ITK 261
Course Introduction &
Skills of Systems Analyst

Kyoungwon Suh

Introductions

- Me
  - K-young-won Suh
  - Ben
  - http://www.itk.ilstu.edu/faculty/kwsuh
- You

Syllabus

- Instructor: Kyoungwon Suh
- Office: Old Union 213 Department: Old Union 202
- Phone: Office: 438-3744 Department: 438-8338
- Email: kwsuh@ilstu.edu
- Office Hours: Tuesday/Thursday 10:00 AM to 11:30 PM or by appointment
- Course Web Site: http://www.itk.ilstu.edu/faculty/kwsuh/courses/itk178fall07 and on Blackboard/WebCT CE 6.0 (http://blackboard.ilstu.edu)

Description

- This course provides you the concepts and skills you need to analyze and design information systems.

Objectives

Upon completion of this course you should be able to:

- Describe the different types of work (analysis, design, construction, management) and skills required in systems development projects.
- Understand the Systems Development Life Cycle (SDLC), its typical phases and tasks.
- Describe major systems development methodologies, including structured and object-oriented methodologies.
- Describe and carry out the activities required in systems development.
- Understand relational database concepts and be able to design a simple relational database.
- Model system components and user requirements using data models, functional decomposition diagrams, data flow diagrams, decision tables and decision trees.
- Model system components and user requirements using case diagram, class diagram, and other object-oriented techniques.
- Use appropriate tools (CASE) to create various systems development deliverables.

Textbooks and Class Materials

- Required Textbooks
  - Satzinger, John W., et al., “Systems Analysis and Design in a Changing World.” Course Technology, 4th Edition, 2006.
  - Note: The instructor may also assign outside reading from various resources.
- Materials
  - All of the course materials will be available through http://www.itk.ilstu.edu/faculty/kwsuh/courses/itk261fall07 and Blackboard/WebCT CE 6.0(http://blackboard.ilstu.edu). Check both web sites often for updates.

Commitment

- You are expected to spend at least **10 hours/week** beyond class hours
  - reading and understanding class material; particularly, reading particular chapter before coming to class
  - doing assignments and exercises etc.

Exams

- The two midterm exams will be held in class. If you are unable to attend an exam due to illness or another valid reason, you must notify your instructor **prior to** the exam to make arrangements for making up the exam. If you are unable to reach your instructor personally, email your instructor or leave a message either in the ITK department office (Old Union 202) or on your instructor's voice mail. **No makeup examination will be administered without the instructor's notification and validation of the excuse before the exam date.** You should make arrangements **now** to attend the exams.

Assignments

- Approximately 3 assignments will be given
- All assignments are due at the start of class on the due date specified
- All submissions must be in hard copies. Electronic submissions will NOT be accepted.
- Individual assignments are NOT team-based activites.

Key Terms Quizzes

- Key-terms quizzes (matching) will not be announced ahead of time
- Each quiz has 20 matching questions.

Plagiarism and other forms of cheating

- Knowingly turning in work that you did not do is plagiarism, the most common form of cheating. It is unacceptable in this course and a foolish way to try to get through the course.
- Do not work with anyone else on programs and other assignments unless you have been told that it is acceptable by your instructor for the specific assignment.
- Do not work together on individual programming assignments.
- Do not discuss individual assignments, including programming assignments, with people other than your instructor.
- Do not show someone your completed program or parts of it, even if the person claims not to intend to cheat.
- Any case of cheating will result in a minimum penalty of a zero on the assignment.
- This applies to both the person who did the work and made it available and the person who copied.
- The maximum penalty will be an F in the course and pursuit of further disciplinary action.
- **All** cheating will be reported to SDRS as required by university policy (see your student handbook).

Evaluation

Exam 1	20%
Exam 2	25%
Final Exam	25%
Individual Assignments	20%
Key Terms Quizzes (in-class)	10%
Total	**100%**

Grading Scale

- A
  - 90-100
- B
  - 80-89
- C
  - 70-79
- D
  - 60-69
- F
  - Below 60

Lab Facilities

- No formal lab time
- Homework and programming activities may be completed in Old Union 133 and any other labs in Old Union when they are not in use.
- You will use your ISU ID card to get into the labs.

