Database Management
CS579 A1, Fall 2021

- **Course Format**: On Campus
- **Time and Location**: Tuesday 6:00 – 8:45 PM, FLR 123

- **Instructor**: Jae Young Lee
- **Office**: Room 303, 1010 Commonwealth Ave.
- **Phone**: 617-358-5165, **E-mail**: jaeylee@bu.edu
- **Office Hours**: Tuesday 3:30 – 5 PM, and by appointment

- **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
    - Introduction to database security
  - Other topics, if time allows

- **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 will not be automatically rounded up. For example, a course grade of 93.9 will receive a letter grade A-, not A.

- **Assignment**
  - There will be five homework assignments (the number of assignments is subject to change according to the actual progress of the class).
  - Solutions will be discussed in the class when graded papers are returned.

- **Class Project**: This is a design and implementation of a database. There are four project assignments, which follow typical database design process. Details will be discussed in the class.

- **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 solutions 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 catch up with the material discussed during the missed class.

- **Late Policy**
  - All assignments are due at the beginning of the class on the due date.
  - There is a 2-day grace period.
  - If you submit an assignment beyond the grace period, there will be a late submission penalty of 10% per day.

- **Make-up Exam**
  - A make-up examination for the midterm can be arranged when a student has an emergency (e.g., a medical emergency or an urgent family matter). Students may need to provide the instructor with 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 received 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 for each lecture before coming to the class.

Week	Date	Lecture	Reading Assignment (Book chapters)	Project Assignment
1	9/7	Basic concepts	1, 2	
2	9/14	Conceptual design with ER	3	
3	9/21	ER, EER	3, 4	Part 1
4	9/28	Relational data model	5	
5	10/5	Logical design, SQL	9, 6	Part 2
6	10/12	**No class**		
7	10/19	**Midterm**		
8	10/26	SQL	6, 7	
9	11/2	SQL, Relational algebra	7, 8	Part 3
10	11/9	Normalization	14	
11	11/16	Indexes	17, Note	
12	11/23	Stored procedures and triggers	Note	Part 4
13	11/30	Introductory topics	Note	
14	12/7	Introductory topics	Note	
15		**Final Exam**		

- **Communication**
  - All official announcements will be made in the class.
  - All assignments will be posted on the class web page.
  - **Important:** The primary method of communication is through in-class announcements. The class web page is only supplementary. So, if you miss a class you need to talk to a friend in the class or contact me to find out whether there was any important announcement.
  - **Email communication**: When it is necessary to communicate to you, I will send an email to your BU email account. So, you need to check your BU email regularly (e.g., once a day).