Brooklyn College
Department of Computer & Information Sciences

CISC 7510 [717.1X] Database Systems
37½ hours plus conference and independent work; 3 credits

Introduction to database systems. Comparison to file processing systems. Data models. Relational, hierarchical, and network systems. Database design. Normal forms. Study of several real-world database management systems, with an emphasis on microcomputer applications. Database recovery, query and transaction processing, concurrency. Distributed and object-oriented databases. This course requires a substantial amount of programming. (Not open to students who are enrolled in or have completed CISC 3810 [Computer and Information Science 45].)

Syllabus

1. Introduction to database systems.
2. The relational model, ER diagrams, relational algebra.
3. Database design.
4. Normal forms.
5. Study of several real-world database management systems (DBMS's).
6. SQL.
7. Query and transaction processing.
8. Concurrency, recovery.
9. Distributed, parallel, client-server, and object-oriented databases.
10. Query optimization
11. Current issues in database systems

Bibliography

Database Systems   (Seventh Edition)
            authors: Coronel and Rob   Cengage Learning 2006

Introduction to Database Systems (Eighth Edition)
            author: Date   Addison-Wesley 2003

Database System Concepts (Fifth Edition)
            authors: Korth, Silberschatz, Sudrashan   McGraw-Hill 2005

Databases Illuminated
            author: Ricardo   Jones and Bartlett 2004