Database Management
CS579 Fall 2015

- **Course Format**: On Campus
- **Time and Location**: Tuesday 6:00 – 9:00 PM

- **Instructor**: John Russo
- **Phone**: 978-618-3917 (Cell),Skype: jrusso440 **E-mail**: jrusso440@gmail.com
- **Office Hours**: 5:00 – 6:00 PM, Tuesday in classroom

- **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
    - Survey of NoSQL databases
  - Other topics, if time allows

- **Prerequisites**: MET CS231 or MET CS232 or MET CS331 or instructor's consent

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

- **Courseware**: Blackboard Learn, URL: https://lms.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: 30%, Final: 40%
  - Homework: 15%
  - Class Project: 15%

- **Letter Grade**:
  $90 \leq G < 94$: A- $94 \leq G$: A,
  $80 \leq G < 83$: B- $83 \leq G < 87$: B $87 \leq G < 90$: B+

$70 \leq G < 73$: C- $73 \leq G < 77$: C $77 \leq G < 80$: C+
$60 \leq G < 70$: D
$G < 60$: F

- **Assignment**
  - There will be five homework assignments (the number of assignments may vary 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. The project follows a typical database design process and consists of four parts. Details will be discussed in the class. You will be expected to present your project to the entire 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.
- A late homework is subject to a penalty of 10% per day. An exception may be made if a student is in an unusual/urgent situation and obtains permission from the instructor before the due date.

- **Make-up Exam**
A make-up examination can be arranged only 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).

Tentative Schedule

- The schedule may be adjusted 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	9/8/15	Basic concepts	1, 2	
2	9/15/15	Conceptual design with ER	7	
3	9/22/15	EER, Relational data model	8, 3	Part 1
4	9/29/15	Logical design	9	
5	10/6/15	Relational algebra, SQL	6, 4	Part 2
	10/13/15	No class Monday schedule		
6	10/20/15	SQL	4	
8	10/27/15	**Midterm**, SQL	5	
9	11/3/15	SQL	5	Part 3
10	11/10/15	Normalization	15	
11	11/17/15	Indexes	18	
12	11/24/15	Stored procedures and triggers		Part 4
13	12/1/15	Intro to query processing, Intro to transaction management Survey of NoSQL	19, 21	
15	12/8/15	**Project Pres/Final Review**		
16	12/15/15	**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).