Important Dates

- Friday, August 31: Last day to withdraw without a WX
- Friday, September 14: Last day to withdraw with a WX
- Saturday, December 8: Classes end
- Thursday, December 13 : Final Exam
  - Section 3: 5:30PM to 7:30PM

Information system and Skill of system analyst

Reading: Chapter 1

Overview

- Information systems: collection of interrelated components that collect, process, store, and provide as output **information needed to complete tasks**
  - Crucial to success of modern business organizations
  - Constantly being developed to make business more competitive
  - Impact productivity and profits
- Keys to successful system development
  - Thorough systems analysis and design
  - Understanding what business requires

Overview (continued)

- Systems analysis – process of understanding in detail what a system should accomplish
- Systems design – process of specifying in detail how components of an information system should be physically implemented
- Systems analyst – uses analysis and design techniques to solve business problems using information technology

The Analyst as a Business Problem Solver

- Has computer technology knowledge and programming expertise
- Understands business problems
- Uses logical methods for solving problems
- Has fundamental curiosity
- Wants to make things better
- Is more of a **business problem solver** than a technical programmer

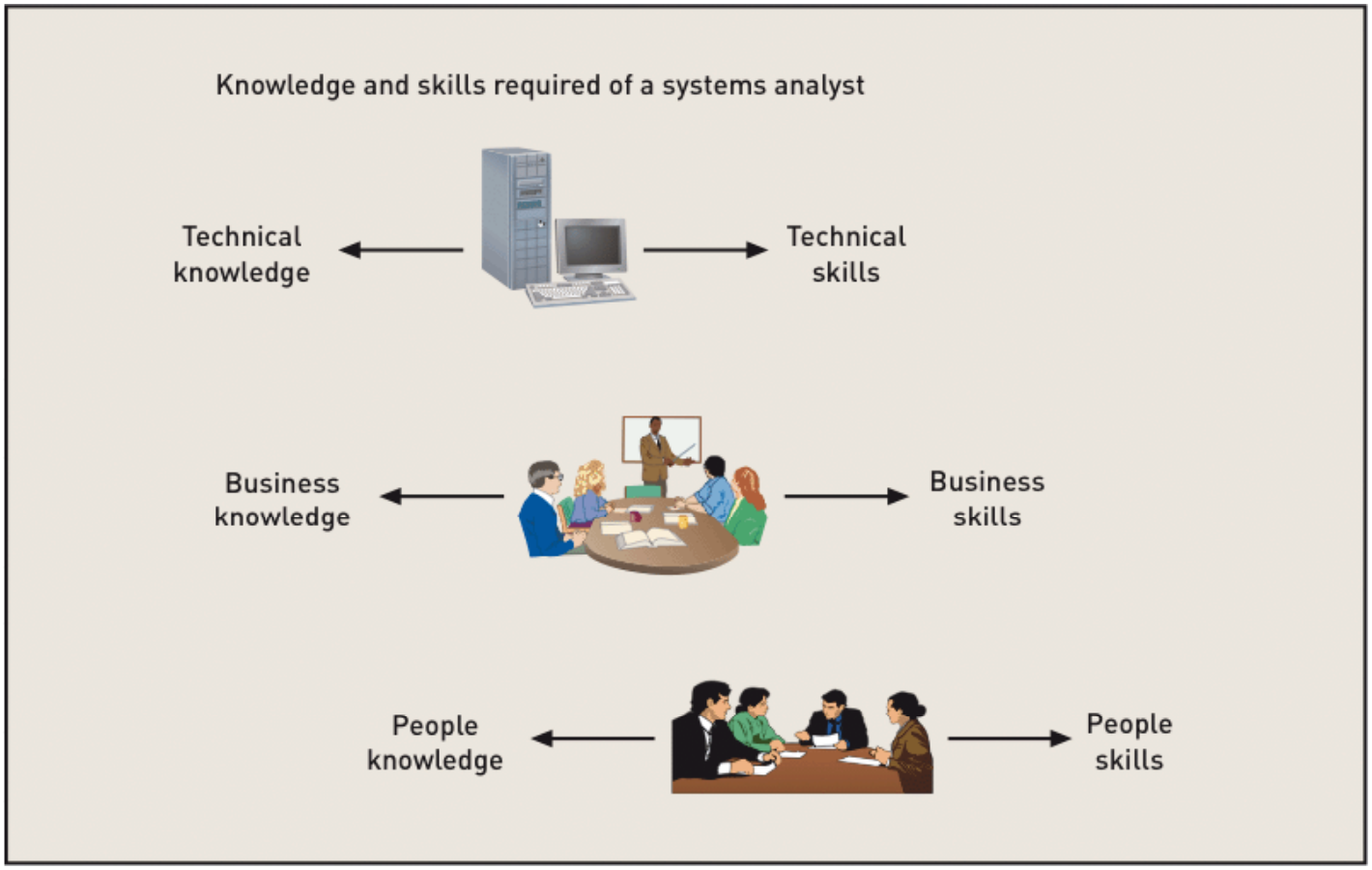
Analyst's Approach to Problem Solving

- Research and understand the problem
- Verify benefits of solving problem outweigh the costs
- Define the requirements for solving the problem
- Develop a set of possible solutions (alternatives)
- Decide which solution is best and recommend
- Define the details of the chosen solution
- Implement the solution
- Monitor to ensure desired results

Required Skills of the Systems Analyst

Figure 1-6

Required skills of the systems analyst



Technical Knowledge and Skills

- An analyst should have fundamental technology knowledge of
  - Computers / peripheral devices (hardware)
  - Communication networks and connectivity
  - Database and database management systems (DBMS)
  - Programming languages (for example, VB.NET or Java)
  - Operating systems and utilities

Technical Knowledge and Skills (continued)

- Analyst uses tools
  - Software productivity packages
