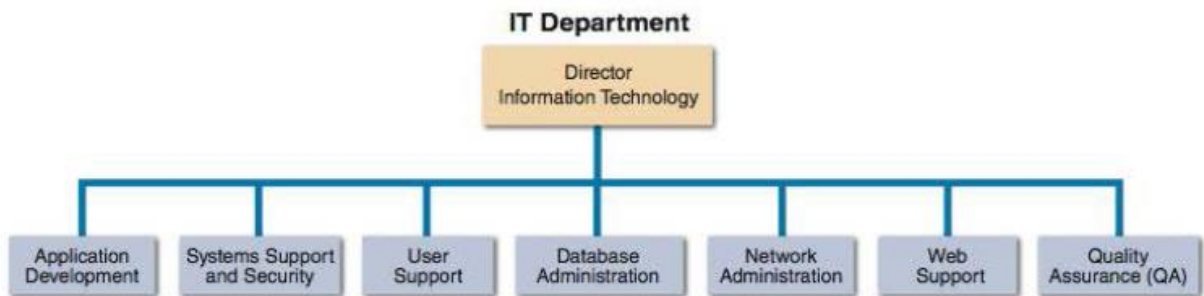
- **Contents:**
 - *Systems Development Methods*
 - *Agile Methods:*
 - *Agile methods typically use a spiral model, which represents a series iterations, or revisions, based on user feedback.*
 - *As the process continues, the final product gradually evolves. An agile approach requires intense interactivity between developers and individual users, and does not begin with an overall objective.*
 - *Potential disadvantages of agile methods can include weak documentation, blurred lines of accountability, and too little emphasis on the larger business picture.*
 - *Also, unless properly implemented, a long series of iterations might actually add to project cost and development time.*

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System Analysis & Design

- **Contents:**
 - *The Information Technology Department*



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System Analysis & Design

- *Contents:*

- *The System Analyst*

- *A systems analyst investigates, analyzes, designs, develops, installs, evaluates, and maintains a company's information systems.*
 - *To perform those tasks, a systems analyst constantly interacts with users and managers within and outside the company.*
 - *A systems analyst helps develop IT systems that support business requirements.*
 - *To succeed, analysts often must act as translators. For example, when they describe business processes to programmers, they must speak a language that programmers will understand clearly.*

System Analysis & Design

- *Contents:*

- *The System Analyst*

- *Analysts are often the company's best line of defense against an IT disaster*
 - *A system that is technically sound, but fails because it does not meet the needs of users and managers. When this occurs, poor communication is usually to blame.*
 - *For an analyst, the most valuable skill is the ability to listen.*
 - *An effective analyst will involve users in every step of the development process, and listen carefully to what they have to say.*
 - *As the process continues, the analyst will seek feedback and comments from the users. This input can provide a valuable early warning system for projects that might otherwise go off the track.*

System Analysis & Design

- *Contents:*
 - *The System Analyst*
 - *State-of-the-art knowledge is extremely important in a rapidly changing business and technical environment.*
 - *The Internet offers numerous opportunities to update technical knowledge and skills.*
 - *Many IT professionals go online to learn about technical developments, exchange experiences, and get answers to questions. For example, ZDNet*

System Analysis & Design

- *Contents:*
 - *The System Analyst*
 - *Communication skills*
 - *A systems analyst needs strong oral and written communication skills, and the ability to interact with people at all levels, from operational staff to senior executives.*
 - *Often, the analyst must work with people outside the company, such as software and hardware vendors, customers, and government officials.*
 - *Analysts often coordinate IT project teams, where they use communication skills to guide and motivate team members.*

System Analysis & Design

- *Contents:*
 - *The System Analyst*
 - *Business skills*
 - *A systems analyst works closely with managers, supervisors, and operational employees.*
 - *To be effective, he or she must understand business operations and processes, communicate clearly, and translate business needs into requirements that can be understood by programmers and systems developers.*
 - *A successful analyst is business-oriented, curious, comfortable with financial tools, and able to see the big picture*
 - *Critical thinking skills*
 - *Although no standard definition exists, most educators agree that critical thinking skills include the ability to compare, classify, evaluate, recognize patterns, analyze cause-and-effect, and apply logic.*