I. Introduction

Types of Software
Information Systems
Information Systems Technologies and Methodologies

Software Everywhere!

- Generations of Software
  - Software for the techies (...-1990)
  - Software for the professionals (1990 - 2005)
  - Software for the masses... (2005 - ...)
- Types of Software
  - System software (OS, network software,...)
  - Middleware (compilers, DBMSs,...)
  - Application software (embedded software, information systems,...)

Information Systems

- Used heavily in large organizations
- Give feedback on on-going projects (e.g., production)
- Used for decision support (DSS)
- Used for on-line analytical processing (OLAP)
- Used for data mining
- Used for customer service (web-based systems)

Information System Technologies

- Database Management Systems (DBMS)
- Data Warehouses
- Data Mining
- Web technologies (Java, HTML/XML,RDF/S, Web services,...)

Information System Methodologies

- Where do we start? --> Feasibility study (or, early requirements analysis)
- Define the problem --> Requirements analysis
- Design a solution --> Design

This course is about methodologies for building information systems!

Why is this Course Important?

- Most errors (54%) are detected after coding and testing.
- Almost half of all errors (45%) are introduced during requirements and design.
- Most errors made during requirements analysis are non-clerical (77%).
- Requirements errors can cost up to 100 times more to fix than implementation errors -- if they are not caught early on.

Need to do requirements and design right!
**Background of a Systems Analyst**

- **Social Perspective**
- **Professional Perspective**
- **Technological Perspective**

**Technologies for System Analysis**

- Personal computers (PCs), Workstations, Mainframes:
- Hardware components: CPUs, memory, disk
- Networks, Peripherals, Monitors
- Palmtops, Word processing, Spreadsheets, Presentation software
- Websites, Document management

**Readings**

1. Lecture units 1.1 - 1.4 (available at the course website.)