MIS  
(Management Information System)  
(21-972)

Department of Industrial Engineering  
Sharif University of Technology  

Session #7

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
Analyzing the Business Case

**Contents:**
- Information Systems Projects
  - Project management for IT professionals includes planning, scheduling, monitoring and controlling, and reporting on information system development.
  - A successful project must be completed on time, within budget, and deliver a quality product that satisfies users and meets requirements.
  - Project management techniques can be used throughout the SDLC
Analyzing the Business Case

Contents:

Information Systems Projects

In a systems project, the project manager, or project leader, usually is a senior systems analyst or an IT department manager if the project is large.

An analyst or a programmer/analyst might manage smaller projects.

In addition to the project manager, most large projects have a project coordinator.

A project coordinator handles administrative responsibilities for the team and negotiates with users who might have conflicting requirements or want changes that would require additional time or expense.

Project managers typically perform four activities, or functions: planning, scheduling, monitoring, and reporting:

Project planning includes identifying all project tasks and estimating the completion time and cost of each.

Project scheduling involves the creation of a specific timetable, usually in the form of charts that show tasks, task dependencies, and critical tasks that might delay the project. Scheduling also involves selecting and staffing the project team and assigning specific tasks to team members.

Project scheduling uses Gantt charts and PERT/CPM charts, which are explained in the following sections.
Analyzing the Business Case

Contents:

- Information Systems Projects
  - Project managers typically perform four activities, or functions: planning, scheduling, monitoring, and reporting:
    - Project monitoring requires guiding, supervising, and coordinating the project team's workload.
      - The project manager must monitor the progress, evaluate the results, and take corrective action when necessary to control the project and stay on target.
    - Project reporting includes regular progress reports to management, users, and the project team itself.
      - Effective reporting requires strong communication skills and a sense of what others want and need to know about the project.

- A work breakdown structure (WBS) involves breaking a project down into a series of smaller tasks.

- There are two primary chart types: Gantt charts and PERT/CPM charts.
  - Although a Gantt chart offers a valuable snapshot view of the project, PERT charts are more useful for scheduling, monitoring, and controlling the actual work.

- A work breakdown structure must clearly identify each task and include an estimated duration.
  - A task, or activity, is any work that has a beginning and an end and requires the use of company resources such as people, time, or money.
Analyzing the Business Case

- Contents:
  - Information Systems Projects
    - In addition to tasks, every project has events, or milestones.
      - An event, or milestone, is a recognizable reference point that you can use to monitor progress. For example, an event might be the start of user training, the conversion of system data, or the completion of interviews.

![Diagram of WBS](image)

Analyzing the Business Case

- Contents:
  - Information Systems Projects
    - The first task in creating a WBS is to list all the tasks.
      - The next step is to Estimate the task duration
        - A person-day represents the work that one person can complete in one day.
        - Project managers often use a weighted formula for estimating the duration of each task.
        - The project manager first makes three time estimates for each task:
          - An optimistic, or best-case estimate (B), a probable-case estimate (P), and a pessimistic, or worst-case estimate (W).
          - The manager then assigns a weight, which is an importance value, to each estimate.

\[
\frac{(B+4P+W)}{6}
\]
Analyzing the Business Case

Contents:
- Information Systems Projects
  - The last step is to define the precedence relationship
  - Identifying the task patterns

![Task Name Table](image)

Analyzing the Business Case

Contents:
- Information Systems

<table>
<thead>
<tr>
<th>Task No.</th>
<th>Description</th>
<th>Duration (Days)</th>
<th>Predecessor Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Develop Plan</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Assign Tasks</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Obtain Hardware</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Programming</td>
<td>70</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Install Hardware</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Program Test</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>Write User Manual</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Convert Files</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>System Test</td>
<td>25</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>User Training</td>
<td>20</td>
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<tr>
<td>11</td>
<td>User Test</td>
<td>25</td>
<td>9, 10</td>
</tr>
</tbody>
</table>
Analyzing the Business Case

- Contents:
  - Information Systems Projects

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