Data Management for Business Intelligence
COMP 4111A & 5111 Fall Term 2016

Instructor: Prof. Leopoldo Bertossi (bertossi@scs.carleton.ca)
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Course web page: http://www.scs.carleton.ca/~bertossi/dmbi/index.html

Office hour: Room Herzberg 5125A. Tuesdays 15:00-16:30.

TA: Zhibo Zhang (zhibozhang@cmail.carleton.ca)

Lectures: Tuesday and Thursdays 13:00-16:30. Room: 516 SA.

Prerequisites: A first course on data management at the undergraduate level.

Assessment: 3-4 Assignments (40%), paper report (15%), 2 midterm tests taken in class (22.5% each, average of marks for the two tests must be at least 35% to pass the course).

Description:

This course can be considered as a natural possible continuation of a first, basic course on database systems.

It is a course on data management in a general sense, in the spirit of data science rather than on databases.

The course introduces data management problems and information technology solutions in the context of data management support to decision making in business environments.

Topics include advanced data modeling, semantic modeling, multidimensional databases and data warehousing, on-line-analytical processing, elements of data mining and machine learning, context in data management, data quality assessment, data cleaning, elements of business process modeling, and ontology-based data access.

The course emphasizes concepts and techniques rather than specific applications or systems/ implementations.

Contents:

1. Brief review of relational databases.
2. Introduction to data management for BI.
3. Elements of data warehousing and multidimensional databases.
4. Elements of data mining and machine learning.
5. Virtual data integration and related topics.
6. Metadata and data models.
7. Data access through ontologies.
8. Elements of data quality and data cleaning.

Reading Material (mandatory):

1. Lecture notes posted after every lecture on the course web page.
2. Relevant survey and research papers will be posted for reading.