CS 450-005/550-007 Database Concepts/Systems  
Fall 2023

**Course Description**  
This course covers fundamental knowledge of database management focused on the design, implementation, and use of relational database systems. Students will experience complete database creative process, from database design, to database construction, to database programming. Formal database design theory and normalization will be introduced as well.

**Class Time & Location**  
T 1:30 - 4:10 PM Arlington: Van Metre Hall 477

**Textbook**  
Required:  
- Fundamentals of Database System (7th Edition) by Ramez Elmasri and Shamkant B. Navathe  

Recommended:  
- Oracle 10g Programming: A Primer by Sunderraman  
- NoSQL Distilled: A Brief Guide to the Emerging World of Polyglot Persistence by Sadalage and Fowler

**Instructor**  
Dr. Ping Deng  
E-mail: pideng@gmu.edu  
Office hours: MW 12-1 PM @ ENGR 4608 or by appointment

**Prerequisites**  
(CS 310 or INFS 519) and CS 330

**Disability Accommodations**  
If you are a student with a disability and you need academic accommodations, please notify me and contact the Office of Disability Services (ODS) at 993-2474, [http://ods.gmu.edu](http://ods.gmu.edu). All academic accommodations must be arranged through the ODS.

**Honor Code Statement**  
Please be familiar with the [GMU Honor Code](http://ods.gmu.edu). In addition, the CS department has its own [Honor Code policies](http://ods.gmu.edu). Any deviation from this is
considered an Honor Code violation. All graded work must be your own 
effort. Any attempts at cheating will not be tolerated, and will be turned in to 
the Honor Committee with significant penalty recommended. The usual 
recommendation is grade F for the course.

**Grading Weights**
Quizzes: 15%
Projects: 35%
Midterm: 25%
Final exam: 25%

**Grading Policy**
- All projects must be submitted on Blackboard.
- You have a budget of 3 late days which you can use for projects. No 
  late work accepted otherwise.
- The lowest quiz score for the semester will be dropped.
- Grades will be changed only when a grading error has been made. All 
  grade change requests are due **within a week** of the grade becoming 
  available on Blackboard. After that week, the window to contest a 
  grade has closed other than recording errors.
- No make-up of exams or quizzes unless **previously** arranged with the 
  instructor.
- **Unexcused absence** from the final exam will result in grade F for the 
  course.
- If any extra credit is available, it might be available on specific quiz, 
  exam or assignment, but not as an end-of-semester batch of extra 
  work.

**Grading Scale**

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<th>Grade</th>
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**Tentative Course Outline**
Introduction to database concepts
ER & EER model
Relational data model
ER & EER to relational mapping
Relational algebra
SQL
Midterm exam
Database programming
Functional dependency and normalization
NoSQL
Final exam

**Helpful Comments**
Welcome to CS 450-005/550-007! This class is very interactive. A lot of materials will be covered and many new concepts will be introduced. To get the full benefits of the course, come to class regularly, participate in group exercises and discussions, review my slides after class, and start working on the assignments as soon as they are available on Blackboard. Good luck!