BTO3062 & BTO2132 Database Management Systems (2019-2020)

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Course Objectives:

To get students informed about and familiar with the importance, necessity, design, and development of database management systems.

Course Content:

Foundations of database systems, data and data models, design of relational database, SQL, Basic SQL commands, SQL functions, using multi-tables with SQL, SQL programming and function, transaction and errors in SQL, DBMS installation and administrative operations, doing SQL queries in a DBMS.

Weekly schedule:

Week	Date	Lecture Content	Tasks
1	4 Feb	- Introduction to course - Database (DB) and Database Management Systems (DBMS) - Four basic advantages of DBMS	
2	11 Feb	- Basic components of DBMS (DDL, DML, DB manager, ..) - User Types - Data models	
3	18 Feb	Data modelling by using E-R Model - Entity, relation, keys, ..	
4	25 Feb	- Relational model - Converting E-R model to Relational model	1st Assignment
5	3 March	Normalization on DB models	
6	10 March	Introduction to SQL	
7	17 March	DB Query Languages: DDL, DML, DCL	2nd Assignment
8	24 March	*Midterm*	
9	31 March	DDL commands in SQL (create, drop, delete)	
10	7 April	Basic Queries in SQL (select, min, max, sum, avg, distinct, group by, having, vb.)	
11	14 April	Advanced queries in SQL (join)	3rd Assignment
12	21 April	'View' and 'Trigger' in SQL	
13	28 April	'Procedure' and 'Function' in SQL	
14	5 May	Revision and Evaluation of the term	4th Assignment

Note : Midterm date would be changed when midterm weeks will be announced officially..

Grading

Assignments................. % 30
Midterm....................... % 30
Final Exam.................... % 40

Total........................... % 100

- Grades are assigned according to the system above.

Student Responsibilities

- Regular, on-time attendance is required. *(YTÜ Lisans Yönetmeliği Madde 24* — Öğrenci, teorik derslerin en az %70'ine, teorik ders dışındaki her türlü uygulama çalışmasının en az %80'ine devam etmek zorundadır.)

- Bear in mind you are now in higher education school, and a member of a learning community. Thus, you are expected to comport yourself as a professional person. For instance, be on time for class, do not leave the class while it is in progress for other than emergencies, mute cell phones.

- All documents related to the course can be reached from this link: https://drive.google.com/drive/folders/1R0plmCLm56w4qkLd4jtHzKNLg9zvAE3a?usp=sharing

- Students are expected to work in groups and prepare a database project that they will continue throughout the term and submit in four phases.

   - Each group includes <u>only three</u> students. Groups of four won't be accepted unless having some convincing reasons. In this case, see the lecturer.

   - The deadline for students to identify groups is 18th of February, 2020.

   - Group members should submit their information by using the following link: https://docs.google.com/document/d/1iOOSh4UZrw5UOqCx3kU41m3HGeXLvd7xOXQuZddHsqA/edit?usp=sharing .

- For each delivery, **first page of the project** <u>should consist of below</u> **at top of the page**:
   - Group number *(as seen on Drive document, e.g. DBMS-11)*,
   - Student numbers and names of group members,
   - Subject of the project,
   - Number of assignment,
   - Delivery date.

- For each delivery, **the older and the new assignments** should be sorted by date in descending order and be presented in a Q-connect A4 project folder. <u>Avoid to use clear plastic files, wallet files, etc</u>. Do not use any cover page.

- All assignments are to be submitted at the beginning of the lecture period on the date due. Late assignments will be **penalized at a rate of 50%** for the first week late. The tasks that are exceeded deadline more than a week will not be graded anymore.

- Cheating and plagiarism should be avoided. Plagiarism means using words, ideas, or arguments from another person or source without citation. Cite all sources consulted to any extent (including material from the internet), whether or not assigned and whether or not quoted directly. Any form of cheating will immediately earn you a failing grade for the entire course and send you disciplinary committee. (*YÖK Öğrenci Disiplin Yönetmeliği Madde 9* — *Kopya yapmak, yaptırma, bunlara teşebbüs etmek: Bir veya iki yarıyıl için uzaklaştırma cezası gerektirir).*

- These are some examples of clear cases of cheating:

   - Copying (program or assignment) files from another person or source, including retyping their files, changing names, copying content without explicit citation from previously published works, etc.

   - Allowing someone else to copy your assignment, either in draft or in final form.

   - Copying from another student during an exam, quiz, or midterm. This includes receiving exam-related information from a student who has already taken the exam.

   - Writing, using, or submitting an assignment that attempts to alter or erase grading information or otherwise compromise security.

   - Looking at someone else's files containing draft content, even if the file permissions are set to allow it.

   - Lying to course staff.

   - Copying on quizzes or exams.

   - Reviewing any course materials (or software) from previous years.

Recommended Reading

- Veri Tabanı Sistemleri, Ünal Yarımağan, TBV Yayınları.

- SQL Server 2008 R2, Selçuk Özdemir, Kodlab.

- Elmasri, R. & Navathe, S. B. (2000). Fundamentals of Database Systems. Third Edition. Addison-Wesley. http://www.scribd.com/doc/6618317/Elmasri-Navathe-Fundamentals-of-Database-Systems

- http://www.w3schools.com/sql/default.asp

- http://www.alitopaloglu.com/veritabani-yonetim-sistemi-ders-notlari/

- http://mimoza.marmara.edu.tr/~buketb/dosyalar/VERITABANI_DERS1.pdf

- http://yunus.hacettepe.edu.tr/~tonta/courses/spring2005/dok322/Lecture03b_309-varlik-iliski-veri-modellemesi-araclar-teknikler.ppt

- http://members.comu.edu.tr/boraugurlu/courses/bm109/content/week5/slayt5.pdf

- http://www.alitopaloglu.com/wp-content/uploads/2009/01/ders-3-veri-modelleri.ppt

- http://www.fatih.edu.tr/~zcetin/0708/bilg106/dokuman/Veritabani