**CSE311L Database Management System Lab**

Lab Course Outline – Spring 2024

North South University

**Faculty: Dr. Abu Sayed Mohammad Latiful Hoque**

**Lab Instructor:** Sadia Afrin

**Office Room:** LIB 600 (C3)

**Office Hour: M 10:50 AM – 1:30 PM & T 10:50 AM – 1:30 PM (prior email appointment is required for office hours.)**

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**Course Summary:**

This course aims to provide students with a comprehensive understanding of database management systems (DBMS) and their fundamental principles. The primary focus will be on imparting a thorough knowledge of Structured Query Language (SQL) and its practical implementation. By the end of the course, learners will possess a clear and concise comprehension of both database management systems and the effective use of SQL for data manipulation and retrieval.

**Current Labs:**

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| Lab Class | Topic |
| Class 1 | Introduction to RDBMS + MySQL Setup + Project Group Formation |
| Class 2 | Introduction to DB-LES, Study of DB-LES Database tables and data using simple SQL-1 |
| Class 3 | Project Announcement and Guidelines, Single Table Complex Query (SQL 2) using DB-LES |
| Class 4 | Simple problem solving using Raw PhP, HTML and CSS; Explanation of study materials required to implement the database project |
| Class 5 | Online Exam 1 on SQL + ERD Practice |
| Class 6 | Project Update 1(Project ERD Finalization) |
| Class 7 | Multiple Table (SQL 3) |
| Class 8 | Multiple Table Complex Query (SQL 4) |
| Class 9 | Online Exam 2 Based on SQL 3 and SQL 4; Project Update 2 (Project DDL with all constraints and sample data) |
| Class 10 | Exam on Project, Queries on Views |
| Class 11 | Final update of projects |
| Class 12 | Final Project Presentation + Viva |

**Marks Distribution:**

Lab Task: 40%

Online Exam 1: 30%

Online Exam 2: 30%

Total on Lab: 100%

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Project Update 1: 20%

Project Update 2: 20%

Exam on Project: 20%

Final Project Presentation + Viva: (30% + 10%)

Total on Project: 100%

**Project Instructions:**

Group Member: Maximum 2 and Minimum 1

**Project Requirements:**

Front-end part: Use HTML, CSS, Bootstrap(\*\*\*mandatory)

(Optional) JavaScript, JS Frameworks (Angular/React)

Back-end part: Use Raw PHP(\*\*\*mandatory)

(Optional) Frameworks: Laravel(PHP)/Spring Boot ( Java)/Django (Python)

Database: MySQL (\*\*\*mandatory)

**Online Resources for learning:**

1. [ER Diagram (lucidchart.com)](https://www.lucidchart.com/pages/er-diagrams)
2. <https://online.visual-paradigm.com/>
3. [SQL Tutorial - Full Database Course for Beginners - YouTube](https://www.youtube.com/watch?v=HXV3zeQKqGY&ab_channel=freeCodeCamp.org)
4. [Bangla Database Tutorial 1 : কোর্স পরিচিতি | Introduction to course - YouTube](https://www.youtube.com/watch?v=1IQbPxFkoiQ&list=PLgH5QX0i9K3qLcx9DvVDWmNJ7riPvxzCD&ab_channel=AnisulIslam)
5. [MySQL Tutorial (tutorialspoint.com)](https://www.tutorialspoint.com/mysql/index.htm)
6. [MySQL Tutorial (w3schools.com)](https://www.w3schools.com/mysql/default.asp)

**\*\*\***Please be sincere to follow these resources for self-learning.