CMPT 354 - D100 Database Systems I

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:
Almost all organizations maintain their data using a database management system (DBMS). This course provides an introduction to 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). OLAP and data mining will be briefly introduced. As well, if time permits XML and/or Datalog will be introduced.

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

Topics:
- Introduction to Database Systems
- The Relational Model
- Database Design: The ER Model
- Query languages: SQL, one or more of the relational calculus, relational algebra, datalog
- Relational Database Design: Normalization and Functional Dependencies
- OLAP and introduction to data mining
- If time permits: Introduction to XML and/or Datalog

Grading:
To be discussed 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).