

CMPT 354-3 Eve **Database Systems and Structures**

Instructor: O. Zaïane

T 1730-2020 Final Exam: Aug 5 - 19:00

OBJECTIVE/DESCRIPTION:

To provide an introduction to data models, database systems, the structure and use of relational database systems and relational languages, indexing and storage management, query processing in relational databases, and the theory of relational database design. The course concentrates on the relational model, with a brief introduction to entity-relationship, hierarchical and network data models as well.

Assignment work will include the design and implementation of a database using the Microsoft SQL Server relational database management system.

TOPICS:

- An introduction to Database Systems.
- The Entity-Relationship Model.
- The Relational Model and Query Languages.
- Commercial Relational Languages.
- Integrity Constraints.
- Relational Database Design.
- File and System Structure.
- Indexing and Hashing.
- Query Processing and Optimization.
- Databases and the World-Wide Web
- Hierarchical, Network, and Object-Oriented Databases.
- Case studies.
- Students will be expected to do some programming in C++

GRADING:

Assignments 40%, Midterm Exam 25%, Final Exam 35%

There are 4 assignments 10% each.

TEXTBOOKS:

- Database System Concepts, 3rd edition., Korth, Silberschatz and Sudarshan, McGraw Hill, 1997
- on line material at <http://www.cs.sfu.ca/CC/354/zaiane/>

REFERENCES:

- Database Management Systems, Raghu Ramakrishnan, McGraw Hill 1998,
- An introduction to Database Systems, 6th ed, C. J. Date, Addison Wesley, 1995
- Database:Principles,Programming,Performance, P. O'Neil, Morgan Koffman,
- Principles of Database and Knowledge-Base Systems, , J.D. Ullman, Computer Science ,
- Fundamentals of Database Systems 2nd ed., R. Elmasri and S.B. Navathe, Benjamin Cummings 1994,
- Special Edition Using Microsoft SQL Server 6.5, B.Branchek, P. Hazlehurst, S.Wynkoop, S.L. Warner, Que Corp 1996,

PREREQUISITES/COREQUISITES:

CMPT 201, MACM 201

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