

CPS 480 – Database Systems

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Course Objectives

This course will provide a thorough introduction to the theory and practices of database systems. The emphasis will be on the theoretical considerations involved in modeling data and in designing efficient database systems. Students will also be able to implement systems using database management systems.

Course Synopsis

The topics intended for the course have been outlined in the following.

- Introduction to Databases and Database Management Systems
- Data Models – Entity Relationship Model and Relation Model
- Relational Databases – Query Languages, Relation Algebra, SQL, Normalization
- Data Storage and Access
- Transaction Management
- Data mining and Data warehousing

Course Composition

- The course will primarily comprise class room lectures, software demonstrations and lab sessions.
- Each student will also be required to go through the assigned reading material. Most of the reading assignments refer to the textbook mentioned in the section to follow.
- Handouts or other reading material and web tutorials would be made available once required.
- The students will be given assignments and quizzes regularly as well as a term project which they will document and demonstrate.

Assignments

- Assignments would be given most weeks, typically including data base design.
- Assignments are to be submitted electronically *or* on paper as per instructions. Data files, if any, should also be submitted.
- All assignments must be submitted within the specified time frame. There will be a **25%** deduction for work submitted one day late. After one day the assignment will not be accepted.
- Although students are encouraged to work together on programs, this concept is limited to **HELP** only, that is; suggestions and conversations on methods of solving a problem; it does not include the copying of content/programs.
- Copied assignments will not be awarded any credit.

Quizzes

Announced/surprise quizzes of 10 to 15 minutes worth about 10 points will be given regularly.

Term Project

The students (in groups of 3 max.) will be assigned a term project the details of which will be made available later on.

Grading Scheme

Grades for this course will be based on the following point distribution which is pretty much standard.

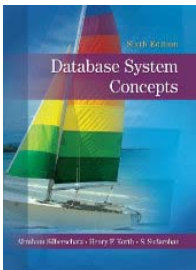
- Assignments: 10%
- Quizzes: 10%
- Midterm: 30%
- Final: 50%

For grading scheme regarding your lab work, please contact the respective Lab Engineer.

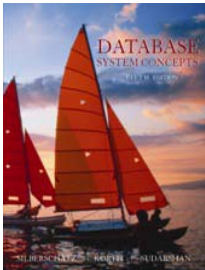
Resources

Text Book

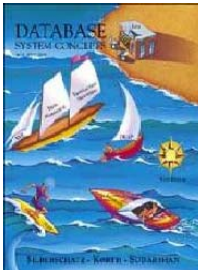
- *Database System Concepts, Sixth Edition, Avi Silberschatz, Henry F. Korth, S. Sudarshan –McGraw-Hill*



6th Edn.



5th Edn.



4th Edn.

Reference Book

- *Database Management Systems, by Raghu Ramakrishnan and Johannes Gehrke, 3rd Edn.*

Online Resources

- Will be made available from time to time.
