UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Information Systems

2122-1-F9201P026

Aims

The student will be able to understand the relationships between the organizational, social, economic, business, and technological aspects involved in the design and evaluation of an Information System (SI), and will be able to use standard techniques and models for business process design and information system life cycle assessment.

Contents

NOTE: This course is borrowed from the core course: 2122-1-F1801Q103 (consult that one, please)

- Definition of Information System and organizational context
- Technological Aspects
- Modeling languages
- Evaluation techniques

Detailed program

1. Introduction to Information Systems.

a. Definition of Work and requirements for tools that support (organizational, business) work

b. Definition of Information System (wrt Activity System and Data System).

c. Semiotic approach (forma, informa, performa)

d. Technology aspect.
* Application level technologies:
    - Enterprise Resource Planning (ERP)
    - Custormer Relationship Management (CRM)
    - Data Warehouse
    - Techniques of Data Mining
    - Software selection strategies
* Technologies at the physical architecture level:
    - Centralized and distributed architectures (1,2,3,n-tiered)
    - Physical tier technologies (server farms, virtualization, cloud computing, service model)
    - Network technologies and services (local area networks, wide area networks)
    - Infrastructure management options

2. Process modeling languages

a. Business Process Model and Notation (BPMN)

b. Case Management Model and Notation (CMMN)

c. Decision Model and Notation (DMN)

d. Interaction Flow Modeling Language (IFML)

3. Evaluation of Information Systems

a. concept of success and failure

b. Concept of failure

c. techniques and methods for evaluation

Prerequisites

No one, but previous knowledge on ICT technologies and Data Bases could be useful.

Teaching form

Teaching is provided in Italian for the Master of Science degree courses in Data Science, Computer Science, and Communication Theory and Technology (TTC).

Problem posing and solving, lessons based on case studies and subsequent modeling or methodological development, exercises on other case studies, individual and group projects, with or without incentives.

The teaching activity will be delivered in presence, unless otherwise indicated, due to national and/or University

indications due to the protracted COVID-19 emergency. In that case, face-to-face classes and lab lectures will be primarily synchronous (with strongly promoted participation) via WebEx or equivalent platform as indicated on the course website.

Textbook and teaching resource

- slideware handouts

- recorded audio/video lessons

textbooks:

Carlo Batini (2020) Come si progetta un Sistema Informativo - How to design an Information System

(shared by the teacher)

Pernici (2020) Fondamenti di Sistemi informativi per il Settore dell'Informazione ESERCIZIARIO (per BPMN)

(condiviso dal docente)

Semester

second semester of the first year.

Assessment method

The examination consists of a written exam, a project report and oral discussion of the content of the report.
In particular, the report may also be produced by groups of two-four people and may be of different types, subject to agreement with the teacher.

1) thesis or in-depth written discussion of a series of scientific articles (presentation of topics not covered in the lecture).
2) case analysis (description of a real situation or example in which the interconnections between different elements/variables are analyzed in the light of one or more theoretical paradigms) with BPMN, CMMN, DMN and IFML modeling.
3) project work (development of an original project from a simple idea or analysis of an existing case)

Office hours

by appointment and at the end of the lessons.