

# CSCI485: File and Database Management

## Course Coordinator

Shahram Ghandeharizadeh

## Other instructors for course

None

## Textbooks and other required materials

*Database System Concepts*, Fifth Edition,  
By A. Silberschatz, H. F. Korth, S. Sudarshan

## Major Topics

1. Conceptual data Design, Database Design and E-R Model
2. Relational database design
3. Relational data model, relational algebra, and SQL as a commercial query language Design and implementation of a relational data base management system
  - Physical organization of records
  - Index methods: clustered and non-clustered B-tree, hash indexes, extendible hashing
4. Query Processing Techniques in relational systems
5. Transaction and the concept of atomicity
6. Concurrency control
7. Crash recovery
8. Multimedia Information Systems
9. Project in C# programming language