

**CARLETON UNIVERSITY
SCHOOL OF COMPUTER SCIENCE**

**Data Management for Business Intelligence
COMP 4111A & 5111 Fall Term 2018**

Instructor: Prof. Leopoldo Bertossi (bertossi@scs.carleton.ca)
<http://www.scs.carleton.ca/~bertossi>

Course web page: <http://www.scs.carleton.ca/~bertossi/dmbi/index.html>

Office hour: Room Herzberg 5125A. Tuesdays 13:00-14:30.

TA: Pourya Saljoughi (pourya.saljoughi@carleton.ca)

Lectures: Tuesday and Thursdays 10:00-11:30. Room: TBA

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

Assessment: 4 Assignments (35%), a midterm test taken in class, data announced in the first days of the term (30%), final examination during official examination period (35%).

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.
9. Data-centric business processes.

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.

Course Outline (Syllabus) Information on Academic Accommodations

Requests for Academic Accommodation

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Religious obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. carleton.ca/pmc

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and is survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline