



Department of Electrical and Computer Engineering (ECE)
 School of Engineering and Physical Sciences
 North South University, Bashundhara, Dhaka-1229, Bangladesh

CSE311L: Database Management System (Lab)
Summer 2020

Number of Credits	3+0
Type	Core, Engineering, Lecture + Lab
Prerequisites	CSE 225, Data Structures and Algorithms
Section	1
Faculty Member	Intisar Tahmid Naheen (ITN)
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Office Hours:	Saturday (A) Monday (M)	08:00 am – 7:30 pm 08:00am – 10:30 am
Class Hours:	Section: 1 – Saturday (A)	8.00 am – 11.10 am
Class Room:	LIB 604	

Course Description:

This course introduces students with database management systems for the first time in their undergraduate study. Drawbacks of flat file system are demonstrated and advantages of relational database systems are introduced. The course examines the logical organization of databases: the entity-relationship model; the hierarchical, network, and relational data models and their languages. Functional dependencies and normal forms are discussed. Design, implementation, and optimization of query languages; security and integrity; concurrency control, different level of indices, e.g., tree and hash-based indices are introduced. Access costs are compared for different alternatives. This course has separate mandatory laboratory sessions every week in a separate course CSE 311L which has 0 credits, but the students (in group) use hands on SQL queries and as a culmination, they build a full-fledged database system including a front end. The evaluation of the lab works is carried over to the theory part of the course.

Course Objectives: The objectives of this course are

1. to make students comprehend the advantages of using database system over flat files. to get students familiar with requirement analysis specially data requirements of an organization
2. To introduce the conceptual design from requirement analysis using E-R diagrams and also mapping ER diagrams into relational schema.
3. to introduce the basics and usage of relational algebra that are the foundation of SQL.
4. to transform a relational design into physical database design using popular commercialized database, e.g., Oracle, MySQL etc.
5. to demonstrate and show the evils of redundancy by introducing the concepts of functional dependencies and their types.
6. to design full-fledged physical database systems with least redundancy and most optimized manner.
7. to build their independent projects emphasizing the data requirement.

Mark Distribution:

<i>Criteria</i>	<i>Marks (%)</i>
Lab Assessment (6)	25%
Quiz (6)	10%
Assignment (6)	30%
Midterm Exam (1)	15%
Final (1)	20%
Total	100%

** The marks distribution may change according to the discretion of the instructor.*