UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Information System

2122-3-E4102B065

Learning objectives

The course aims to create the necessary knowledge, under the technical and methodological point of view, to enable a correct approach to the design of an information system, as a key strategic resource to achieve the goals of a business organization.

Knowledge and understanding

This course will provide knowledge and understanding in relation to:

- Design of information systems for data analysis and decision support
- Identification of data sources of an enterprise information system
- Management of structured and unstructured data

Ability to apply knowledge and understanding

At the end of the course the students will be able to:

- Use software for analyzing structured and unstructured data
- Use software for representing data
- Interpret data analysis results to support decision-making

The course allows the student to acquire a solid foundation on the theory of information systems and in the application of knowledge management and data analysis techniques to be used in the biostatistic / statistical / demographic context.

Contents

- Application architectures and technological architectures of information systems
- Digital applications and analysis of information system
- Design of information system for data analysis and decision support system
- Data quality
- Information systems and social media
- Introduction to Social Media Analytics
- Big Data and techniques for processing unstructured data

Detailed program

Application architectures and technological architectures of information systems:
- Database management processes
- Distributed architectures, client server, network, Internet and World Wide Web

Digital applications and analysis of information system:
- The application portfolio in the industrial and service companies
- CRM

Design of information system for data analysis and decision support system:
- Design of processes and data modelling
- BPR
- Activities and information analysis

Data quality

Information systems and social media:
- Evolution of enterprise information systems
- Social Media Marketing

Introduction to Social Media Analytics:
- Sentiment Analysis

Big Data and techniques for processing unstructured data:

Information extraction

Prerequisites

Fairly good skills in learning, writing and speaking are expected, together with a general knowledge about the main technologies and applications of Computer Science.

Teaching methods

The course is delivered in Italian and includes lectures in the classroom and laboratory exercises. The lectures cover 6 CFU of the course, the exercises cover the remaining 3 CFU. In the lectures the theoretical topics of the course are explained, some project works are also assigned to the students to be carried out in groups and discussed by the end of the course.

The lab exercises are aimed at teaching and using unstructured data processing software, in particular for performing Text Mining operations on data scraped from various Web sources. Also during the exercises, project works are assigned to the students to be realized in group and discussed by the end of the exercises.

Assessment methods

The verification method is based on a written test with optional oral (for those who have obtained an evaluation of at least 18/30 in the written test).
The written test takes place at the computer and it consists of open and closed questions with multiple answers on all course topics.

The oral exam is aimed at assessing the theoretical knowledge of the student on the topics of the course. The ability to reason and deepen the issues proposed during the examination and the methodological rigor of their development will be evaluated.

The evaluation is focused on the student's ability to answer to specific questions by referring both to the theoretical and practical aspects (through examples) connected to the requested topic.

The test is common for both attending students and non-attending students.

Textbooks and Reading Materials

1) G. Bracchi, C. Francalanci, G. Motta. Sistemi informativi d’impresa. McGraw-Hill, 2010.
2) V. Cosenza, "Social media ROI", Apogeo, 2012, ebook available on internet, chapters: 1, 2, 4, 5 (the basic concepts).
Further material (slides and papers on specific topics) is available on the elearning page of the course.

Semester

The course is delivered in the second cycle of the first semester and in the first cycle of the second semester.

Teaching language

Italian