Course Objectives

At the end of the course, the student will be able to understand and execute actions requiring knowledge about the following topics:

COMP 4522 W24 OA.pdf

- Relational Databases: Relational Algebra, Set Theory & Normalization
- RDBMS Transactions Integrity
- Data Warehousing
- Fundamentals of Data Mining
- Deductive Databases (Databases based on a subset of First-Order Logic)
- Distributed Database: issues and models
- RDBMSs limitations and alternatives
- Columnar and in-memory databases
- Non-Relational Database Models: No-SQL (*Key*:*Value*, etc.), Big Data Map/Reduce
- Extended relational model and its strengths by preserving ACID properties.
- Case Study: MongoDB – A cross-platform document-oriented DBMS
- Physical Storage Models for Persistence
- RDBMS Query Optimization