UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Business Intelligence

2324-2-FDS01Q020

Aims

The course would provide bot methodological an technical aspects needed to understand and realise BI solutions in real-life contexts, including the whole data lifecycle (KDD) and identifying criteria for the evaluation of the solution provided.

Contents

Introduction to BI and Big Data Analytics

BI Architectures

Knowledge Discovery in Databases – KDD

Detailed program

1. Introduction to BI and Big Data Analytics

a. Goal and rationale of BI systems

b. The value of knowledge – digital economy and data driven decision making

c. The Structure and subsequent evolution of BI and Big Data Analytics systems

2. BI Architectures

a. The Evolution of BI Architectures (towards Big Data)

b. Decision Models on the basis of business functions

c. Definition, selection and metrics for computing directional indicators (KPI – CSF)

3. Knowledge Discovery in Databases – KDD

a. Phases, methodologies and the value for business purposes (Data as value)

b. Models for data quality evaluation – structured data vs (unstructured) Big data

c. Models for data management and analytics – relational vs schema free (i.e., graph db)

d. Models and techniques for data analysis – how to use data for fact-based decision making

e. Visualisation models for decision making – selecting the proper model for each stakeholder – data story telling and indicators

Prerequisites

None

Teaching form

The course will be provided by means of lessons, seminars, and laboratory sessions and homework.

Textbook and teaching resource

Lectures with the support of slides, laboratory and real-life case studies. Scientific Papers and books indicated by the lecturer. The software used is either available as open-source

Semester

I semester

Assessment method

All exams will be performed online composed by:
-- a written examination (mandatory), aimed at assessing the competencies of the student in terms of (i) concepts

and methodologies acquired (ii) abilities in writing/reading code and (iii) abilities in summarising pros/cons of the techniques introduced
-- an homework (optional), aimed at evaluating the competencies of the student in terms of (i) teamwork, (ii) understanding the data and define a way to approach the problem, (iii) discussing the solution identified and realised to the final user

Office hours

By Appointment

Sustainable Development Goals