



**UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA**

## **SYLLABUS DEL CORSO**

### **Business Intelligence**

2324-2-FDS01Q020

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#### **Aims**

The course would provide both methodological and 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**

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