CMPT 354 - D100 Database Systems I

Instructor(s): Eugenia Ternovska

Calendar Objective/Description:
Logical representations of data records. Data models. Studies of some popular file and database systems. Document retrieval. Other related issues such as database administration, data dictionary and security.

Instructor's Objectives:
This course provides an introduction to Database Management System (DBMS). We focus on the most widely used relational data model. Students will become familiar with the design of database applications and use of databases. We study design tools, database modeling and query languages, including the Structured Query Language (SQL).

Prerequisites:
CMPT 225, and (MACM 101 or (ENSC 251 and ENSC 252)).

Topics:
- Overview of database management systems and the relational model, Entity-Relationship diagrams
- Query languages: relational algebra and calculus
- SQL: data definition, data manipulation, queries, views, constraints, triggers
- Query evaluation and optimisation: join strategies, query plans
- Constraints and triggers
- Database access from applications: embedded and dynamic SQL
- Constraints, normal forms
- Introduction to OLAP (time permitting)
- Deductive databases: Datalog and recursive queries

Grading:
To be announced in the first week of classes. Students must attain an overall passing grade on the weighted average of exams in the course in order to obtain a clear pass (C- or better).

Required Books:

Academic Honesty Statement:
Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies (http://www.sfu.ca/policies/gazette/student.html).