

Corporate Information Systems (CIS)

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The course objective is to give an introduction on corporate and executive information systems (IS).

The course analyzes the firm's needs to introduce IT solutions and how IS affects the firm's performance at different organizational levels. It classifies the various types and modules of IS, such as business process management, workflow management, CRM, supply chain management, and so on. The course aims at giving both a technical and a strategic perspective on the design and management of IS in organizations. It also provides methods to design web based corporate IS, a method to design business processes (BPM), and specific issues such as data privacy and security.

Overall program

- 1) Information Technology in Organizations: information processing perspective of organizational theory, technical, economic and organizational issues of information systems design and management; decision-making and other approaches.
- 2) The knowledge-based view of the corporate system: resource-based view of the firm, knowledge work and knowledge-intensive organizations.
- 3) Types of Information Systems: the evolution of information systems and their impact on organizational processes
- 4) Architectures, IT components, middleware, layers and tiers, the SOA, distributed systems
- 5) IS for the automation of production and planning: CIM (Computer Integrated Manufacturing), MRP (Manufacturing Resource Planning)
- 6) Modern Corporate Information Systems (for the extended enterprise): ERP (Enterprise Resource Planning) systems, CRM (Customer Relationship Management), WIS (Web-based Information Systems) and e-business solutions, Service-Based Systems (the web service paradigm).
- 7) CIS and ERP: SAP demo; NSS (Negotiation Support Systems).
- 8) Executive Information Systems: DSS (Decision Support Systems) and executive management; introduction to CSF and KPI
- 9) A methodology for IS design: Planning, Requirements analysis, Use Cases, User Experience, Analysis, Design.
- 10) Examples and exercises of WIS design
- 11) Business Process Management: a definition and a methodology (BPM). Workflow

systems (W3C standards)

12) Examples and exercises of BPM

13) Data warehousing and data mining

14) Knowledge Management: technological solutions, knowledge management strategy definition (knowledge sharing, codification, reuse, transfer), open issues in research and practice.

15) Challenges on the adoption of IT in organizations: Business value of IT: how to model IT in organizations, definition of IT business value, evolution of theories for the analysis of IT business value.

16) Security: Principles, privacy, data security, security plan.

Prerequisites

The course does not have any specific prerequisite.

Optional Projects

A set of topics are available for an optional project which will be assigned to the interested students, also grouped in max 2 students. The students can select a topic,

receive the documentation from the reference teacher, and then gather information on magazines, journals, websites, etc.; describe the topic in its systems, functionalities, modules; describe the history of the system (situation before - situation after the implementation); analyze the benefits that the system has brought; discuss the possible encountered problems; gather any other relevant information.

The outcome of projects must be sent given to the person in charge of the topic in the form of a paper describing the gathered information and the performed analyses (approximately 10 pages).

Text Books

Efraim Turban, Dorothy Leidner, Ephraim McLean, and James Wetherbe, Information Technology for Management: Transforming Organizations in the Digital Economy , (Hardcover - Mar. 5, 2007)

M. Weske, [*Business Process Management: Concepts, Languages, Architectures*](#), Springer, 2007

D. Ardagna, M.G. Fugini, B. Pernici, P. Plebani, *Sistemi Informativi Basati sul Web*, serie Sistemi Informativi Vol. VI, Franco Angeli 2006 (in Italian)

J. Conallen, [*Building Web Applications with UML*](#), Addison-Wesley 2003

Classes	60.0 hours
Exercises on Classes	40.0 hours

Exam and Evaluation

The final examination consists of a written test including design exercises, and questions on all the topics of the course.

The project provides 3 grades that contribute to the final grade. It has to be delivered 2 weeks before the examination in person or via e-mail to the teacher proposing the selected topic.