CSE 510 Database Management System Implementation

Spring’12

Catalog Description Implementation of database systems. Data storage, indexing, querying, and retrieval. Query optimization and execution. Concurrency control and transaction management. Credit: 3 hours. Prerequisite: CSE412.

Text Book


Suggested Readings Alternative textbooks for the course:


Goals The purpose of this course is to study established techniques for implementing database management systems through a semester-long project and reading materials covering the classic and cutting-edge papers in the area of database systems. Advanced concepts, such as XML and multimedia databases, are also addressed.

Tentative Schedule

- Introduction to database systems and the architectural foundations (0.75 weeks)

- Buffer management (0.75 weeks)

- Index structures (0.75 week)

- Query execution (0.75 week)

- Query optimization (0.75 weeks)

- Concurrency control (1.25 weeks)

- Recovery (0.75 week)

- Advanced topics (0.75 weeks).

- Exams (1 weeks)
Projects Projects in this course will address the implementation-oriented issues for database management systems. The course will also include student presentations of research papers that investigate related issues. The text books provide reading materials as well as the database framework to support the semester-long project.

Grading 40% Projects + 25% Midterm + 30% Final + 5% In-class performance