Database Management
CS579 A1, Fall 2025

- **Course Format**: On Campus
- **Time and Location**: Monday 6:00 – 8:45 PM, CAS 426

- **Instructor**: Jae Young Lee
- **Office**: Room 303, 1010 Commonwealth Ave.
- **Phone**: 617-358-5165, **E-mail**: jaeylee@bu.edu
- **Office Hours**:
    - 3:30 – 4:30 PM, Monday and Wednesday, and by appointment
    - Can meet me in person (in my office) or via zoom
    - No office hours during exam weeks

- **Course Objectives**

  The goal of this course is to study basic concepts of database systems with emphasis on relational databases. The topics include:
  - Entity-relationship model
  - Relational data model
  - SQL DML and DDL
  - Relational algebra
  - Database design for relational databases
  - Functional dependencies and normalization
  - Indexes, stored procedures, and triggers
  - Introductory topics: Introduction to query processing and transaction management

- **Prerequisites**: MET CS231 or MET CS232 or instructor's consent

- **Text**: R. Elmasri and S.B. Navathe, "Fundamentals of Database Systems," 7th Ed., 2016, Addison Wesley

- **Courseware**: BU Blackboard (onlinecampus.bu.edu)

- **References**: Our textbook is comprehensive. There are also many good database books, and any book which you think would best suit your style should be OK as a reference. A book on SQL will be also helpful.

- **Grading**:
  - Midterm: 25%, Final: 35%
  - Homework: 20%
  - Class Project: 20%

- **Letter Grade**:
  $90 \le G < 94$: A- $94 \le G$: A,
  $80 \le G < 83$: B- $83 \le G < 87$: B $87 \le G < 90$: B+
  $70 \le G < 73$: C- $73 \le G < 77$: C $77 \le G < 80$: C+
  $60 \le G < 70$: D
  $G < 60$: F

  Note: Course grades are not automatically rounded up. For example, a course grade of 93.9 will receive a letter grade A-, not A.

- **Assignment**
  - There will be total 12 assignments – 8 homework assignments and 4 lab assignments (the number of assignments is subject to change according to the actual progress of the class).
  - Solutions will be discussed in the class.

- **Class Project**: This is a design and implementation of a database. The project will be assigned as 4 lab assignments, which follow a typical database design process. Details will be discussed in the class.

- **DBMS**: We will use primarily MySQL to illustrate SQL queries and stored programs in the class. However, you may use Oracle or SQL Server in the assignments. In that case, you are responsible for queries and stored programs of your DBMS.

- **Exam:** Both the midterm and the final exams are in-class, paper-based exams.

- **Academic Integrity Policy**
  - Cheating and plagiarism will not be tolerated in any Metropolitan College course. They will result in no credit for the assignment or examination and may lead to disciplinary actions.
  - Please take the time to review the Student Academic Conduct Code: http://www.bu.edu/met/metropolitan_college_people/student/resources/conduct/code.html.
  - This should not be understood as a discouragement for discussing the material or your particular approach to a problem with other students in the class. On the contrary – you should share your thoughts, questions and solutions. Naturally, if you choose to work in a group, you will be expected to come up with more than one and highly original solution rather than the same mistakes.
- **Attendance and Absence**: Attendance is not required but strongly encouraged. If a student misses a class, it is his/her responsibility to study the material discussed during the missed class.

- **Late Policy**
  - All assignments are due at the beginning of the class on the due date.
  - If you submit an assignment late, there will be a late submission penalty of 10% per day.
  - If you obtain permission **in advance**, the penalty will be waived.

- **Make-up Exam**
  - A make-up examination for the midterm can be arranged, but only if a student has an emergency (e.g., a medical emergency or an urgent family matter). Students must contact the instructor **before the exam** and may need to provide an appropriate document (such as a letter from a physician).
  - There will be **no make-up exam for the final exam**. If a student cannot take the final exam on the designated day, she/he will receive an incomplete grade.

Tentative Schedule

- The schedule is subject to change according to the actual progress of the class.
- Students are strongly encouraged to read book chapters assigned each week before coming to the class.

Week	Date	Lecture	Reading Assignment (Book chapters)	Assignment (assigned date)
1	9/8	Basic concepts	1, 2	H1
2	9/15	Conceptual design with ER	3	H2
3	9/22	ER, EER	3, 4	Lab 1
4	9/29	Relational data model	5	H3
5	10/6	Logical design, SQL	9	Lab 2
6	10/14 (**Tuesday)**	SQL	6	
7	10/20	**Midterm**		
8	10/27	SQL	6	H4
9	11/3	SQL	6, 7	H5
10	11/10	SQL, Relational algebra	7, 8	Lab 3
11	11/17	Normalization	14	H6
12	11/24	Indexes	17	H7
13	12/1	Stored programs	Note	Lab 4
14	12/8	Query optimization, Transaction management	19.1 20.1, 20.2, 20.3, 20.6	H8
15	**TBD**	**Final Exam**		

- **Email communication**:
  - When it is necessary to communicate with you, I will send an email to your BU email account. So, you need to check your BU email regularly, at least once a day.
  - When you send an email to me, include "CS579 A1" in the subject of your email.