Instructor: Sakti Pramanik

Text Book (optional): Fundamentals of Database Systems by Elmasri and Navathe, Addison Wesley

Lecture Topics:
Order of covering the topics below may change.

1. Database Modeling, Query Languages and Constraint Databases
   (a) Data Models, Relational Databases, SQL
   (b) Query Processing and Optimization
   (c) Temporal Databases
   (d) Object-oriented Databases, Query Languages
   (e) Object-Relational Databases
   (f) Database Constraints

2. Multimedia databases

3. Multimedia Database Indexing

4. Algorithmic Issues for Mining Large Databases, Clustering Large Databases

5. Web Databases: Models, Query Languages, Search Engines

6. Big Data: Hadoop, HadoopDB, NoSQL Databases, Big Data Analytics

7. Cloud Database: Data Management and Security Issues

8. Genomic Databases and Spatial Databases and Algorithms for Handling i Spatial Data Structures (amount of coverage will depend on available time)

9. Research Papers and Group Projects

Exam Dates:
Midterm Exam: in-class exam
Final Exam: Take Home

Grading:
Homeworks: 35%
Research Papers and Group Projects: 35%
Midterm Exam: 15%
Final Exam: 15%

Office Hours:
Monday: 1:30-2:30 P.M. (Other times by appointments.)

Course web page:
http://www.cse.msu.edu/pramanik/teaching/courses/cse880/14f