CSIS05I
Database ||

Dr. Nermin Othman

2023/2024

Module Info.

Lectures: **Sunday** *(from 11:00 to 1:00 a.m.)*

Instructor: **Dr. Nermin Abdel-Hakim Othman**

- Office hours: Building H Room 111 (Monday, Wednesday)
- Contact: nermin.othman@bue.edu.eg

TAs: Rana Khalil, Nada Eltaki

Indicative Reading List (textbooks):

- Ramez Elmasri and Shamkant B. Navathe. Database Systems: Models, Languages, Design and Application Programming, 6th Edition, Pearson (2011)
- Connolly, T. and Begg, C., "Database Systems: a Practical Approach to Design, Implementation and Management", 6th Edition, Addison-Wesley, (2015).

Assessment Scheme

- **2 lab tests**: 40%

- **One 2-hour unseen Written Exam**: 60%

- **Bonus points:** 5%, based on participation.

What is expected from you…

- Attend the class regularly *(70% to pass)*.

- Study and learn the material presented in the class *(and refer to your reading list)*.

- Perform well in the exams.

- Don't cheat *(Plagiarism)*.

Week	Lectures (Topics & Reading)	Lab
Week 01	Module Intro + DB file organization, ordered, and unordered file of records	Revision on SQL basis of DB1
Week 02	Retrieving Data from storage + Intro. for Index Structure for File	• Create Index • Create Composite index • Use Stored Procedure to get Info. about index • Drop Index • Exercise Questions for Practice
Week 03	Different Indexing Techniques	• Create Clustered/non clustered • Create Unique/non-Unique Index • Exercise Questions for Practice
Week 04	Hashing techniques	• Creating Views • Replace Views • Alter Views • Drop Views • Exercise Questions for Practice
Week 05	Query Processing and Optimization	• Creating Trigger • Creating DDL on Triggers • Disabling/Enabling Trigger • Trigger on Views
Week 06	DB Tuning and Physical design issues	• View Trigger • Removing trigger /List of all triggers • Trigger on views • Exercise Questions for Practice

Week 7	Transaction Processing 1 (transaction concepts)	- Intro. To complex queries - Different example on operators
Week 8	Transaction Processing 1 (recoverability & seriazibility 1)	- Advanced complex queries example - Aggregate function, nested queries
Week 9	Database Concurrency Control 1	- Intro. To SQL Stored Procedure
Week 10	Database Concurrency Control 2	Advanced Stored procedure
Week 11	Database Security and Authentication	Functions
Week 12	Revision	Advanced function example