

# EECS 341: Introduction to Database Systems

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**Office:** Olin 515

**Class Hours and Place:** Tue-Thur 2:45-4:00pm KHSM 123

**Office Hour:** Tue-Thur 4:00-5:00pm    **MIDTERM:** TBD    **Final:** Dec. 11 12:30-3:30 pm

**Textbook:** Database Systems, by Kifer, Bernstein, and Lewis, 2<sup>nd</sup> edition, Addison-Wesley, 2006.

**Prerequisites:** EECS233; experiences with at least one programming language, basic knowledge of hashing, searching, sorting, and first-order logic.

## Topics:

- Overview of Database Systems (1 week; Chapter 1-2)
- Database Design --- Entity-Relationship Data Model (1 week; chapter 4)
- Relational Model (1/2 week; chapter 3)
- Logical Database Design, ER to Relational Views (1/2 week)
- Relational Algebra (1 week, chapter 5)
- Relational Calculus (1 week, chapter 13)
- SQL (2 weeks; chapter 5)
- Triggers (1/2 weeks; chapter 7)
- Data Dependency, Schema Refinement, Normal Forms (2 weeks, chapter 6)
- Transaction Processing (1-2 weeks, chapter 18 and 19)
- File and Data Storage (1 week; chapter 9)
- Query Execution and Optimization (1 week, chapter 10 and 11)

**Project:** You may use any DBMS of your choice.

## Grading:

Homework Assignment: 20%

In-class Quiz: 10%

Project: 25%

Midterm: 20%

Final: 25%

No late assignment will be accepted and you should pre-arrange if you can not take the exams at the given time.