Computing Science Course Outlines 2018 Fall

CMPT 354 - D100 Database Systems I

Instructor(s): Jiannan Wang

SFU Burnaby

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:
In 2017, the global database market has reached over 50 billion U.S. dollars in size. Millions of web/mobile applications are using database systems to manage their data. SQL has become a prerequisite skill for being a data scientist or a data engineer. Now is the most exciting time to learn database systems.

In this first database course, we will cover database design and the use of databases in applications, with a short introduction to NoSQL and SQL-on-Hadoop. The course includes extensive coverage of the relational model, relational algebra, SQL, normalization, and database constraints. After this course, the students should have a deep understanding of how to design a database for applications and how to query and manipulate data using SQL.

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

Topics:
- Database History
- Data Model
- SQL
- Database Design
- NoSQL
- SQL-on-Hadoop

Grading:
Will be discussed in the first class

Required Books:

Reference 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).