  - Integrated development environments (IDEs) for programming languages
  - CASE tools, testing, documentation support, reverse engineering, configuration management
- Analyst understands SDLC techniques
  - Project planning, systems analysis
  - Systems design, database design, network design
  - Construction, implementation, systems support

Business Knowledge and Skills

- Analyst must understand
  - Business functions performed by organization
  - Strategies, plans, traditions, and values of the organization
  - Organizational structure
  - Organization management techniques
  - Functional work processes
- Systems analysts typically study business administration/management in college with a major in CIS or MIS

People Knowledge and Skills

- Systems analysts need to understand how people
  - Think
  - Learn
  - React to change
  - Communicate
  - Work (in a variety of jobs and levels)

People Knowledge and Skills (continued)

- Interpersonal and communication skills are crucial to
  - Obtaining information
  - Motivating people
  - Getting cooperation
  - Understanding the complexity and workings of an organization in order to provide necessary support

Integrity and Ethics

- Analyst has access to confidential information, such as salary, an organization's planned projects, security systems, and so on.
  - Must keep information private
  - Any impropriety can ruin an analyst's career
  - Analyst plans security in systems to protect confidential information

The Environment Surrounding the Analyst

- Types of technology encountered
  - Desktop
  - Networked desktops
  - Client-server
  - Large-scale centralized mainframe
  - Internet, intranet, and extranet
  - Wireless, PDA/cell phones, mobile desktops

Use of Web Technology for Flexibility

- Enterprise applications require flexible deployment environments
  - Anywhere, anytime access
  - For employees, partners, and customers
- Best provided by Web-based technology
  - B2C: business to consumer
  - B2B: business to business

Typical Job Titles and Places of Employment

- Job titles of systems analyst vary greatly, but entail same thing
- Places of employment vary from small businesses to large corporations
- Analysts can be internal employees or outside consultants
- Analysts can be developing solutions for internal business managers or for external clients and customers

The End